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**Pre-Competition Achievement Goals within Young Sports  
Performers**

**by**

**Chris Grant Harwood**

**A Doctoral Thesis**

**Submitted in Partial Fulfilment of the Requirements for the  
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## ABSTRACT

This thesis attempted to develop a clearer understanding of the pre-competition achievement goal perspectives that are held by young performers. The programme of research moves through three transitional stages incorporating three different methodologies. Specifically, the first two investigations which comprised Study 1 adopted a quantitative research methodology; Study 2 incorporated qualitative techniques; and the final investigation addressed the research question on an idiographic basis via a single subject design study. Firstly, an attempt is made to identify the major antecedents or precursors to states of goal involvement prior to a specific competitive situation. The first study examined the antecedents of pre-competition state goals within adolescent swimmers from an interactionist perspective. Results showed how levels of task and ego involvement prior to a specific race were related to both dispositional tendencies and situational factors within the race context. However, task orientation appeared to play a more powerful role than ego orientation in predicting their respective goal states. Furthermore, ego involvement was more strongly predicted by situational factors. The second investigation extended this question by investigating a sample of elite junior tennis players prior to a competitive match at the National Championships. In this way, the nature of the competitive context, with respect to goal or reward structure, changed from being more task-involving (individualistic-focused) to being more ego-involving (competitive-focused). Results showed how the players' goal states were related much more to perceptions of the context than to their reported goal orientation. Furthermore, task orientation did not emerge as a significant predictor of goal involvement. With these results in mind, the second stage of the thesis involved investigating, to a much greater depth, the motivational criteria which appeared to contribute to the development of goal orientation and the activation of goal involvement in the context of competition. For this purpose, qualitative interview techniques and an inductive content analysis were applied to a sample of seventeen elite junior tennis players. The findings suggested that the development of goal orientation and activation of pre-competition goal involvement rested on a complex interaction of internal and environmental factors. Specific general dimensions of influence included cognitive-developmental skills and experience, the motivational climate conveyed by significant others, the social and structural nature of tennis, and the match context. The information gathered from this study provided the impetus, rationale and theoretical foundation for the final study in this thesis. Employing a single subject multiple baseline across subjects design, the study investigated the effects of a structured environmental and task-based intervention programme which sought to influence pre-competition goal involvement and related competitive cognitions within a small sample of adolescent national standard tennis players. Following a three month intervention

period, the three targeted players reported pre-competition goal states which showed increased activation of the self-referent conception of achievement. Furthermore, each player fostered an attitude which valued the challenge of winning matches for internal reasons, as opposed to reasons associated with favourable social approval. These findings reinforced the practicability of education/action-based interventions designed to develop more adaptive motivational responses to competitive situations. The programme of research conducted in this thesis, therefore, highlights how pre-competition achievement goal perspectives within young performers may be influenced, provided that one has a detailed understanding of the antecedents of this process. In so doing, this thesis alerts future research to the importance of working within an interactionist paradigm and with a measurement technology which can accurately assess goal states in a diverse number of sporting situations. In this way, our understanding of goal involvement, as an important achievement-related attentional state, may be greatly facilitated.

## PUBLICATIONS RESULTING FROM THESIS

### Published Conference Communications

C.G. Harwood and A.B.J. Swain (1995). Antecedents of state goals in age-group swimmers: An interactionist perspective. *Journal of Sports Sciences*, 13, 58-59. ✓

C.G. Harwood and A.B.J. Swain (1996). An interactional examination of pre-competition achievement goals within elite junior tennis players. *Journal of Sports Sciences*, 14, 32-33

C.G. Harwood, A.B.J. Swain & Thorpe, R.D. (1997). Influencing meanings of achievement: Motivational criteria at work within elite junior tennis players. *Journal of Sports Sciences*, 15, 85-86

### Published Papers and Manuscripts in Preparation

Harwood, C.G. & Swain, A.B.J. The development and activation of achievement goals: Motivational criteria at work within elite young sports performers (in preparation).

Harwood, C.G. & Swain, A.B.J. (in press). Antecedents of pre-competition achievement goals within elite junior tennis players. *Journal of Sports Sciences*. ✓

Swain A.B.J. & Harwood, C.G. (1996). Antecedents of state goals in age-group swimmers: An interactionist perspective. *Journal of Sports Sciences*, 14, 111-124.

To My Family

"To be a winner.....all you need to give is all you have"



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# CHAPTER I

## *INTRODUCTION*

### 1.1 MOTIVATION

"Motivation is one of the central issues in human affairs. Whether it is politicians discussing the will of societies, business leaders concerned with the effectiveness of their work force, parents discussing the efforts of their children, teachers bemoaning the study habits of pupils, coaches complaining about the commitment of players, or exercise leaders lamenting the persistence of exercise participants, all are dealing with levels of motivation" (Roberts, 1992; p.3)

As Maehr (1984) points out, the study of motivation "begins and ends with the study of behaviour" (p. 132) and for this reason it will always be a complex field for researchers to come to terms with. Whenever a human being behaves, acts or reacts in a certain manner, logically there must always be forces acting on or within the person to initiate and direct that behaviour. The intensity and direction of this behaviour is evidence that motivation exists in some form or another whether it is derived from biological, behavioural or cognitive sources. One aspect of motivation which has spurred considerable interest over the latter half of this century is achievement motivation. The motivation to achieve has become a prime concern not only for the researcher, but also for the consumer - the individual performer, the coach or the parent who, in the context of sport achievement, looks for assistance in explaining behaviours. As the millennium approaches, it is common for the topic of conversation in social settings to turn to the increasing and stressful demands placed upon the individual to produce and to achieve. This statement is made with specific relevance to higher education, coaching, parenting and sports participation where, to channel high levels of energy towards the achievement of increasingly challenging tasks, is slowly becoming a way rather than an aspect of life.

After Britain's recent and disappointing show at the Atlanta Olympics, attributions for outcomes have been given and courses of action will be set for rapid improvements in achievement terms for Sydney 2000. The achievement motivation of our brightest young sports performers will then be put to the test, but also tested will be the personnel, support structures and environments which are put in place in order to facilitate winning performances. A motivating variable behind the purpose of this thesis was how a greater understanding of achievement motivation in competitive youth sport could facilitate personal and environmental efforts in the process of achieving this goal.



## **1.2 ACHIEVEMENT MOTIVATION AND THE DEVELOPMENT OF POTENTIAL IN YOUNG SPORTS PERFORMERS**

Youth sport exists on many levels from recreational participation and grass root schemes, club and county structures to systems which support those young individuals who are nationally and internationally gifted athletes. The 'Young People in Sport' document published by the Sports Council in 1992 presents a sports development continuum which focuses on foundation, participation, performance and excellence in youth sport. Inherent within this continuum is a focus on the different motives and aspirations that may be held by many young performers, namely:

- i) Fun, enjoyment and social development
- ii) The opportunity to fulfil their personal potential
- iii) Self-referent and normative success in high level competition

Nonetheless, in order for young athletes to achieve these qualitative goals, the youth sport subculture needs to be very much aware of the principles of achievement motivation so that appropriate environments may be structured.

A number of motivational theories have been proffered by researchers over the past century which has witnessed a move away from mechanistic and biological explanations of motivated behaviour to the importance of cognition and how achievement motivation in particular is governed by the use of higher mental thought processes (Weiner, 1971). During the past decade in particular, a developmental and social cognitive approach to achievement motivation, referred to as achievement goal theory or goal perspective theory (Nicholls, 1984, 1989), has been popularised in sport psychology research. The theory is mentioned at this early stage because it forms the template for this thesis and it has begun to offer researchers more concrete explanations as to why the performer tends to behave in a certain manner. It is a theory which attempts to explain achievement behaviour through personal disposition, social environmental and developmentally-related parameters. Consequently, it appears to have a great deal to offer to significant social agents and performers within competitive youth sport with respect to how the motives mentioned above might or might not be satisfied.

The major theoretical tenet of achievement goal theory is that young performers are primarily focused on demonstrating ability in achievement tasks. Whether they perceive themselves to have succeeded in this overall achievement goal will impinge upon future levels of motivation and related achievement behaviours. Dependent on their stage of cognitive development and ultimately their perceptions of the situation, young performers may define the concept of ability in two different manners. In the broadest terms, one definition of ability is self-referent whereby the performer judges him/herself to be able when s/he demonstrates personal self-improvements in performance and mastery of skills with effort, regardless of others. However, ability can also be defined normatively, whereby, to occasion feelings of success and achievement, the performer



needs to demonstrate superior ability to others, regardless of personal self-improvement. Each conception of ability is represented in action terms by two qualitatively different types of achievement goal - a task-involved goal aims to satisfy the self-referent conception of ability whereas the more uncontrollable ego-involved goal attempts to satiate a normative conception of ability. At the basic level of analysis, patterns of achievement behaviour are predicted to be different dependent upon which goal is adopted or favoured for an achievement task or context. In general terms, research in the sport and academic domains has tended to exalt the qualities of task involvement over ego involvement due to the greater security of positive achievement behaviours associated with the former state. It is understanding the exact origins and consequences of these two types of goal which will help researchers to pass on vital information to practitioners so that the development of positive achievement goal perspectives can be guided within a proactive social environment.

Given this knowledge of achievement goal theory, and my own experiences as a former junior national and senior county tennis player, I often reflect upon my own process and environment of development, and realise somewhat disappointingly how little my potential was fulfilled and how badly a system of limited knowledge nurtured physically and technically talented players. I would like to elaborate on this statement with a vivid example which encompasses some of the principles of achievement goal theory. It serves merely to highlight how the nature of my achievement motivation had a negative effect on my performance, but also how social agents played a key role in the process.

One particular Saturday afternoon in 1987, I was due to play in the final of the Under 16 singles at the Birkenhead Open Junior. I had played above my seeded position of 4 and beaten the top seed in the semi-final. I had no experience of mental training, no knowledge of goals and, on reflection, I had little understanding of the game in terms of how different areas of performance fitted together. This was my tennis educational status when ranked 5th in the county. Nevertheless, I was playing some high standard tennis relative to myself. I also remember, however, how I had a severe problem with nervousness before matches which might dissipate into the match, but would revisit my body whenever my mind reminded me that it was a crucial point to win. This final was no exception being the first major singles final that I had made in the U-16 age group. My expectancy of winning was unsure prior to the match, characterised by a mind which wavered from negative images of losing to positive thoughts about winning. My opponent had a higher rating and higher seeding, but he was not outstanding given his results against players I knew. When the match began, I started off well with a break of serve. That was until the regional coach for the North West turned up at precisely 3-1, 40-15 serving. The negative thought processes that I had endured pre-match were recalled into action as I consciously thought about the consequences of winning and



losing this match. This was with particular relevance not to maintaining a regional place, but to promotion and team selection for the North West which was reserved for the cream of each county. I lost my service game at 3-1 as my performance became defensive and 'pushy' mainly due to the extensive nerves that were being generated because of one spectator who mattered most, and who perceptually conveyed to me that achievement in this match was about demonstrating superior ability. Unrequited tension and nervousness leading to inefficient stroke production; negative decision making in becoming defensive having been ahead; and negative thoughts about the withdrawal of effort due to the inability to cope - these behaviours appeared to be driven by the cognitions that I had about achievement in that specific match. The opponent did not win the match, I lost it for myself on the sheer amount of unforced errors that I committed.

Ten years later, as a player/coach to young players and as an individual who has had the opportunity to research, one looks back at the system, the environment and my state of mind in terms of the quality of my achievement motivation from an achievement goal perspective. I was unprepared in a situation where my mental state dictated that achievement meant solely demonstrating superior ability to the opponent. Prior to the match, a conditioned mental focus on my personal performance and what I had to do to achieve in my own terms was non-existent. In general terms, there was little or no education about achievement goals, no co-ordinated performance programme for players and no psychological or appropriate motivational support from coach or parents on the day. Instead, the ego involving perceptions that I had of the match context were exacerbated by a member of the power group which governed British tennis. All of these motivational factors together had a severely detrimental effect in terms of my achievement behaviour on the court. However, they also show how the climate and environment were contributory factors both in terms of my perceptions and the contents of the environment which influenced my perceptions. Very little about the match context or social environment as a whole had influenced me to view ability or achievement in at least more self-referent, task-involved terms.

The events in this story can be explained through achievement goal theory as will become clearer in this thesis. However, the critical point to make is that such events are not untypical occurrences within competitive youth sport and have severe implications for the development of young potential. A decade ago, there were possibly fewer outlets and less concrete information around on how parents, coaches and national governing bodies could influence the development of youth sport potential. However, nowadays information is becoming more plentiful on how adaptive environments can be created which are conducive to quality achievement motivation (e.g., Ames, 1992). This information has been most prolifically generated from the relatively recent attention given to the achievement goal approach to motivation in sport (e.g., Duda, 1987; Duda & Nicholls, 1989). That noted, the production line of elite sports performers still



experiences technical difficulties such as drop out and underdeveloped potential. Is this due to our lack of understanding of achievement motivation? Or is it because the principles of achievement motivation are not marketed or sold to the key social elements of the youth sport subculture? Whatever the reason, a greater understanding of achievement motivation in youth sport can always be achieved with the practical implications subsequently marketed to parents and coaches.

### **1.3 PURPOSE OF THE STUDY**

In view of the above comments, the major purpose of this thesis is to achieve a greater understanding of achievement motivation in competitive youth sport through the vehicle of achievement goal theory. A plethora of research in the sport and physical activity domain has investigated several aspects of goal perspective theory and generally found support for the contentions that it makes about the relationships between achievement goals and cognitive-behavioural concomitants. One of the limitations of this research, however, has been the lack of attention paid to task and ego involvement as the goal states that characterise a performer's motivational focus in a specific situation. This has been particularly true for the domain of high level competitive youth sport. From an applied perspective, it is important to understand the composition of a young performer's motivational attitude, belief or intention (Fishbein & Ajzen, 1975) at a specific moment in time. Only then can researchers begin to examine the behavioural correlates associated with that specific state of goal involvement. Research on goal involvement has been sparse and studies have tended to blend any predictions about goal involvement into the results that have arisen for the behavioural correlates of goal orientation. This reflects the tendency to be task and/or ego-involved in an activity, rather than the actual level of task and ego involvement within the 'in vivo' situation. An interactionist perspective, which is supported by the tenets of goal perspective theory, has been largely ignored to date.

The purpose of the present study, therefore, was to develop a clearer understanding of goal involvement in the context of high level competitive youth sport. Specifically, this thesis investigates: 1) the antecedents of pre-competition task and ego involvement from an interactionist perspective within two contrasting goal structural contexts; 2) the motivational processes and criteria responsible for the development and activation of achievement goal perspectives; 3) the effects of a multi-dimensional intervention programme on pre-competition goal involvement, goal orientation and associated competitive cognitions.

### **1.4 STRUCTURE OF THE THESIS**

This thesis comprises eight chapters and addresses four main research questions. In addition to a central review of literature, the study-based chapters provide a separate review of relevant literature associated with that particular investigation. The specific outline of the thesis is as follows:

Chapter 2 presents a critical overview of developments within motivation research with a focus on the progression from mechanistic to cognitive theories of motivation. The central portion of this chapter is devoted specifically to research within achievement goal theory. Methodological limitations, measurement issues, and unanswered research questions are discussed which provide a springboard for the subsequent studies.

Chapter 3 highlights the literary issues that are pertinent to investigating the antecedents of task and ego involvement in two distinct types of competition context. The issues are succeeded by the specific methodologies employed in Studies 1A and 1B which comprise Study 1 overall.

Chapter 4 (Study 1A) reports and discusses the findings of an investigation into the antecedents of pre-competition goal involvement within age-group swimmers. The purpose of this study was to determine the dispositional and situational precursors to achievement goal states within a more task involving field-based context.

Chapter 5 (Study 1B) presents and discusses the findings of a similar study with elite junior tennis players. The purpose of this study was to determine the interactional antecedents of achievement goal states within a more ego involving field-based context. Similarities and comparisons between results in the two goal structural contexts are then drawn out.

Chapter 6 (Study 2) focuses on a qualitative investigation which explored the motivational criteria underpinning the development of an achievement goal orientation and the activation of competition-specific goal involvement. Structured interview techniques and an inductive analytic approach yielded more detailed insights into the antecedent processes by which elite junior tennis players became task and/or ego-involved or oriented.

Chapter 7 (Study 3) examines the effects of a social environmental and task-based intervention programme on the achievement goal perspectives of a small number of national standard performers. The purpose of the study was to facilitate positive cognitive changes in pre-competition goal involvement and competitive cognitions prior to a series of ego involving match contexts.

Chapter 8 summarises the findings of the research programme and then enters into a theoretical discussion of some of the major issues and insights that have arisen from the studies. The chapter also discusses the practical implications of the findings for researchers and practitioners, acknowledges the strengths and weaknesses of the investigations, and finally, proposes a number of future research questions and directions.



# CHAPTER II

## *REVIEW OF LITERATURE*

### **2.1 INTRODUCTION**

Contemporary motivation theory (e.g., Nicholls, 1984) contrasts markedly with the perspectives of motivation which formed the leading edge to research in the early part of the twentieth century (e.g., Hull, 1943). Nevertheless, our understanding of motivation has increased as earlier theories have been tested and questioned, prompting the development of newer theories. As a result, our ability to explain a range of motivated behaviours has improved significantly and the temporal process which has witnessed the 'turnover' of theories should not be ignored.

This chapter represents an attempt to develop coherence and reasoning for the studies in this thesis by tracing developments in motivational theory and focusing mainly on the contemporary achievement goal literature. Firstly, the principle categories of analysis in the study of motivation will be outlined with specific attention given to the mechanistic and cognitive conceptualisations. This is followed by brief, critical reviews of three major motivational theories which signified a continuum-based shift from mechanistic to cognitive theories of behaviour. These are Drive theory (Hull, 1943), Need Achievement theory (Atkinson, 1957) and Attribution theory (Weiner, 1972). The next section introduces the more contemporary cognitive and social cognitive approaches to motivation, before outlining the most current theories in this social cognitive era. Specific attention is then given to the principles of Nicholls' (1984) Achievement Goal theory which has become the mainstream developmental and social cognitive approach to motivation in sport in recent years. Having critically reviewed the theory from its origins in educational psychology, the research provoked by its translation to the domain of sport shall be examined in detail. The final sections of this chapter identify some of the methodological limitations and weaknesses of previous research in achievement goal theory, whilst highlighting a number of areas which have received little research attention.

### **2.2 THE STUDY OF MOTIVATION: CATEGORIES OF ANALYSIS**

Over the past century, motivation has been studied from many different points of view which can essentially be ordered along three main bi-polar dimensions (Petri, 1991). Although, there may be some degree of overlap, these dimensions highlight the major premises of most motivational theories.

## **2.21 INNATE VERSUS ACQUIRED**

A consistent debate amongst psychologists has been the contribution of innate versus acquired motivation-related tendencies to govern behaviour. William James (1890) saw motivation as primarily controlled by innate motives that he termed 'instincts'. However, the early to mid twentieth century was dominated by research on factors involved in learning (Thorndike, 1911; Watson, 1924) which studied how behaviour was acquired through the establishment of stimulus-response connections cemented by reinforcement systems. The laws of learning became synonymous with the laws of behaviour (Weiner, 1980) and, according to Hull's (1943) Drive theory, acquired learning was a central construct in the determination of motivated behaviour. Recent motivational approaches are mostly anchored at the acquired end of the continuum where relatively stable dispositions towards certain motives are probably learned early in life (e.g., Atkinson, 1957). The difference, however, between Hull's theory and the more recent approaches is the process of learning. Learning for Thorndike and Hull consisted of simple stimulus (input) and response (output) conditions in the presence of some sort of reinforcement with no mention of higher mental processes or cognitions. Even for McClelland (1951) and Atkinson (1957), dispositional motives appear to be learned stimuli from prior experiences with no attention to cognitive processes within their development (Weiner, 1972). Within contemporary theories of motivation (Dweck, 1986; Nicholls, 1984), dispositional factors are thought to be more socially learned and the role played by cognitions and subjective interpretations of the context or event are pivotal to the development of motive traits or motivational orientations.

## **2.22 INTERNAL VERSUS EXTERNAL**

A second dimension of analysis has been concerned with the source of motivation and whether a motive state itself is derived from internal or external sources. One prevalent approach to motivation incorporates the idea that different motive states can be conceptualised as 'needs', which when activated, promote behaviours to satisfy those needs to regain the homeostatic balance of the organism. These needs can be viewed as internal sources of motivation that activate and direct behaviour to alleviate some sort of deprivation. This approach characterised work earlier this century (Hull, 1943) which mainly involved the use of infrahuman animal experiments and the investigation of physiological needs such as food, water and the avoidance of pain. Need reduction approaches, however, have both advanced and also developed offspring theories which have embodied psychological needs. Need achievement theory (Atkinson, 1957) is one such example and achievement goal theory (Nicholls, 1984), at the cutting edge of research nowadays, is another example with its central construct being the need to demonstrate or maximise perceptions of ability.



Despite a major focus on internal sources of motivation, external sources have also been represented in theories where external objects or relationships in the environment have motivational effects on the individual. Expectancy x Value approaches to motivation represented by Lewin's (1938) Field Theory, Tolman's (1932) Theory of Purposive Behaviour and, most ostensibly, Rotter's (1954) Social Learning Theory argue that the direction and intensity of behaviour is a function of the expectation that certain actions will lead to a goal and also the incentive value of the goal object (see Petri, 1991 or Weiner, 1972, 1980 for detailed reviews). This is also the case for Need Achievement Theory (Atkinson, 1957) and even Drive Theory (Hull, 1952) which later argued that incentive value was an important construct in the mathematical equation determining motivated behaviour (Spence, 1956). It is the incentive value of the object which may count as an external variable in this case. Most recently, however, theories have included external or extrinsic sources of motivation within their principles much more categorically. This is most overtly demonstrated by Deci's (1975) Cognitive Evaluation Theory which closely examines the effects of extrinsic motivators (e.g., external rewards, feedback, significant others) on intrinsic or internal motives for participation. The social cognitive approaches of today all appreciate the influence of the external social environment which can mediate the quality of internal motivational variables and the degree to which individuals are self-determining origins of their own behaviour (DeCharms, 1968), or controlled and motivated by external factors.

### **2.23 MECHANISTIC VERSUS COGNITIVE**

As Weiner (1972) points out,

"Perhaps the most salient controversy in the field of motivation is whether behaviour should be conceptualised as *mechanistic* or *cognitive*. These two conceptual approaches differ in the extent to which higher mental processes are invoked to account for the initiation, direction, intensity and persistence of goal-directed behaviour." (p.1)

The mechanistic-cognitive distinction embraces the 'mind-body' problem which examines the independent and interactional relationship between central (mind) and peripheral (body) processes. The mechanistic approach is characterised by stimulus-response theories where changes in specific factors (stimuli) activate circuits which motivate the organism to engage in appropriate behaviour (responses). There is neither conscious intent nor awareness on the part of the individual and in this respect motivated behaviour could be viewed as fixed and mechanical in nature. Higher mental processes are not involved and humans are simply viewed as passive input-output connectors (Roberts, 1992). Mechanistic theories suppose that mind or body processes are completely independent with parallel functions that do not interact. When formulating the laws of motivation, they also assume that humans are passive and consider them to be like



inanimate objects until some stimulus arouses them into action (Weiner, 1972). Mechanists also make no distinction between human and infrahuman behaviour, considering man and animal to be on similar levels. Weiner (1972) notes that there is little chance of a cognitive theorist examining achievement-related behaviour with rats as subjects, whereas a mechanist would see no problem in using rats to understand human behaviour. Hull's work with Drive theory is a classic example of how little distinction is made between humans and animals.

The cognitive approach to motivation essentially assumes that thoughts govern action, where motive states are best explained in terms of rational, thinking and purposeful organisms. Behaviour is not instigated solely by stimulation but by the information processing of internal or external events (stimuli). These intervening thought processes between inputs and behavioural outputs are referred to as cognitions. The structure and content of these cognitions about the stimuli subsequently govern the behaviour displayed. In opposition to mechanistic theories, cognitive theories do view humans as animate and in a state of continuous action. They also make the clear distinction between humans as rational organisms with developed mental capacities and infrahuman, lower animals whose mental capacity and range of motivations may be more limited (Weiner, 1972). Finally, to a cognitive theorist, the mind and body are interacting organisations with action influenced by thought.

In the motivation literature, most theories are reported in terms of their position on the mechanistic-cognitive continuum and, interestingly enough, the Twentieth century has essentially witnessed a gradual shift from one side (mechanistic) to the other side (cognitive) of the continuum. Clark Hull's (1943) Drive Theory is an exemplar of the mechanistic approach. David McClelland (1951) and later (and more notably), John Atkinson's (1957) work on Need Achievement Theory represents a quasi-cognitive perspective where the cognitive constructs of expectancy and value are represented in the theory, but the mechanistic characteristics of hard wired unitary motive states are also critical features. Attribution Theory, originated by Heider (1958) and developed within the context of achievement by Weiner (1972) exhibits a more powerful shift towards the cognitive-based study of motivation. Whilst the cognitive paradigm has been represented by other theories (e.g., Cognitive Evaluation Theory), attribution theory, with its insights and limitations, has provided the template for the most recent social cognitive theories, including Nicholls' (1984) Achievement Goal Theory.

## **2.24 SUMMARY**

Motivation is such a highly complex and multi-faceted phenomenon that all the theories encapsulated within these three dimensions of analysis have some validity, but differ to the extent to which they can explain motivation in its entirety. In some circumstances, behaviour is best understood as being motivated by internal states that



activate the organism to respond in genetically determined ways (Petri, 1991). Other behaviours however, appear to be dependent on thought processes and the purposeful use of both external information and internal information from acquired developmental and cognitively interpreted experiences. No single approach can explain motivated behaviour in its entirety, but some theories have certainly proved to explain particular motive states better than others. Petri (1991) perhaps sums up the position most succinctly:

"Explanations of hunger will differ from explanations of achievement. I think it is naive to believe that one comprehensive theory can explain all motivational states. The reason for my belief is quite simply that motivation is multiply determined. The processes that undergird the physiologically important motives are different from the processes that undergird psychological motives."(p.22)

Maehr and Braskamp (1986) argue that any discussion of motivation should begin with the description of the behaviour to be observed. In this way, motivation can be defined more clearly by observing what leads one to the conclusion that an individual is motivated or not. They propose that five behavioural patterns provide the basis for inferring motivation. These are *direction* which reflects the choices of action that the individual possesses; *persistence* which represents the intensity of attention constantly given to a task; *continuing motivation* which signals the intrinsic desire to continue a task without any externally imposed reason for doing so; *intensity* which reflects the amount of effort exerted, work rate or energy output; and finally, *performance* where the increased level of personal attainment is often explained by motivation. In this thesis, the critical theories are those which attempt to explain behaviour associated with psychological motives, and more specifically, the achievement motive. However, the foundation of research into achievement motivation was guided to an extent by the mechanistic conceptions reflected in Hull's (1943) Drive Theory which focused almost exclusively on physiological needs. A brief explanation of the principles of this theory, followed by the two major theories of achievement motivation which characterise a dimensional shift towards the cognitive paradigm now follows.

### **2.3 DRIVE THEORY**

The earliest conception of drive was formulated by Woodworth (1918) who argued that drives were the forces necessary for behaviour to occur. He believed that all behaviour was motivated except reflexes and that without drive there was no power to direct the mechanism to make it perform behaviour. He further argued that needs, mostly biological and physical in nature, activate drives which in turn activate behaviour. The reduction in drive caused by the behaviour led to the satisfaction or satiation of organismic needs. In this way, the homeostatic balance of the organism was maintained.



The main apostle of drive theory, however, was Clark Hull (1943, 1951). He essentially developed a survival model which assumed that motivation develops to meet the physiological needs of an organism. Organic needs (e.g., hunger, thirst, sex) stimulated drives which became the motive states by which behaviour was activated to ensure equilibrium. Hull was also greatly influenced by Thorndike's (1913) law of effect which stated that a stimulus-response bond (i.e., learning) would strengthen if it was accompanied by positive reinforcement. The strengthened S-R bonds were referred to as habits by Hull who believed that reinforcement occurs when drive is reduced. Hull developed a mathematical formula which expressed the relationship between behaviour, learning (habits) and motivation:

$$\text{Behaviour (E)} = \text{Habit (H)} \times \text{Drive (D)}$$

The equation illustrates that motivated behaviour is dependent on the multiplicative relationship between the strength of the learned response (habit) in the situation and the strength of drive. Although all of Hull's work was conducted using infrahuman subjects, it might be useful to provide an example of how his theory might translate to sport. If a performer felt the need to do a training session in order to develop aerobic fitness for a marathon, then drive would be high. From previous experiences of the need to train and subsequent drive, the performer found that doing a ten mile run with four tough hills was the most highly satisfying and reinforcing session that s/he could do. This type of session reduced drive and satisfied need. According to Hull's theory, therefore, the properties of this particular session would represent the habit if it was done repeatedly. When the need to train arises again, the drive (i.e., motive state) is present and the habit is well learned which causes the performer to engage in that particular run reflecting the motivated behaviour which will satisfy that need.

Drive theory underwent several modifications as new information became available including the addition of the incentive value of the goal object to the mathematical equation (Spence, 1956). These changes are beyond the scope of this review, but it is important to clarify some of strengths and weaknesses of the theory. A major strength of the theory was the precise and systematic exploration of motivated behaviour from an entirely mechanistic position. Testable hypotheses were carefully constructed and it became an example of how theory ought to develop. Furthermore, the concept of need has made a great contribution to the understanding of behaviour and its derivation is noticeable in subsequent motivational theories. However, drive has not always been found to lead to the activation of behaviour; motivation has been shown to exist without the presence of a need state; and reinforcement has resulted in learning even though drive reduction has not occurred (Petri, 1991). Despite its mathematical model being praiseworthy in mechanistic terms, its reductionist principles and infrahuman samples do not appear to satisfy the levels of external validity demanded by human



beings as conscious processors of information. Drive theory viewed humans merely as complicated robots and neglected the influence of thought upon action. One might argue, for example, that there is nothing stopping the marathon trainer trying out a different run, a longer run as part of a programme s/he has devised, or not running at all because s/he is purposely carbohydrate loading for an event at the weekend. Cognitive processes have intervened in all of these possibilities. Hull's theory was a grand attempt to incorporate all information into one theory of motivation. Its limitations have incited researchers towards understanding specific types of motivated behaviour by formulating smaller theories on pertinent motivational constructs. This is especially the case for achievement motivation which allows this review to discuss theories which are more pertinent to sport psychology and the achievement domain of sport

## 2.4 NEED-ACHIEVEMENT THEORY

The McClelland-Atkinson model of achievement motivation received a great deal of attention in the psychological literature from the mid-1950's through to the mid-1970's. The theory originated from work by Murray (1938) who believed that motivational processes result from individual needs. A major 'manifest need' which Murray identified was the need for achievement, a learned need which directed and energised behaviour. David McClelland and John Atkinson were greatly influenced by Murray, and McClelland (1951) believed that achievement motives, the mainsprings of action, were acquired dispositions developed early in life through positive or negative affective responses to achievement tasks (stimuli). In the presence of an achievement task, the nature of the dispositions would arouse corresponding affective states and elicit instrumental approach or avoidance behaviour. The two acquired and independent dispositions were referred to as the motive to achieve success ( $M_s$ ) and the motive to avoid failure ( $M_{af}$ ), with resultant achievement motivation or the need to achieve ( $n\text{ Ach}$ ) being represented mathematically as:

$$n\text{ Ach} = M_s - M_{af}.$$

The concept of  $n\text{ Ach}$  has also been referred to as the tendency to approach or avoid achievement-related situations ( $T_A$ ). Following initial work by McClelland and his associates (McClelland, Atkinson, Clark & Lowell, 1953), it was Atkinson who progressed the model and attempted to isolate the determinants of achievement behaviour within a specific mathematical relationship. Atkinson was an expectancy x value theorist and he believed that people would engage in achievement situations dependent on their subjective probability of success (cognitive expectancy of success) in the task and the incentive value to be gained from achieving success in the task. Atkinson mathematically assumed an inverse relationship between the probability of success ( $P_s$ ) and the incentive value of success ( $I_s$ ) such that  $I_s = 1 - P_s$ . As the subjective expectancy of success in a



particular task increased, the value of success decreased because there was little incentive to be gained from achievement in easy tasks. The reverse applied for achievement tasks where low expectations of success would be greeted by increased personal value if one actually succeeded in the actual task. These were most ostensibly the cognitive aspects of the theory which conceptualised humans as rational and able to apply their mental faculties to influence their achievement behaviour. However, the stimulus-response bonded dispositional motives to achieve success and avoid failure played critical mathematical roles such that the theory was, in no more precise terms, an interactional model of personality (Cox, 1990). Atkinson's original formula was therefore represented as:

$$n \text{ Ach} = (M_s - M_{af}) (P_s \times I_s) \text{ where } I_s = 1 - P_s$$

Need achievement or the resultant achievement motivation was a quantitative value calculated from the measurement of two stable personality factors and their interaction with perceptions of the achievement context in expectancy and value terms. Within Atkinson's research (Atkinson, 1954, 1957, 1958; Atkinson & Litwin, 1960), the motive to achieve success was measured by a projective test devised by Murray (1938) called the 'Thematic Apperception Test' (TAT). This device attempted to assess  $M_s$  by the amount of achievement-related imagery that subjects described in their written responses to a pictorial scenario. This scenario was presented to them after they had completed a task and received normative success or failure-based feedback in order to induce achievement conditions (Veroff, Wilcox & Atkinson, 1953). The motive to avoid failure was generally measured by the Test Anxiety Questionnaire (TAQ; Sarason & Mandler, 1952). It is also important to note that the expectancy and value measures were more mechanically imposed than subjectively estimated. Subjects were told of the normative difficulty or the typical percentage success rate of the task in order to induce an expectancy and value within them. Cognitive processes were never actually measured, they were merely manipulated to fit inside a mathematical equation where different discrete values for expectancy and incentive were inserted. This is one of the biggest criticisms and weaknesses of the theory which limits it to being only quasi-cognitive.

The major implications for the theory are essentially the behavioural predictions that are presented for individual differences in  $n \text{ Ach}$  and resultant approach or avoidance motivation. In sport-related terms, without detailing the equations, performers high in  $M_s$  and low in  $M_{af}$  will be maximally motivated ( $n \text{ Ach}$  in quantitative terms) when they perceive the achievement task to be of intermediate difficulty where expectancy of success is 50/50. Approach motivation would be reduced if the situation was perceived as either too easy or over-difficult. Conversely, a performer whose motive to avoid failure is greater than his/her motive to achieve success may only tend to approach achievement tasks which are either very easy or very difficult. This individual's tendency



to avoid failure (or avoidance motivation) is already high and only tasks where they perceive a ninety percent chance of success or failure are likely to encourage approach behaviour. In this respect, easy tasks assure the avoidance of failure, very hard tasks provide the excuse for failure, but 50/50 tasks motivate the player to avoid the task altogether according to mathematical interpretation.

Research support for these predictions regarding the relationship between dispositional motives and task choice behaviour has been favourable in a number of cases (Feather, 1961; Isaacson 1964; Roberts, 1974). Furthermore, some evidence exists that individuals higher in *n* Ach exhibit superior performance (Ostrow, 1976; Ryan & Lakie, 1965) but the relationship is highly complex, inconclusive (Fodero, 1980) and appears to be mediated by competitive conditions and learning effects (Carron, 1980). In contrast, the contention that low *n* Ach subjects avoid intermediate tasks has not always been substantiated (Atkinson & Litwin, 1960; Maehr, 1974; Roberts, 1982; Weinstein, 1969). It is also worth noting that the theory has consistently failed to account for *n* Ach in women, a deficiency which prompted Horner (1970) to propose that women possessed a dispositional motive to avoid success due to their gender stereotyping.

Although the theory underwent some elaborations including the addition of extrinsic motivation (Atkinson, 1964) and Raynor's (1969) notion of the perceived contingency of the situation with respect to future aspirations, the original approach had distinct strengths and weaknesses. Its greatest strength lied perhaps in the consideration that it gave to cognitions within an achievement context and the interactionist nature of the model which can be seen in contemporary achievement motivational approaches. It was also an individual difference theory which, unlike drive theory, attempted to predict achievement behaviours as a result of two motivational traits which were independent. However, the crucial role of personality was also possibly its strongest weakness. Predictions of behaviour were governed by the two motives and the role of perceptions of the situation was mathematically constrained. Personality not situation was the driving force, and there was no possibility for expectancy and value beliefs to displace or override dispositions. It was only interactionist to the extent that situation and disposition were represented within the same model. Furthermore, there was an inability to account for the motivational effects of success and failure which were critical aspects of attribution theory to be discussed shortly.

Approach or avoidance motivation was a unitary intensity score of motivation, with no qualitative attributes, and the dispositions themselves were vague in terms of the antecedents to their development. The motives to achieve success and avoid failure, though not genetic, were thought to be mechanistically conditioned with little knowledge about how one might go about ensuring a high motive to achieve success. This is certainly not the case for the newer approaches to achievement motivation which explain the development of multidimensional and qualitative achievement motives. The theory



also displayed several measurement limitations including the low reliability of the TAT as a measure of motive to achieve success, and the imposition of expectancy and value responses with no allowance for or measurement of individuals thinking for themselves. These latter points led Weiner (1972) who was interestingly Atkinson's own PhD student, to sum up the theory by stating:

"The theory of achievement motivation stands at the crossroads between cognitive and mechanistic conceptions of action. Cognitive concepts, such as expectancy of success, are employed side by side with mechanistic concepts, such as inertial motivation. It is contended that individuals consider the probabilities of success at a number of alternative tasks and reach complex decisions that maximise subjective pleasure. Yet one is never informed, for example, how judgements of probability level are formed or how success or failure are perceived. Achievement theory is the most precise of the cognitive conceptions of action, yet remains generally unconcerned with mental events." (p. 269)

Despite these criticisms, the theory's focus on achievement criteria such as normative success and failure, particularly within the guise of dispositional approach and avoidance-type orientations, does correlate with contemporary achievement goal theories. Indeed, Nicholls (1989) contrasts the principles of need achievement theory with his own intentional perspective (achievement goal theory). He argues that the major similarity of the two theories lie in the prediction of task choice for low n Ach individuals and highly ego-involved individuals with low perceptions of ability. Both opt for tasks of either very high or very low probabilities of success. Nicholls (1989) sharply and correctly points out that Atkinson's model assumes no difference between normative perceptions of task difficulty and subjective probability of success. As I will discuss later, dependent on developmental level, Nicholls argues that there comes a point where subjective probabilities of success are clearly distinguished from normative task difficulty. Consequently, although his predictions for task choice correspond more closely with an individual in the differentiated state of ego involvement, Atkinson's terminology and methodology could only apply to an individual in an undifferentiated state of task involvement.

## **2.5 ATTRIBUTION THEORY**

Attribution theory represented a more distinct shift to the cognitive end of the theoretical continuum as it is a theory which deals entirely with cognitive processes. Indeed, whereas mechanistic and quasi-cognitive theories have focused more upon action rather than thought, attribution theorists reversed the order of interest and were more concerned with the causal inferences made for events than the behavioural consequences of these inferences. In simple terms, attribution theory examines the cognitive explanations or perceived causes for a particular event's occurrence that are inferred by



individuals. Of value to this review is the consequences or effects of certain attributions on motivation-related behaviour, particularly achievement behaviour.

The founder of attribution theory is acknowledged to be Fritz Heider (1958) who formulated his 'naive psychology' as the "investigation of common sense psychology" (1958; p.79) into the attributions that normal, everyday people might make, not what a trained observer might conclude. Heider's model was concerned with how people strive for prediction and understanding of daily events in order to give their lives stability and predictability. His additive model proposed that outcomes of events are attributed to the person (personal force) and/or to the environment (environmental force) where Behavioural Outcome = Personal Force + Environmental Force (Cox, 1990). Personal force was composed of ability and trying (effort) factors, whereas the impersonal, environmental force was composed of task difficulty and luck. These were the dimensions of causes that individuals could use when inferring the reason for an event or outcome.

A major focus of attribution research has been the context of achievement and this is due to the significant contribution that Bernard Weiner made to the study of attribution processes in this particular context (Biddle, 1993). Much of Weiner's work has focused on the attributions made to success and failure occurrences in academic achievement contexts (Weiner, 1979). However, his more user-friendly model of attribution has made it easier to apply an attribution perspective to sport contexts. Using Heider's ideas as a basis and incorporating the notion of locus of control (Rotter, 1966), Weiner argued that four main attribution elements were important in the cognitive interpretation of an achievement-related event such as success or failure. These elements were personal ability, personal effort, the difficulty of the task and luck. He then structured these elements into two main attributional or causal dimensions referred to as the 'locus of causality' (originally termed 'locus of control') and 'stability'. Figure 2.1 depicts Weiner's classification scheme for causal attributions.

**Figure 2.1 Weiner's Original 2 x 2 Model of Attribution Dimensions and Elements (taken from Biddle, 1993).**

		<b>LOCUS OF CAUSALITY</b>	
		<b>Internal</b>	<b>External</b>
<b>STABILITY</b>	<b>Stable</b>	<b>Ability</b>	<b>Task Difficulty</b>
	<b>Unstable</b>	<b>Effort</b>	<b>Luck</b>

Ability was viewed as an internal stable factor, something personal that wouldn't change drastically. Task difficulty was also a stable factor in that difficulty might neither increase nor decrease, but it was external and imposed upon the individual. Effort was an internal and personal factor that was unstable and could change dependent on the individual. Finally, luck was thought to be unstable, variable and completely outside of the individual's control. Within this framework, Weiner believed that people could generally attribute their successes and failures to one of these four choices.

The overwhelming emphasis of this approach has been on expectancy (Roberts, 1992) where changes in expectancy of future success or failure are a function of the attributions that people make for current success or failure. This process in turn is hypothesised to affect achievement behaviours such as persistence, whilst the attributions themselves have also been correlated with different emotional reactions and emotions (Biddle, 1988; Russell & McAuley, 1986). As Maehr and Nicholls (1980) affirm, affective reactions to outcomes do not necessarily reflect the outcomes themselves, but more ostensibly reflect the perceived reasons for outcomes. Weiner (1972) reports three corollaries specifically related to his 'law' that the stability of the attribution to success or failure determines future expectancy of success or failure. In the achievement context of sport, this translated to the following beliefs:

If a performer had won and had ascribed a stable cause such as high personal ability or low task difficulty, then future success would be expected in the same situation. If the performer had inferred an unstable cause such as effort or luck, then future success would not be assured. If the performer had lost and believed the reason to be high task difficulty or low personal ability (stable factors), then failure would be expected again in similar circumstances. In contrast, if the reason for the loss was thought to be low personal effort or luck, then future losses are not necessarily expected as luck and effort can both change. The statements regarding effort highlight one of the problems of the original causal dimensions, in that a performer might win but attribute the win to the low effort (e.g., "tanking" in tennis) of his opponent. This is an internal and unstable factor, but which is outside of the individual's control. For reasons such as this, a third dimension was later added by Weiner (1979) referred to as 'locus of control' (controllability) which reflected whether the attribution perceived was actually under the individual's control or not. At this point, the original 'locus of control' dimension became the 'locus of causality'.

A great deal of attribution research has been conducted in sport settings, though, as Biddle (1993) clarifies, it has tended to be narrow in focus with laboratory studies investigating attributions to objective win/loss outcomes on novel tasks. Research has investigated ego-centrism in attribution and the self-serving bias elicited by young sports performers (Kimiecik & Duda, 1985; Spink & Roberts, 1980). This refers to the degree to which performers always attribute success to internal factors (ability and effort), and



failure to external factors (task difficulty or luck ). By denying personal responsibility for failure, they maintain their self-esteem, only to maximise self-esteem when they attach personal responsibility for success. In terms of optimising motivation, it is generally believed that attributions to success and failure outcomes certainly need to be realistic, but hopefully, for the majority, internal. In this respect, personal responsibility is associated with success and failure achievements, with more of an emphasis on internal, unstable attributions for failure. Apart from the antecedents to attribution, research has also focused on individual differences in attributions and mainly the emotional consequences of attributions in sport (see Biddle, 1993 for a review). However, Biddle (1993) notes that more knowledge is required on the consequences for motivated behaviour as a result of attributions and the attribution-emotion link. This is indeed possibly one of the most important gaps in sport attribution research from a strictly achievement motivational perspective. Studies have mainly focused on individuals' attributional reactions to winning and losing, but the consequences of these attributions in terms of expectancy are inconclusive (Singer, Grove, Cauraugh & Rudisill, 1985). Furthermore, Roberts (1992) and Biddle (1993) allude to the fact that one often assumes that winning and losing are synonymous with success and failure. However, the critical issue in contemporary theories of achievement motivation is that the personal meaning of success and failure can differ between individuals.

Roberts (1992) provides a brief but constructive critique of attribution research and indicates that one major concern has been the extensiveness and applicability of the attributional elements and dimensions to the sport context. Roberts and Pascuzzi (1979) investigated open-ended attributions to a variety of sport situations and found that they could only code 45% of the responses into the four-choice framework (Biddle, 1993). An issue of greater relevance to this current study is the observation made by Nicholls (1989) when comparing attribution theory to achievement goal theory. Nicholls' theory drew extensively from an attributional framework, and a major tenet of this theory, upon which subsequent achievement behaviour was dependent, was the developmental differentiation of effort, task difficulty and luck from ability. If a young performer possesses an undifferentiated conception of ability then the integrity of the whole attributional framework is compromised.

Attribution theory changed the focus of motivation research by demonstrating that motivation is very much a product of cognitive processes. Cognitive expectancies of future success and failure, affective (emotional) reactions and subsequent motivational disorders such as learned helplessness (Seligman, 1975) can all be intuitively explained through attributions. However, the theory has never been able to overcome the criticism that it is less a psychology of motivation than a social psychology of perception (Roberts, 1992). It might tell us why something has happened or gone wrong, but it has no basis or origin, much like need achievement theory, in how to put things right within a sport



context. Roberts (1992) concludes his critique of attribution theory in the following manner:

"In sum, the attributional approach has opened up significant avenues of investigation and must constitute an important ingredient of any comprehensive theory of motivation from a cognitive perspective, but it does not constitute a comprehensive theory in itself. The theory has not addressed value in any systematic manner. The theory has focused upon why people expect to succeed, but not on why they want to succeed."  
(p.11)

Maehr (1989) stated that Weiner's modest attempt to insert causal attributions into the achievement motivation equation transformed the focus of motivation research. The achievement situation and its meaning to the individual became more important whilst individual differences in personality became less important. Since attribution theory, subsequent cognitive theories have dominated motivation research in achievement contexts. The focus of attention turns to a brief outline of these theories.

## **2.6 RECENT COGNITIVE APPROACHES TO MOTIVATION IN ACHIEVEMENT CONTEXTS**

Over the past twenty years, a number of theories from the developmental, educational and child psychology domains have been adopted to either describe, explain or predict the motivated behaviour of young sports performers. The majority of these theories fall under the conceptual umbrella of the social cognitive approach in that cognitions are crucial along with the role played by the social environment in influencing those cognitions. Although each theory has distinct theoretical components and practical implications, a child's perception of ability or competence has a central role in the determination of motivational quality and achievement behaviour. Cognitive evaluation theory (Deci, 1975; Deci & Ryan, 1985) and competence motivation theory (Harter, 1978) are examples of early social cognitive theories which have been applied to sport. Whilst these theories will not be described in detail (see Weiss & Chaumeton, 1992 for a more comprehensive review), they are important to outline because of their popularity in the late 70's and early 80's, and their links to achievement goal theory as the most contemporary social cognitive approach to achievement motivation.

### **2.61 COGNITIVE-EVALUATION THEORY**

Deci's (1975) cognitive evaluation theory has made an important contribution to the achievement motivation literature because it examines principally how the social environment of an achievement situation cognitively influences the intrinsic motivation of an individual. From a sport perspective, many performers are held to participate in sport for intrinsic or internal reasons such as skill improvement, pleasure, challenge and



personal mastery (Weiss & Chaumeton, 1992). According to Deci, intrinsic motivation is maximised when the individual has high perceptions of competence and feels self-determining in dealing with their environment. Self-determination essentially meant that they maintained an internal locus of control (Rotter, 1966) and were origins (DeCharms & Carpenter, 1968) who were both responsible for their own behaviour and could direct their own behaviour. According to cognitive evaluation theory, competitive sport events can affect a performer's perceptions of ability and feelings of self-determination, procuring effects on their intrinsic motivation. An achievement context or event is characterised by its distribution of rewards, the quality and quantity of feedback and reinforcement, and its own prevailing goal structure (Ames & Ames, 1981). These elements of the event consist of two functional components: a controlling aspect and an informational aspect. The controlling aspect of an event refers to the performer's perceived locus of causality within the situation (Weiss & Chaumeton, 1992). If the situation is perceived to be controlling the individual and his/her responses, then the locus of causality is external and self-determination is low, leading to decreases in intrinsic motivation. In contrast, the informational aspect of an event relates to the perceived ability or competence of the performer. If positive information and feedback about individual ability is provided to the performer by the event itself or significant others then intrinsic motivation will be maximised. However, negative information, criticisms and put downs function to lower perceived ability and consequently, intrinsic motivation to participate.

Research investigating cognitive evaluation theory has focused primarily on three elements of the sport setting. These include the effects of external rewards on intrinsic motivation, the effects of quality and quantity of feedback on intrinsic motivation, and the effects of competition on intrinsic motivation. In general terms, external rewards are believed to have an externally controlling influence over the performer, governing their reasons for participation and developing an extrinsic motivation at the 'discounting' expense (Lepper & Greene, 1975) of intrinsic motivation. Secondly, research has shown that it is the appropriate quality, as opposed to quantity, of feedback given by significant others which influences the intrinsic motivation of performers via the informational aspect (Horn, 1987). Finally, a competitive event contains both controlling and informational aspects which have a potential influence on self-determination and perceptions of ability. Negative objective outcomes can act as negative information which undermines perceptions of ability (Vallerand, Gauvin & Halliwell, 1986a). However, McAuley and Tammen (1989) suggest that it is the subjective evaluation of success as opposed to the objective outcome which serves as the informational aspect determining perceptions of ability. This latter point has great relevance to the principles of contemporary achievement goal approaches.



Lastly, the informational and controlling aspects of competition are relevant when considering the competitive goal structure of the context (Deci, Betley, Kahle, Abrams & Porac, 1981; Vallerand, Gauvin & Halliwell, 1986b). If the goal structure of the context is interpersonal and outcome-based, then the externally controlling element of the situation may be most salient. Conversely, if the goal structure is more task mastery and self-competition oriented, then the informational aspect may be the feature of most fundamental significance to the situation. Deci et al. (1981) and Vallerand et al. (1986b) both found intrinsic motivation to be higher in subjects who performed in self-competition or mastery-based competition structures as opposed to individuals who competed in direct, interpersonal circumstances. Vallerand's study suggested the salience and contingency of the controlling aspect of the contextual goal structure. Self-determination (internal control) was maximised in a mastery-oriented goal structure, whereas a direct competitive structure may have reinforced an externally perceived locus of causality, leading to higher levels of external control. This was due to the finding that levels of perceived competence did not differ between the two groups.

## **2.62 COMPETENCE MOTIVATION THEORY**

An alternative social cognitive approach which focuses on understanding the antecedents and consequences of achievement motivation is Susan Harter's (1978) theory of competence motivation. Based on the seminal work of White (1959) who coined the term 'effectance motivation', Harter's theory proposes that individuals are innately motivated to be competent and able in all dimensions of human achievement. In order to demonstrate and maximise competence in sport achievement, the individual feels impelled to engage in mastery attempts within sport contexts (Roberts, 1992). The similarity of this theory with cognitive evaluation theory is subsequently depicted by the cognitive process that the performer engages to establish whether competence is increased or decreased. If the performer perceives him/herself to be successful by utilising sources of information such as subjective evaluation, objective outcome, or feedback from significant others, then this leads to positive affect, increased feelings of competence, performance control and high competence motivation to continue mastery attempts. On the other hand, if the performer interprets that s/he has been unsuccessful, then feelings of low competence are associated with negative affect and a subsequent decrease in competence motivation to engage in mastery attempts. Several sport-related studies have found support for Harter's theory (Klint & Weiss, 1987; Roberts, Kleiber & Duda, 1981) using the physical competence scale of Harter's multidimensional measure. However, the relationship between sport participation and playing experience with perceived competence remains weak (Feltz & Brown, 1984). Furthermore, although competence motivation theory assumes a mastery perspective to achievement striving (Roberts, 1992), Harter's scale incorporates an ego or social comparative perspective



which would appear to measure perceptions of normative abilities as opposed to a self-referent, mastery oriented conception of ability.

Despite this criticism, both competence motivation theory and cognitive evaluation theory contain elements and predictions which, like attribution theory, the most recent social cognitive approaches have either adopted or developed upon. Perceptions of ability or competence are viewed as central cognitive determinants to achievement motivation. Furthermore, the information sources within the social environment used to judge ability, including reinforcements from significant others, are held to influence levels of motivation. The contemporary social cognitive era incorporates all of these variables within theories which present a dynamic framework centred on the qualitative achievement goals that performers value and pursue within a variety of achievement contexts.

## **2.7 THE CONTEMPORARY SOCIAL COGNITIVE APPROACH TO ACHIEVEMENT MOTIVATION**

Over the past fifteen years, research into achievement motivation within the domain of educational psychology has been enhanced by theories which have emphasised the importance of multiple achievement goals held by individuals in achievement contexts (Dweck, 1986; Nicholls, 1984). Each achievement goal represents the beliefs that an individual holds for demonstrating achievement in that particular situation. Therefore, it is important to note that achievement motivation is viewed by these theories as both multidimensional and more qualitative as opposed to quantitative in nature. As Roberts (1992) indicates, variations in achievement behaviour are not necessarily a result of high or low (quantitative) motivation, rather they are a manifestation of the different types of goal adopted by the individual. The individual adopts the goal which most closely reflects his/her cognitive belief about what is required to maximise achievement in that context.

A common theme in each theory is that demonstrations of ability, or something desirable about the person, are the central cognitive motives governing the adoption of the different types of goal. Many forms of achievement goals, consisting of very similar properties, have been identified by the most recent achievement goal theorists (Dweck, 1986; Nicholls, 1984). However, all of these theories appear to have built upon the original hypotheses established by Maehr and Nicholls (1980).

### **2.71 ACHIEVEMENT GOALS ACCORDING TO MAEHR AND NICHOLLS**

In 1980 Maehr and Nicholls took what they termed a 'second look' at redefining the conditions under which universal achievement behaviour occurred cross-culturally. Placing a great emphasis on an attributional analysis of motivation and the personal meanings attached to success and failure, they argued for the categorisation of three



forms of achievement behaviour. These were systematically represented by three types of achievement goal orientation.

Ability-oriented behaviour is characterised by striving to maintain a favourable perception of one's ability. The goal of the behaviour is therefore to maximise the subjective probability of attributing high ability to oneself and to minimise the probability of demonstrating low ability (Maehr & Nicholls, 1980; Weiss & Chaumeton, 1992). In accordance with attribution theory, achievement outcomes attributed to high ability will be subjectively experienced as success and will lead to the expectancy of future success in similar circumstances. According to Maehr and Nicholls (1980), this cognitive process will lead to the choosing of difficult tasks and persistence in the face of difficulty. In contrast, negative outcomes attributed to low ability will be processed as failure, resulting in negative affect and expectancies that future attempts will result in the demonstration of low ability. Maehr and Nicholls (1980) contend that this process may lead to avoidance behaviour in those situations, the choosing of easy tasks and giving up in the face of difficulty. Weiss and Chaumeton (1992) signify that individuals with this ability-focused goal orientation utilise social comparison information to judge successes and failure in terms of demonstrated ability. In sport terms, this means that success or achievement is experienced only when the performer demonstrates greater ability than another performer (i.e., winning; beating the opposition).

The second type of achievement behaviour identified by Maehr and Nicholls (1980) can be referred to as task-oriented behaviour. The goal of this behaviour is to focus on the process, rather than the outcome, of involvement in an achievement situation (Weiss & Chaumeton, 1992). Rather than demonstrating ability, the primary goal is to engage in problem solving for its own sake or to develop a greater understanding of the task. For example, in the sport situation, task-oriented goals might include personal performance improvement or technical correctness. Maehr and Nicholls (1980) argue that it is important to understand that task-oriented people appear to forget about their ability because they feel confident that it is high. They use the example of Picasso who stated, "It was the success that I had in my youth which became my protective wall.....It's only sheltered by success that I've been able to do everything that I want." (Thomas, 1975; p. 112). Success in the task-oriented sense is dependent upon perceptions of previous personal performances where a performance is judged by the execution of criteria inherent in the task. Perceptions of the performances of others are not a salient issue.

The third and final type of achievement behaviour has been identified as social approval oriented behaviour. The goal of the individual in this case is to maximise the probability of demonstrating virtuous intent and personal commitment, thereby gaining social approval from others for these intentions (Weiss & Chaumeton, 1992). This position is based on the view that effort is under the voluntary control of individuals and



can therefore indicate conformity to social norms and virtuous intent, as opposed to superior talent (Maehr & Nicholls, 1980). This particular goal orientation has received very little attention in research and was effectively discounted by the newer achievement goal theories. An attempt to resurrect the importance of social approval motivation and social goals has recently been made by Urdan and Maehr (1995). This may be particularly pertinent to competitive youth sport where the impact and controlling influence of significant others continue to be topics of research interest (Duda & Hom, 1993; Brustad, 1992).

Although, Maehr and Nicholls conceptualised this initial theory of achievement goals, little research in the sport domain has examined the theory as a unit. Moreover, no measurement technology appears to have been devised specifically for the theory. From a sport psychological perspective, Maehr and Nicholls' (1980) concepts place them as the originators of the achievement goal approach, but whether the concepts can be viewed as constituting theory or merely notions is debatable. Certainly, the notions of ability and task-oriented achievement goal orientations have been developed upon, and have led to an explosion in the literature on research into achievement motivation in sport. This has mainly been due to the interest shown in the off-shoot theories of Nicholls (1984) and Dweck (1986).

## **2.72 ACHIEVEMENT GOALS ACCORDING TO DWECK**

Stimulated by Maehr and Nicholls' (1980) original approach to achievement goals, Carol Dweck established an achievement goal theory which was specifically geared towards achievement in the academic domain (Dweck, 1986; Dweck & Leggett, 1988). Her approach focused on how children's conceptions of intelligence directed them towards the adoption of specific academic achievement goals. Dweck argued that children could view intelligence either as a global and stable, fixed 'entity', or as something that could continually be developed with practice and effort in incremental terms. Children who possessed the 'entity' conception were predicted to adopt a goal focused on maximising the demonstration of personal adequacy and proving their intelligence (Dweck & Leggett, 1988). She referred to the goal of demonstrating entity-driven competence as a *performance goal* which would involve competence evaluations made relative to the performance of others. In contrast, *learning goal* was the term applied to the goal pursued by individuals who were focused on improving their personal ability incrementally.

Central to Dweck's propositions are the patterns of cognition, affect and behaviour associated with the two types of goal particularly in response to perceived failure. Specifically, task or mastery-oriented individuals who pursue learning goals view failure as a temporary set-back where current strategies simply require greater effort or a new approach. The attributional focus is placed on effort, and affective responses such as



pride in personal achievement are continually maximised. Moreover, these individuals are hypothesised to select challenging tasks which would maximise the growth of their ability. In contrast to this adaptive behavioural pattern, the prognosis for performance oriented individuals is dependent on their perceptions of ability. Specifically, those with low perceptions of ability, attribute failure to their lack of innate ability, experience negative affect and select either very easy or very difficult tasks which ensures the protection of their competence. Moreover, Dweck and Leggett (1988) argue that the devaluation of effort and the negative effects associated with anxiety are factors which contribute to sub-optimal or deteriorated performance. Performance-oriented individuals with high perceptions of ability are believed to demonstrate a similar behavioural pattern to mastery oriented individuals. However, it must be noted that the pattern of behaviour is continually dependent on normative success and is therefore in a state of insecurity. Furthermore, it is believed that performance development is more likely to be compromised with a performance goal orientation, again due to the lesser value placed on effort and the potential for anxiety-induced attentional and strategy-related problems (Dweck & Leggett, 1988).

Dweck argues that it is the incremental and entity conceptions of intelligence held by children which determine the nature of the achievement goal and the subsequent behavioural pattern. However, despite a foundation of research supporting her predictions (Diener & Dweck, 1978, 1980; Dweck & Elliot, 1983), she fails to discuss exactly how such theories of intelligence have come about. Nevertheless, the predictions that her work suggests continue to be the focus of contemporary motivation research in academic and sport domains. The latter point is validated on the basis that Nicholls' (1984) theory has many similarities, but it was the principles of Nicholls' theory which were subsequently applied to the achievement domain of sport (i.e., Duda, 1987).

The achievement goal theory devised by John Nicholls (1984, 1989) has been the mainstream approach to achievement motivation in sport over the past decade. The major theoretical principles and their translation to the sport domain will be the focus of attention for the remainder of this review.

## **2.8 NICHOLLS' ACHIEVEMENT GOAL THEORY**

Nicholls (1989) supported the view of Gordon Allport (1961) who stated, "It would be wrong to say that a need for competence is the simple and sovereign motive of life. It does, however, come as close as any..." (p.214). Nicholls, however, built on his earlier theory by investigating how ability is inferred or perceived in different developmental stages and in different situations. His achievement goal theory, which is also known as goal perspective theory or the intentional approach (Dennett, 1978), considered the meaning of ability or how ability is construed by individuals in achievement settings. Nicholls (1984) argued that the development of achievement



motivation and the display of motivated behaviours is intimately linked to the development of the concept of ability within young children. In this respect, Nicholls' theory was the first to consist of a more comprehensive developmental approach to achievement motivation.

## **2.81 THE DIFFERENTIATION PROCESS**

According to Nicholls (1989), the concept of ability is not clearly differentiated from the definitions that young children give to effort, task difficulty and luck. For young children, statements such as "That was easy", "I was lucky", "I tried hard" do not have clearly different meanings from "I am smart". Nicholls' research in the academic domain, however, shows how a process of differentiation does gradually take place culminating in a complete differentiation of ability from the other achievement-related concepts (Nicholls & Miller, 1983, 1984, 1985). This research took an attributional-type perspective which involved testing children at different age-related stages of development. Each of three separate tests involved presenting the child with a scenario or a task in which either ability, difficulty, luck or effort were concepts that could be inferred to play key roles in achievement terms. Subsequent questions were asked which sought to determine whether the child could distinguish between the concepts (Nicholls, 1989). Table 2.1 depicts this multidimensional process of differentiation and an explanation of this table now follows.

### **2.811 Luck and Skill**

Nicholls and Miller (1985) applied a matching figures task to the children which required either luck or skill. In the skill form, one standard figure was presented alongside six other figures which differed in minute detail and only one of which matched the standard figure. In the luck form, the standard figure was visible but the other figures were turned face down so that subjects could only guess which card had the matching figure (Nicholls, Jagincinski & Miller, 1986).

The results of this task revealed that up to the age of seven, tasks were not differentiated in luck or skill terms. Skill tasks were thought to be more difficult and require more effort. However, effort is still expected to improve success on the luck task. At the two intermediate levels, skill and luck are partially differentiated. Here, effort is viewed as a more important determinant of success on skill tasks where children start to realise that visual stimuli can be compared. Nonetheless, effort is still expected to increase success on the luck task. Only from eleven years onwards are skill and luck clearly distinguished. It is seen that effort can have no effect on luck tasks, but can affect the outcomes on the skill task. Nicholls et al. (1986) note the implications that until luck and skill are differentiated, children will persist on luck tasks because they believe effort

to be a determinant of success. However, when differentiation occurs, only the children on skill tasks are those most likely to persist longer.

**Table 2.1 Levels of Differentiation of the Concept of Ability From Difficulty, Luck and Effort (Nicholls, 1989)**

Difficulty and Ability	Luck and Skill	Effort and Ability
<b>Up to 7 years of age</b>		
(1) Egocentric: Children's own expectations of success are the basis for judging task difficulty and ability	(1) Tasks are not distinguished in terms of the dependence on outcomes on luck versus skill. Children focus on the apparent difficulty of mastering a task	(1) Accomplishment with higher effort means higher ability. Effort and outcomes are imperfectly distinguished as cause and effect
(2) Objective: Concrete properties of tasks (such as complexity) are the basis for judging task difficulty and the ability indicated by outcomes	<b>Between 7 to 11 years of age</b>	
	(2) Effort is expected to improve performance on luck and skill tasks, but skill tasks are seen as more affected by effort	(2) Effort is the cause of outcomes. Equal effort by different students is expected to lead to equal outcomes
(3) Normative: Task difficulty and ability are judged in relation to the performance of others. Tasks that few can do are seen as hard and success on these is viewed as indicating high ability	(3) It is recognised that luck tasks do not offer a means of using ones's senses to influence outcomes. Yet some faith remains that outcomes can be influenced	(3) Ability (as cause of outcomes) is partially differentiated from effort
<b>From 11 years of age onwards</b>		
	(4) Luck and skill are clearly differentiated. Effort is expected to have no impact on outcomes dependent on luck	(4) Ability is conceived as capacity; the effect of effort on performance relative to others is limited by capacity

### 2.812 Difficulty and Ability

In this test, children were asked questions about the difficulty of jigsaw puzzles with different numbers of pieces (Nicholls & Miller, 1983). At the lowest level of differentiation (about five years old), children judge their ability and the difficulty of tasks in a self-referent fashion. They do not recognise that the puzzles with the most pieces require the greatest ability. Instead, they have an egocentric conception of difficulty where a difficult task is one where their own personal subjective probability or expectancy of success is low. "Hard" is equivalent to "Hard for me", which is equivalent to "I'm not smart at it" (Nicholls, 1989). At the intermediate stage, the conception of



difficulty is objective where puzzles with the most pieces are viewed as more difficult and demand greater ability. Difficulty is distinguished from subjective probability of success, but the child cannot differentiate whether failure at a task is a result of low ability or high difficulty. This is because the child cannot process comparison information from others on the task. In a sporting context, if a child was successful at the objectively difficult task of hitting a golf ball, then s/he would infer high ability. However, only by comparing other children at playing golf, and witnessing the degree of difficulty or ease that they have, can the child determine whether the task is actually difficult and whether s/he has the ability to complete a task that few others can. Not until about seven years of age do children attain this normative conception of difficulty, where ability and task difficulty are completely differentiated. Social comparison information is utilised and difficulty and ability are understood in terms of the success rates of others (Nicholls, 1989). Inferences of high ability no longer emerge from success on tasks that the child once found subjectively difficult. The child must succeed on tasks that are normatively difficult, that few others can do, to feel competent. Nicholls et al., (1986) clarify that the degree to which children self-reference their ability judgements diminishes when the normative conception is reached. This has severe implications for those children whose normative conception makes them realise that they are below average and incompetent, despite making continual gains in self-referent competence. Reaching the normative conception of difficulty may not have its full motivational impact immediately because ability and effort are still not differentiated at this stage.

### **2.813 Effort and Ability**

In the third series of tests, children were shown either videotapes (Nicholls & Miller, 1984), childrens films (Nicholls, 1978) or a series of photographs (Miller, 1985) of two elementary school children working at paper and pencil problems but applying different levels of effort. In most cases, each child got the same score on the task.

Up to the age of seven, children perceive that effort, ability and outcome are undifferentiated and positively associated with each other, even when they are not. In effort terms, if a tennis player tried harder than other players, then s/he would be most able, even if s/he had lost. Likewise, if a player had won the match, then s/he must have worked harder than the other player and s/he therefore has the most ability. This developmental stage corresponds with an objective conception of difficulty where if the performer succeeded at an objectively difficult task, s/he must have tried hard and shown greater ability, than if s/he had been successful without trying hard (Duda, 1987).

From seven to nine years of age, effort and outcome are now seen as cause and effect. Effort is the major cause of outcomes and equal effort is expected to lead to equal outcomes. In sport, a child would perceive that anyone who wins a race was successful because s/he must have tried very hard (Duda, 1987). Such a child cannot understand



that ability can limit the effectiveness of effort on normatively difficult tasks. Indeed, ability is not conceived as a causal factor, even when the two children score the same, but effort varies. Children can either not explain this or argue that the lazy one worked harder for a while, or the hard working one misapplied effort.

At nine or ten years of age, effort and ability are partially differentiated as the cause of outcomes. Children begin to understand that if two children achieved the same score, but one worked less hard, then that individual must be brighter and smarter. Nevertheless, the assertion that the lazier person would score higher if s/he did try is not present. Some children at this stage still believe that if each person applied equal effort, they would achieve equal scores.

Finally, only at eleven or twelve years do children fully differentiate ability from effort. At this stage ability is conceived as a present developed level of 'capacity' which limits the effect of effort on performance. The child now comprehends that if two runners achieved the same time, but one didn't try as hard, then that athlete must have more ability. Moreover, if both runners did try their best, the one who previously tried less would achieve a faster time. As Duda (1987) notes, at this developmental stage, to be judged as possessing ability, one must either perform better than others with equal effort, or the same as others without trying as hard.

#### **2.814 The Meaning of Changes in the Meaning of Ability**

Nicholls (1989) makes some insightful remarks about the implications of reaching a differentiated conception of ability in achievement terms. A crucial implication is the role of effort as a double edged sword (Covington & Omelich, 1979). Whereas young children in the undifferentiated state would attempt to maximise effort as the cause of outcomes and face the problem that effort might not produce success, older children have to consider the application of effort more carefully. They understand that challenging tasks require high ability and maximal effort for success, but it is ability that they are eager to demonstrate and ability that limits the effect of trying hard. If they had tried hard but failed, then their high effort would have convincingly indicated low ability. In sport settings, the occurrence of the player, who 'poses' when success in a match is almost assured, but 'tanks' in the face of impending failure, exemplifies the role of effort for a differentiated performer. In the former case, low effort maximises the demonstration and reserves of high ability as the reason for a successful outcome. In the latter case, low effort serves as the reason for failure in an attempt to protect perceptions of ability (Hall, 1990).

The less differentiated conception of ability embodies the notion of self-referent mastery, and the application of effort to tasks which are subjectively difficult. Success at these tasks with the deployment of high effort indicates high ability. As Duda (1987) affirms, to a five year old, high ability would simply mean better performance than



before. The differentiated conception of ability as capacity, however, means that task difficulty is judged from the performance of others and demonstrations of high ability are tied to success on tasks where others fail (Nicholls, 1984). Furthermore, the capacity of ability is governed by the interpersonal comparison of performance and effort with other individuals. In general terms, the greater the effort applied, compared to others, the lesser the capacity of ability implied.

Nicholls (1989) often refers to the benefits of men and women becoming like little children in terms of achievement motivation and the development of personal potential. He vigorously attacks the competitive, meritocratic system of education that characterises society (and society itself), claiming that it decreases the achievement motivation of low to moderate achievers who have reached the differentiated conception of ability. Only if individuals possessed an undifferentiated-type conception of ability would achievement behaviour be maximised in all individuals. Nicholls (1984, 1989) then refers specifically to how both conceptions of ability can be manifested in adolescents and adults beyond the differentiated stage, and to the behavioural implications of these goal states.

## **2.82 TASK AND EGO INVOLVEMENT**

Nicholls (1984) maintains that a feeling of competence is the major goal in achievement situations and that consequently perceptions of ability are the central determinants of achievement behaviour. However, once the differentiated conception of ability is acquired at twelve years old, adolescents can utilise either a differentiated or undifferentiated conception of ability. In Nicholls' view, the degree to which adolescents and adults will adopt a differentiated or undifferentiated conception of ability will be dependent to a large extent on the nature of the situation.

Achievement situations which are characterised by low social evaluation, indirect or self-competition, and valued learning processes are likely to invoke the undifferentiated conception of ability. In this achievement structure and situation, ability is seen by the performer as mastering a task, developing personal skills and maximising self-improvement with effort. Subjective success and feelings of ability are based upon a self-referencing process. When this less differentiated conception of ability is induced, the individual is said to be in a state of *task involvement*. This state is therefore influenced to a large extent by the perception that the individual has of the achievement situation or task in which they are about to engage.

In contrast, Nicholls (1989) stresses the situational factors or achievement structures which serve to induce a differentiated conception of ability. These include situations which incorporate evaluative cues, such as an audience, task-extrinsic incentives, test-like criteria, interpersonal competition, and an emphasis on social comparison and self-awareness. These normative variables arouse the conception of ability as capacity and the belief that feelings of competence are only maximised by the

demonstration of superior ability to others. Subjective success and feelings of ability are processed by applying normative and social comparison information. When the differentiated conception of ability is activated, the individual is said to be in a state of *ego involvement*.

According to Nicholls, the respective states of task and ego involvement are represented by two qualitatively contrasting types of achievement goal perspective. The state of task involvement is represented by a task-involved goal which is focused on maximising the mastery of personal skills, personal improvement and the demonstration of self-referent ability. Alternatively, ego involvement is reflected by an ego-involved goal which attempts to maximise the demonstration of normative ability and where subjective success is based upon outperforming others. As previously noted, situational cues are thought to influence the activation of the task and ego-involved goal states. Further, Nicholls (1989) posits that the activation of task and ego goal involvement (i.e., goal states) is also dependent on the dispositional goal orientation of the individual. He suggests that individuals develop a tendency to become task and/or ego-involved in an achievement situation. Nicholls views the development of a task and ego goal orientation to be a function of socialisation experiences. Individuals may have endured environments which have been more or less task and ego involving, or have interacted with significant others who reinforce a particular goal perspective (Duda, 1993). Achievement goal theory is therefore based upon interactionist principles (Mischel, 1973) where an individual's state of task and/or ego goal involvement is a function of situational factors and "individual differences in proneness to different types of involvement" (Nicholls, 1989; p. 95). Furthermore, according to Dweck and Leggett (1988; p. 269), dispositional differences in goal perspective "determine the a priori probability of adopting a particular goal and displaying a particular behaviour pattern, and situational factors are seen as potentially altering these probabilities."

### **2.83 ORTHOGONALITY OF ACHIEVEMENT GOALS**

Nicholls (1989) suggests that achievement motivation is multidimensionally represented by the task and ego goal perspectives. He argues against one quantitative bipolar continuum of goal involvement where, if individuals are high in one goal state, they must be low in the other. This is indeed one of the critical differences between Nicholls' and Dweck's theories. Nicholls (1989) states:

"It might also be noted that drawing distinctions between task involvement, ego involvement and other forms of extrinsic involvement does not mean that such states exist in isolation. We can fluctuate between states and experience combinations of different levels of them" (p. 89).



Although it is never explicitly discussed, Nicholls' work (1989, 1992) implies that both task and ego involvement and their respective goal orientations are orthogonal. Each goal perspective could be viewed as independent and uncorrelated qualitative achievement motives, but which interact together within the same achievement concept. Duda (1993) remarks how it is important to realise that individuals can be high in both task and ego goal orientation, low in both orientations, or high in one and low in the other. Interestingly, the same statement does not appear to have been made with reference to goal involvement even though it would appear to hold true given Nicholls' latter statements.

A point of concern for this thesis, however, is creating a research position on the issue of orthogonality with the information available. Given the view that each goal perspective is relatively independent and can be invoked simultaneously, it would be correct to infer that a profile of goal involvement or goal orientation is created for each individual. Each individual may possess a certain level of task involvement and a certain level of ego involvement for an achievement situation according to the orthogonality assumption. Achievement behaviours associated with each goal perspective, therefore, should not be studied by isolating the level of one goal perspective (Hardy, Jones & Gould, 1996). Theoretically, relationships should be investigated between achievement behaviours and the goal involvement or goal orientation profile of the individual. This would support orthogonality in that the two independent levels of achievement goal were studied in combination. One state of involvement may be more or less powerful than the other, but both states, whether high or low, would be considered within the achievement goal profile of that individual.

Nicholls' work (1984, 1989) provides little evidence that achievement goals have been studied orthogonally, but presents a great deal of research in educational settings which has studied the independent effects of one goal perspective without consideration of the other. For all but a few studies (e.g. Fox, Goudas, Biddle, Duda & Armstrong, 1994; Roberts, Treasure & Kavusannu, 1996), this has also been the case in the achievement domain of sport. The orthogonality of goal involvement is potentially a crucial issue for researchers and theorists to get right. This is particularly the case when researchers are attempting to investigate moment to moment attentional states and require an understanding of whether one can actually be task and ego-involved at the same moment within a given attentional space. This question is not aided by Nicholls (1989) who, in contrast to what the reader infers later, states:

"....research with adults reveals that evaluative conditions and interpersonal competition **increase** our level of **ego involvement** - our tendency to evaluate our ability relative to that of others. Our **involvement** in the **task** for its own sake, and the tendency to feel competent simply when we gain insight or competence, are thereby **diminished**. No comparable studies have been done with young children,



but the studies reviewed above are consistent with the notion that when we draw a young child's attention to the standards of competence implicit in the work of others, the quality of the child's involvement is likely to change from a **focus on the requirements of the task**, or her relationship to it, to a **state of ego involvement** wherein the child evaluates herself in terms of another's performance." (p. 16-17)

This statement clearly suggests some bi-polar aspect to goal involvement where a state of task or ego involvement is dependent on the evaluative and interpersonal nature of the situation. In this thesis, relationships with independent goal perspectives and orthogonal, interacting goal perspectives will be studied together in an attempt to further our understanding. Despite this issue, however, Nicholls (1984, 1989) makes some clear theoretical predictions about the relationships between the two achievement goal perspectives and several achievement behaviours.

## **2.84 GOAL PERSPECTIVES AND ASSOCIATED ACHIEVEMENT BEHAVIOURS**

Nicholls' (1984, 1989) work firstly focuses on the behavioural correlates of task and ego involvement. These include factors such as level of challenge and task choice, effort exerted, attributions and beliefs about the causes of success, intrinsic interest, emotions and affective responses, and finally, performance or accomplishment. Some of these predictions have been supported by research in the academic domain (Jagincinski & Nicholls, 1984; Nicholls, Patashnick & Nolen, 1985), and many correspond with the predictions made by Dweck (1986). In each case, the prediction is made with reference to one independent goal perspective (e.g., task-involved individuals), rather than a prediction for the goal profile of task and ego involvement.

### **2.841 Predictions for Task Involvement**

Drawing from the literature, task-involved individuals are predicted to select personally challenging tasks, at the limit of their ability, which are going to provide them with the greatest opportunity for growth and mastery. Subjectively difficult tasks are viewed as a challenge, rather than a threat (Weiss & Chaumeton, 1992) and mistakes are viewed as part of the learning process. Moreover, these individuals will exert maximal effort to facilitate performance regardless of their perceptions of ability compared to other people. In such an undifferentiated state, perceptions of normative ability are not important. Task-involved individuals are predicted to place an attributional focus on effort as the reason for success or failure correspondent with the lower levels of differentiation. Furthermore, Nicholls et al. (1985) supported this prediction in a sample of school children whose task orientation was correlated with the belief that success in school is achievement via hard work, effort and learning.

Task involvement is also associated with high interest and intrinsic motivation for an activity. Nicholls (1989) argues that when task-involved, the goal is to accomplish



something personal that may not have been personally achieved before. In this respect, the achievement task is more of an end in itself, and task related strivings are therefore more intrinsically satisfying. With reference to cognitive evaluation theory (Deci, 1975), a state of task involvement is associated with an internal locus of causality and positive self-referent information which are likely to maximise self-determination, perceptions of self-referent ability and intrinsic motivation.

Jagacinski and Nicholls (1984) found support for the hypothesis that different goal perspectives are associated with different emotional or affective responses to perceptions of effort. Specifically, in a task involving situational context, pride and sense of accomplishment were maximised when high effort indicated high ability, with increased embarrassment when low levels of effort were associated with task-involved individuals. Thus, when task-involved, higher effort leads to more positive affective and emotional responses. Finally, it is believed that performance and accomplishment is maximised when in a state of task involvement because exerted effort serves to tap current performance potential. Task-involved individuals are likely to enter into risk taking activities and perform effectively whether high or low in perceived normative ability (Nicholls, 1984). A further prediction noted for task-involved individuals is their continued persistence in the face of subjective failure. This is thought to be due to their consistent effort attributions which allow them to take personal responsibility for engaging greater effort in the pursuit of mastery.

In overall terms, Nicholls (1989) paints a picture of task involvement being associated with a highly positive and adaptive behavioural pattern with respect to achievement. Many of his predictions still remain untested or at least inconclusive in the academic domain, but have received more detailed attention in the sport domain.

#### **2.842 Predictions for Ego Involvement**

In general terms, ego-involved individuals who possess high levels of confidence in their abilities on normatively difficult tasks are predicted to possess a similar behavioural pattern to task-involved individuals. They too will select personally challenging tasks of normative difficulty where success would reinforce their level of ability. These individuals will also tend to exert high effort to facilitate performance, however it may only be high enough to necessitate positive social comparison. In simple terms, confident ego-involved individuals value effort but they aren't going to stretch themselves beyond the goal of winning. In contrast, if perceptions of ability are low, then normatively difficult tasks maximise the risk of objective failure and demonstrations of low ability. Challenging tasks will be viewed as threats and to avoid the possible display of incompetence, low perceived ability ego-involved individuals are predicted to select very easy or very difficult tasks. Easy tasks avoid the display of low ability, whilst very difficult tasks supply the built-in excuse for failure.



In this fully differentiated state, high perceived ability, ego-involved individuals are predicted to place an attributional focus on ability as the reason for success. Nicholls et al., (1985) supported this prediction where ego orientation was correlated with the belief that success in school comes from being smart and trying to outperform other students. Interestingly, little research has investigated a confident ego-involved individual's attribution for failure. Burton (1992) suggests that these individuals are likely to attribute failure to low effort so that ability is protected, but future expectancies of success are not compromised. On the other hand, if perceptions of ability are low, then there is an increased chance of a helpless-attributional pattern. In this case, success may be attributed to external unstable factors such as luck or an easy task, whereas failure reinforces low ability as the dominant attribution.

In contrast to task involvement, ego involvement is predicted to lead to a decrease in intrinsic motivation. Nicholls (1989) argues that ego-involved individuals pursue goals that serve as a means to an end. Rather than engage in the task for its own intrinsic properties, ego-involved individuals use the task to show their superiority. In terms of cognitive evaluation theory (Deci, 1975), a state of ego involvement is associated with an external locus of causality which may serve to reduce self-determination. This is because the individual is controlled by the need to compare well to externally-relevant others. In this way, intrinsic motivation is decreased relative to task involvement (Duda, 1992).

In terms of affective responses associated with ego involvement, Jagacinski and Nicholls (1984) found that pride and accomplishment were only maximised when effort was low serving to indicate greater ability. Lower effort also reduced feelings of embarrassment. Thus, when ego-involved, higher effort can diminish the positive affective value of success and increase the negative emotions associated with failure.

Lastly, in terms of performance and accomplishment, high perceived ability, ego-involved individuals are predicted to perform to a similar level as task-involved individuals. Miller (1985) and Nicholls (1984) both found that individuals with high perceived ability performed equally in task and ego involving conditions. There is, however, some intuitive appeal to the reasoning that any ego-involved individual may not develop their performance potential as much as task-involved individuals. This is because an ego-involved individual only performs to a level which consistently means that s/he socially compares well to others. However, a task-involved individual performs to squeeze the most out of his/her personal skills in an activity. Consequently, task involvement can be said to be much more closely related to maximising personal performance potential than can ego involvement. The thesis for low perceived ability, ego-involved individuals, with respect to performance level, is entirely different. Both Miller (1985) and Nicholls (1984) found that low perceived ability individuals showed impaired performance on moderately difficult tasks when compared to task-involved and confident ego-involved individuals. Nicholls (1989) proposes several possibilities why



ego-involved individuals with differing levels of low perceived ability experience such impaired performance. He argues firstly, that low perceived ability individuals will not experience performance impairment on very easy or very difficult tasks. This is because success or failure on these tasks will not indicate incompetence, and it is the expectation that an outcome will lead to incompetence that is the crucial mechanism governing performance impairment. The problem arises on moderately difficult tasks where low perceived ability individuals are threatened most by displays of low ability. Nicholls (1989) argues that performance in these tasks is impaired in two major ways. Firstly, by divided attention, negative affect and the detrimental effects of anxiety produced by the prospect of feeling incompetent. Secondly, by the tendency to withdraw effort on the task when failure seems imminent in order to avoid the implication of incompetence. The player labelled as the 'tanker' discussed earlier is a living example of this strategy where the withdrawal and devaluing of effort occurs as failure beckons in an attempt to at least minimise blame placed on low ability.

### **2.843 Summarising Achievement Goal Theory in Educational Psychology**

Whilst some sport examples and terminology have already been inserted into the discussion about achievement goal theory, it is essentially a developmental theory of achievement motivation that has been driven by educational psychology. Nicholls (1984, 1989) formulated his predictions with reference to academic achievement, although he liberally referenced the application and relevance of task and ego involvement to other achievement domains and examples of achievers (e.g., Amundsen, Scott, Royal Robbins). His bias was overwhelmingly one of task involvement and his criticisms of competitive, ego involving educational and societal structures were very much in evidence (Nicholls, 1989). An individual who was task-involved was purported to display a positive psychological profile in terms of the behaviour that would maximise personal achievement. The same could be said for an ego-involved individual provided that s/he had high levels of confidence in normative ability. However, there were some elements of behaviour (e.g., affect) or motivational processes (e.g., intrinsic motivation; attributions) that gave task involvement the edge in terms of the overall achievement package. Furthermore, the security of this behavioural profile was dependent on the maintenance of normative confidence. For Nicholls, if an ego-involved individual was not confident of his/her abilities, the prognosis was devastating. This led to his attack on the competitive ethos within society and education which functioned to destroy the achievement aspirations and motivation of low to moderate achievers.

In research terms, a large number of educational studies have tested the similar predictions made by Nicholls', Dweck's and later Carole Ames' (e.g., Ames & Archer, 1988) respective theories. As Duda (1992) clarifies, each of these theories have their own preferred nomenclature for task and ego-involved goals. Research into Nicholls' specific



theory is incomplete, but most educational researchers have subsequently combined the theories and simply focused on the two key goal perspectives (see Ames, 1992a for a fuller review on this research). Research into the task and ego goal perspectives has been characterised methodologically by attempts either; a) to induce goal involvement by getting students to imagine either a task or ego involving scenario and then answering questions in that proposedly-induced state (e.g., Jagacinski & Nicholls, 1984); b) to provide task and ego involving feedback and evaluation in order to induce respective goal involvement (e.g., Butler, 1987); c) to measure the perceptions of task and ego involving properties of the classroom and suggest that this represented classroom goal orientation (e.g., Ames & Archer, 1988); or finally, d) to measure dispositional goal orientation and associated motivational beliefs via motivational orientation scales (e.g., Nicholls et al., 1985; Nicholls & Thorkildsen, 1987).

It can be noted that little research in the educational domain has essentially married the two goal perspectives together in goal profile terms. Instead, the effects of each individual goal perspective has been studied in isolation. Furthermore, although dispositional goal orientation has been measured, measurements of goal involvement appear to have been reserved to perceived situational inducements in the absence of manipulation checks. Lastly, the studies that have attempted to invoke task and ego involvement have done so at the expense of assessing goal orientation. It might be argued, therefore, that the interactionist and orthogonal principles characterising achievement goal theory have not been explicitly upheld.

These latter points are salient to the purpose of this present thesis, and whilst attention now needs to be given to achievement goal research in the sport domain, the recent sections have been important in establishing a framework from which achievement goal perspectives in sport can be more easily understood.

## **2.9 ACHIEVEMENT GOAL RESEARCH IN THE SPORT DOMAIN**

Over the past decade, a plethora of research has applied the principles of achievement goal theory in the domains of sport and physical education. Although this review will focus on sport-specific research, related findings from physical education research will be discussed where appropriate. Joan Duda (1987) is acknowledged as being responsible for introducing goal perspective theory to sport psychology. Her initial work with Nicholls (Duda & Nicholls, 1989, 1992) and subsequent researchers has cemented achievement goal theory as the mainstream approach to achievement motivation in sport. The research and insights of Glyn Roberts (1984, 1992) has also been important in this respect. Duda (1987) uncovered some specific anomalies which had to be considered when applying achievement goal theory from education to sport. These included the issue that sport skill, if viewed as the 'capacity' of ability rather than



innate athletic ability, is more changeable and unstable as more covert academic ability. Further, that ability, effort and task difficulty are much more obvious in physical as opposed to cognitive tasks. Finally, and most notably, that the domain of sport is riddled with social comparison. Performance, for example, is public and more openly evaluated, and interpersonal competition is at the heart of athletic endeavours. This amounts to the basic premise that competitive sport can be especially ego-involving.

Aside from these issues, various measurement technologies have been devised for sport-specific purposes, and researchers have investigated some of Nicholls' predictions, but also extended his theory to a variety of other sport-related research questions. The past few years have witnessed a drive towards an increased understanding not only of what it means to possess a certain achievement goal perspective in behavioural terms, but also what conditions lead to a particular achievement goal perspective. This research and, most critically, the methodology and measurement technology employed, shall now be examined in some detail. Following this, the limitations of this research and the research questions incomprehensively answered will be identified.

## **2.91 THE MEASUREMENT OF ACHIEVEMENT GOALS IN SPORT**

Given that achievement goal theory is an interactionist approach to motivation, one would expect a range of measurement technologies that are designed to reliably and validly assess both task and ego goal orientation, task and ego involvement, and the influence of situational factors in sport. Measurement of individual differences in goal orientation, with subsequent associations then made to a variety of motivational variables, preoccupied the majority of research in the late 1980's and early 1990's. However, some research has used techniques to induce goal involvement and then study cognitive and affective response patterns. Most recently, measurements of the situational goal structure or motivational climate have been employed in order to determine situational goal perspective.

### **2.911 Measures of Dispositional Goal Orientation**

Although less theory-driven measures of sport achievement orientations have been developed in the late 1980's (Gill & Deeter, 1988; Vealey, 1986), only two theoretically-based dispositional measures have been utilised to a significant extent in recent years. By far the most popular of the two has been the Task and Ego Orientation in Sport Questionnaire (TEOSQ) devised by Duda and Nicholls (1989) which measures the tendency to be task and/or ego-involved in sport. When completing the TEOSQ, subjects are asked when they felt most successful in a particular sport and then to indicate their level of agreement with items reflecting task and ego-oriented criteria. These criteria have essentially been translated from Nicholls' motivational orientation scales (Nicholls et al., 1985), but put into more general sport-related, as opposed to academic-



specific language. Most of the validation research for this measure of goal orientations has been derived from samples of high school and college age student sports participants and non-participants (Boyd, 1990; Duda, 1989; Duda & Nicholls, 1989, 1992).

Roberts and Balague (1989, 1991) have also developed a reliable measure of sport goal orientation referred to as the Perceptions of Success Questionnaire (POSQ). This essentially comes from the same conceptual basis as the TEOSQ and has been applied as an alternative as opposed to a competing measure (Treasure & Roberts, 1994a). Apart from labelling the two subscales as mastery (task) and ego, with differing item wordings, the POSQ is presented and scored in the same way as the TEOSQ. Both questionnaires yield separate scores for dispositional task/mastery and ego goal orientations which have subsequently been correlated to a variety of achievement factors.

### **2.912 Situational Inducement of Goal Involvement**

The most favoured method of assessing the correlates of goal involvement has been to experimentally create a task or ego-involving situational goal structure. In this manner, researchers have tried to manipulate the activation or inducement of task or ego involvement within the performer or subject and then study the performer's subsequent cognitive and affective responses. Popular techniques which have served to invoke ego involvement in sport-related research have included: direct competitive and evaluative game conditions (Duda & Chi, 1989; Thill & Brunel, 1995); normative-based goal setting (Rudisill, 1989); tests of skill that would be recorded and socially compared (Orgell & Duda, 1990); and the provision of normative feedback after task completion (Hall, 1990). In contrast, inducing task involvement within experimental and field-based situations has been characterised by: de-emphasising social comparison and stressing individual skill mastery (Duda & Chi, 1989; Thill & Brunel, 1995); the setting of discrete task goals based on personal improvement (Rudisill, 1989); non-competitive and non-evaluative practice of novel skills (Orgell & Duda, 1990); and finally, by the provision of personal performance feedback (Hall, 1990).

It is worth noting that strategies for inducing a certain type of goal involvement date back to Ames' earlier research in educational psychology (e.g., Ames, 1986; Ames & Ames, 1981; Ames & Felker, 1979). Although not directly related to Nicholls' theory, Ames investigated the achievement-related effects of creating different qualitative motivational structures within achievement situations. The two most researched motivational systems (Ames, 1986) were the competitive and individualistic goal structures which effectively corresponded to ego and task-involving situations. In a competitive goal structure, subjects directly competed against another subject with the focus on being who won/lost. In the individualistic goal structure, subjects worked alone with the challenge of how many puzzles they could solve. In both cases, a number of dependent variables were subsequently assessed. Ames' earlier research will be discussed



more fully in Chapter 3 and it is the ideas that have been spawned from this research which have culminated in the assessment of situational goal structure or perceptions of the motivational climate.

### **2.913 Perceptions of the Motivational Climate**

Achievement goal theory suggests that whether one is in a state of task or ego involvement is a function of dispositional differences in goal orientation and situational factors. Until the early 1990's, little attention had been paid to the role of a performer's perceptions of the situational goal perspective operating within a sport context or environment. Goal involvement had been experimentally induced by creating a situational goal structure, but there existed no measurement tool to assess the perception of the situational goal structure. Ames (1992) referred to the situational goal structures, which she had investigated so thoroughly, as 'motivational climates'. Using the competitive and individualistic goal structures as templates, she stated (Ames & Archer, 1988) that motivational climate is a function of the goals to be achieved, the evaluation and reward process, and how individuals are requested to interact with each other in a particular situation. From a competitive point of view, Ames (1992) signified that situations emphasising interpersonal competition, public evaluation and social comparison processes could be referred to as 'ego-involving' motivational climates. Conversely, from an individualistic point of view, if personal performance levels, low social evaluation or comparison, high effort or personal learning characterise the achievement situation, then the motivational climate is said to be more 'task-involving'.

Ames (1992) argued that the climate influences the meaning of achievement to the achiever by informing the individual about what s/he has to do to maximise personal achievement (demonstrations of ability) in a specific situation. The climate therefore has powers to induce a subsequent state of goal involvement within the performer. For this reason, an instrument which assessed perceptions of the motivational climate would allow researchers to investigate whether dispositional goal orientation or perceptions of the situational goal structure most impacted on achievement-related variables.

Drawing from Ames' research in the classroom (Ames & Archer, 1988), researchers in sport psychology (Seifriz, Duda & Chi, 1992; Walling, Duda & Chi, 1994) developed a sport-specific measure of perceived motivational climate. The Perceived Motivational Climate in Sport Questionnaire (PMCSQ) was derived from Ames' Classroom Achievement Goals Questionnaire (Ames & Archer, 1988) which measured perceptions of task and ego-involving goal structures in the classroom. The 40-item PMCSQ assessed perceptions of task (mastery) and ego (performance) climates existing in team sports. The task subscale reflected perceptions that the team emphasis was on hard work, improvement, shared participation and viewing mistakes as part of learning. In contrast, the ego subscale reflected perceptions of inter-player rivalry, recognition for



star players and serious repercussions for mistakes (Duda, 1993). The team orientation meant that it could not be easily translated in individual sport contexts. However, although it only measures perceptions of a situational goal structure, it has been used extensively as a measure which represents the situational factors that could influence levels of task and ego involvement.

## **2.92 CORRELATES OF DISPOSITIONAL GOAL ORIENTATION IN SPORT**

A number of studies over the past ten years have investigated the relationships between task and ego goal orientation and a variety of motivational processes, performance-related variables, and personal views about sport achievement. Motivational processes have included the attribution-related beliefs about the causes of sport success, perceived sources of satisfaction, sources of competence information, and also intrinsic motivation. Performance-related variables have included concentration and attention, competitive anxiety and the use of competition, practice and learning strategies. Finally, personal views about sport have included the perceived purpose of sport involvement and the perceived means to goal attainment.

### **2.921 Motivational Processes**

The interdependence between goal orientations and personal beliefs about the determinants of success in sport has been a recurring feature in research aimed at exploring individual differences in attributional responses as a function of goal perspective. Duda and Nicholls (1989) first researched the question by investigating high school students' beliefs about whether success in sport was governed by motivation or effort, ability, deception or other external factors. These dependent variables were correlated to dispositional goal orientation with some interesting findings which supported Nicholls' (1989) predictions. Specifically, task orientation was positively correlated to the belief that success stems from working hard, trying their best and helping each other (Motivation/Effort), and negatively correlated to the belief that success stems from deceptive tactics or external factors. In contrast, ego orientation was positively correlated to the belief that success stems from being better than others and having more natural talent (Ability). Furthermore, ego orientation was also weakly related to the belief that success does come from deception and external factors. The most significant findings that performers high in task orientation or ego orientation believe that effort and ability are the respective causes for success has been replicated in other studies with a variety of samples. In each case, a dispositional measure of goal orientation (i.e., TEOSQ or POSQ) has been correlated with a general questionnaire about the beliefs about the causes of sport success. Specific study populations and contexts have included: youth basketball camps (Hom, Duda & Miller, 1991); elite university skiers (Duda & White, 1992); middle school children (Duda, Fox, Biddle &



Armstrong, 1992); youth tennis camps (Newton & Duda, 1993a); high school athletes (Lochbaum & Roberts, 1993); and physical education students (Treasure & Roberts, 1994a).

The relationship between goal orientation and the sources employed to derive achievement satisfaction has been investigated by two studies in particular. Treasure and Roberts (1994a) investigated the cognitive and affective concomitants associated with goal orientation in high school physical education students of various age groups. In a battery of questionnaires, they found in general that students high in task orientation derived most satisfaction from mastery experiences such as learning new skills. In contrast, students high in ego orientation were satisfied by normative success such as winning and doing better than others.

Utilising another battery of measures, Lochbaum and Roberts (1993) found similar results when they investigated relationships between task and ego goal orientation and high school athletes' perceptions of the sport experience. Employing a measure of competition satisfaction, they found that the way in which athletes derive satisfaction after competing was correlated to goal orientation. Specifically, task orientation was related to 'personal satisfaction' that was derived from personal mastery achievement that was internally controlled by the athlete. Conversely, ego orientation was related to 'normative ability satisfaction' derived from demonstrating that one's ability was superior to normative others.

In a study with a similar focus, Williams (1994) examined the relationship between goal orientation and high school athletes' preferences for competence information sources. Employing the Sport Competence Information Scale (SCIS; Horn & Hasbrook, 1987), Williams found that ego orientation was strongly correlated to norm-referenced or social comparison-based information sources such as win/loss and teammate evaluation. In contrast, task orientation was positively associated with self-referent information sources such as personal goal attainment, learning and improvement. These findings suggested that individual differences existed in the types of information that task- and ego-oriented performers would value and utilise in determining their levels of demonstrated ability.

The final motivational process which has been studied in relation to dispositional achievement goal perspectives in sport has been intrinsic motivation. Theoretically, it is argued that task orientation should foster intrinsic interest in an activity, whereas ego orientation may be related to reduced intrinsic interest. A study conducted by Duda and Nicholls (1992) investigated the relationships between dispositional goal orientation and the degree of enjoyment/interest and boredom experienced in sport by high school students. Results overall showed how task-oriented students perceived playing sport as much more interesting, fun, and experienced less boredom than ego-oriented individuals. These results were replicated by Duda et al., (1992) in a study of ten year old school-



children. Research more focused on intrinsic motivation was conducted by Duda, Chi and Newton (1990b) who investigated the relationship between intrinsic motivation and task and ego orientation amongst university students enrolled in a tennis skills class. Students completed the TEOSQ and the Intrinsic Motivation Inventory made specific to tennis (Ryan, Mims & Koestner, 1983). Task orientation was positively related to the dimensions of enjoyment, interest, effort exerted and the composite intrinsic motivation score. Ego orientation, however, was inversely related to enjoyment and intrinsic motivation. Furthermore, a canonical correlation analysis revealed how high task orientation and low ego orientation corresponded to greater perceived enjoyment of the tennis class. These findings were subsequently corroborated when extending the study to university students attending volleyball and basketball recreational classes (Duda, Chi, Newton, Walling & Catley, 1995).

### **2.922 Performance-Related Variables**

Elucidating the mechanisms by which achievement goals affect sport performance has been a difficult area to research. Nicholls (1989) argues for the possible impairment of performance when in a state of ego involvement due to reduced effort, misapplied concentration, and the effects of competitive stress (Duda, 1993). A number of studies, however, have documented relationships between dispositional tendencies to be task and/or ego-involved in sport and cognitive processes associated with peak performance.

White and Duda (1991) determined the relationships between dispositional goal orientation and the engagement of task-irrelevant and negative thoughts in a sample of elite university skiers. Task orientation was found to be significantly and negatively correlated with the tendency to have task-relevant worries and negative thoughts about escaping or withdrawing while skiing (Duda, 1993). These results were supported by an investigation carried out on the during performance cognitions of undergraduate bowlers across three games in a physical education class (Newton & Duda, 1993b). In the first game, a positive relationship emerged between ego orientation and reported performance worry. In contrast, a high task orientation was associated with maintained attentional control and feeling good, and negatively correlated to being worried about performance.

Employing a sample of elite figure skaters, Vealey and Campbell (1988) revealed how ego-oriented skaters experienced higher levels of pre-competitive state anxiety when compared to those task-oriented. In support of these findings, Duda, Newton and Chi (1990a) found that tennis players high in ego orientation and low in self-efficacy, experienced high levels of pre-competition cognitive and somatic state anxiety. Little research has been published since on this area, but deciphering the link between goal perspectives and multidimensional anxiety is clearly critical to our understanding of motivated behaviour and of crucial benefit to practitioners.



Finally, some research has documented the differential adoption of competition, practice and learning strategies associated with goal orientation. Newton and Duda's (1993b) study reported how a strong task orientation and low ego orientation corresponded to the increased application of different strategies amongst bowlers over a three game performance. Lochbaum and Roberts (1993) reported interesting findings pertaining to high school athletes' use of practice and competition strategies. Task orientation corresponded with the need to apply practice strategies and achieve 'practice mastery' with a negative view on practice avoidance for competition. On the other hand, ego orientation was positively associated with practice avoidance and the view that practice isn't necessary for competitive preparation. In terms of competition strategies, highly task-oriented athletes appeared more likely to engage in strategies that served to maximise effort and comply with the tactics of the coach than ego-oriented performers.

### **2.923 Personal Views about Sport**

Nicholls (1989) suggests that an individual's goal perspective reflects much wider, holistic views about the context of which the achievement activity is part. The manner in which a performer perceives the social reality in which s/he exists, determines to a degree the subjective meaning of achievement to the achiever and the processes which characterise those beliefs. Two research avenues taken by Duda (Duda, 1989; Duda, Olson & Templin, 1991) have been firstly to investigate the relationship between goal orientations and the perceived purpose of involvement in sport as an achievement activity; and secondly, to explore associations between goal perspectives and what performers deemed to be acceptable behaviour in the attempt to satisfy personal goals in sport.

In the former case, Duda (1989b) administered the TEOSQ and the sixty-item 'Purpose of Sport Questionnaire' to high school sport participants. Her findings showed that individuals high in task orientation believed that sport enhanced co-operative skills, investment in personal mastery and led to a good citizen. However, a strong ego orientation corresponded to the belief that sport was simply a route to extrinsic benefits and personal gains - the enhancement of self-esteem, social status, the building of competitive spirit and popularity. More recently, Treasure and Roberts (1994a) found task orientation to be highly correlated to the belief that sport fosters personal development, self-discipline and lifetime health. An ego orientation, once again, was associated with the belief that sport is status building. It appears from this research that the meaning of sport differs as a function of goal orientation. Those who are task-oriented focus on the intrinsic and prosocial aspects of sport involvement, whereas those ego-oriented use it simply as a vehicle for some extrinsic and self-serving end (Duda, 1993).



In the latter case, Duda, Olson and Templin (1991) investigated the link between goal orientation and behaviours perceived as acceptable to secure victory in a sample of high school basketball players. In the first part of the study, players were asked to indicate their levels of approval of three types of sporting behaviour: unsportmanlike play/ cheating, strategic play (e.g., faking a charge on defence), or good sportsmanship. Canonical correlation analyses revealed that a task orientation corresponded to a greater approval of sportsmanlike actions and a negative endorsement of cheating behaviours. In a second element to the study, players completed a modified basketball-specific version of the Continuum of Injurious Acts (CIA; Bredemeier, 1985). The CIA consisted of six written scenarios where an intentionally aggressive act in basketball had gradually more serious and intended consequences. These ranged, for example, from 'non-physical intimidation' to 'miss a few minutes' to 'permanent disability'. Following the presentation of each scenario, the subjects responded with their legitimacy ratings - a rating of whether the behaviour was legitimate if it was required in order to win the game. Ego-oriented individuals were found to possess higher legitimacy ratings for non-physical intimidation, for injuring an opponent so that s/he misses a game or so that s/he misses an entire season (Duda, 1992).

#### **2.924 Limitations of Research Employing Dispositional Measures**

Much has been learned from the outcome-focused research into sport task and ego goal orientations. These studies bring one to the conclusion that a high task orientation relates to an adaptive behavioural pattern, whereas a high ego orientation is more conducive to maladaptive behaviours or cognitions. Nevertheless, despite supporting the general predictions of achievement goal theory (Nicholls, 1989), there are some methodological limitations to this type of research which need to be highlighted.

Firstly, as Hardy et al., (1996) neatly point out, task and ego goal orientations have been treated rather like 'apples' and 'oranges'. Achievement goals are thought to be orthogonal, and yet they have been discussed separately as if the effects of one are completely independent of the effects of the other. Information has been forthcoming on task-oriented individuals or the correlates of task orientation, but crucial information is missing on the simultaneous level of ego orientation within these individuals, and also what the correlates are, for example, of high task and high ego orientation in combination. Entirely separate subscale predictions have been made about important achievement factors without appreciating that individuals will vary in their levels of goal orientation. In pragmatic terms, this means that behavioural predictions for high task and high ego-oriented performers are obscure because often contrasting behaviours are treated as separate entities. Achievement goal theory argues that achievement behaviour is understood in terms of the qualitative goals that arise from orthogonal and interacting conceptions of ability. Our understanding of behaviour is restricted if we ignore the



qualitative value of one achievement goal within the same achievement dimension. This is particularly pertinent to children of eleven years upwards who are thought capable of adopting either or both conceptions of ability (Nicholls, 1989).

Some research in sport psychology has begun to recognise this problem at the dispositional level and has separated study samples into four goal orientation profiles before investigating associations with other variables (Fox et al., 1994; Roberts et al., 1996). The four goal profiles respectively are low task/low ego, low task/high ego, high task/low ego and high task/high ego. Fox et al., (1994) studied the motivational consequences of these four combinations on measures of perceived competence and sport enjoyment in a group of pre-teenage school children. Results supported the use of goal profiling in identifying specifically that high task/high ego-oriented children were most motivated on measures of sport enjoyment and perceived competence. It was argued that a high task orientation was a vital element to sport motivation, but the findings also suggested that ego orientation adds a positive motivational element when supported by a strong task foundation. Similar findings have been more recently reported by Roberts et al., (1996) in a study of the beliefs about success and satisfaction in sport amongst undergraduates attending recreational physical activity classes. A significant interaction effect for task and ego orientation emerged and high task/high ego orientation students possessed the same adaptive beliefs as high task/low ego orientation students. Both believed effort to a predominant cause of success. This led the researchers to suggest that ego orientation should not necessarily be depressed, but that task orientation should be enhanced to moderate the debilitating effects of a high ego orientation.

A measurement problem, however, which faces goal profile researchers is the placing of subjects into the correct groups. The TEOSQ has proved notorious for its negative skewness and also kurtosis (Li, Harmer & Acock, 1996a; Li, Harmer & Chi, 1996b) particularly with respect to the task orientation subscale. Furthermore, no published norms exist for the TEOSQ or POSQ task and ego subscales. Knowledge of what is high or low task and ego orientation is therefore dictated by the mean value and distribution of the sample under study. It is also impossible to determine whether individuals are higher in one respective orientation compared to the other from absolute scores alone. The important question of which goal orientation actually predominates cannot be fully answered by the TEOSQ or POSQ. Each measure the level of each independent goal orientation, but perhaps not the strength of the goal orientation when they are combined orthogonally. Nevertheless, the creation of goal profiles is possibly the most beneficial method given these limitations, and most pertinently, when extreme group splits are facilitated by large sample sizes. This means that the goal profile groups contain individuals who are well below or above the mean for each respective goal orientation. In this respect, a proportion of the sample might be discarded for the purposes of finding those subjects who truly represent each goal profile. Of course,



severe reductions in sample size does restrict the efficacy and parametric validity of this procedure.

Another point to make is that researchers have engaged in the tendency to state that goal orientation will be associated with certain cognitive processes and behaviours. It is true that associations with dispositional tendencies may well exist, but it is vital to remain focused on the theoretical concept that thoughts govern action, and that it is the states of goal involvement that are ultimately going to influence cognition and behaviour in achievement contexts. A trait may counsel a state, but it is the state which decides how it reacts. The review now turns to research which has featured the inducement of task- and ego-involved goal states.

### **2.93 CORRELATES OF SITUATIONALLY INDUCED TASK AND EGO INVOLVEMENT**

A number of studies have investigated the 'outcomes' linked to task or ego involvement by manipulating the experimental situation so that it is more or less task or ego-involving (Duda, 1992). In the main, the subsequent responses studied have been motivational processes including attributions for success and failure, perceived ability, intrinsic motivation and also the use of learning strategies.

#### **2.931 Attributions for Success and Failure**

In general, achievement goal research in sport has supported the prediction that ego involvement is associated with ability attributions and the devaluing of effort in performance, whilst task involvement is linked with effort attributions. However, as noted by Nicholls (1989), levels of perceived ability may be crucial within the attributional process for ego-involved performers. Hall (1990) split a sample of adult men into high and low perceived ability groups before attaching them to both task- and ego-involving stabilometer task conditions. Low perceived ability subjects in the ego-involving condition reported lower levels of effort and felt that their performance was less influenced by demonstrated ability than all other groups (Duda, 1992). It appeared that ego-involved performers with low perceived ability were eager to 'save face' whereby they downplayed or withdrew effort, but still felt incompetent. Such a pattern of cognitions, with the low level of resultant performance, seems maladaptive from an achievement standpoint (Duda, 1993).

Duda & Chi (1989) examined the attributions of male university students, of equal skill levels, split into one on one task- or ego-involving basketball games. Their results showed that losers in the ego-involving game downplayed the role or impact of effort on their performance more than the other conditions. These results are consistent with Hall's (1990) findings if one categorises the ego-involving losers as players with low



perceptions of normative ability. In each study, task-involved subjects, regardless of perceived ability, emphasised the role of effort exerted.

### **2.932 Perceptions of Ability**

It is generally accepted that one's perception of ability is a crucial mediator of achievement behaviour. This is accentuated in achievement goal theory where the effects of perceived ability are dependent on how ability is construed. Perceptions of ability are critical when in a state of ego involvement because achievement-related motivational patterns hinge on whether it is high or low. This is not the case when task-involved as perceptions of ability are not normative, but self-referenced, and the goal is to improve ability, not prove it. This has led to the research question of whether perceptions of ability are subsequently enhanced by a certain state of involvement. Hall (1990) found support for the belief that task involvement fosters perceptions of ability relative to ego involvement. Subjects with low perceived ability in an ego-involving goal structure expected poorer performance than those with low perceived ability in a task-involving condition. Furthermore, high perceived ability subjects in the ego-involving condition expected to do less well as the task endured. This research suggests that whilst a state of task involvement serves to maintain perceptions of ability, regardless of initial level, ego involvement is not conducive to the maintenance of high or even low perceived ability. This clearly has implications for the security of adaptive motivational patterns when ego-involved, in that perceptions of normative ability must remain steady. Given this statement, however, a point of interest is whether the measure of perceived ability was objective rather than normative or self-referenced. Assessing perceptions of normative ability when task-involved is as obscure as measuring self-referent ability when ego-involved. The measure in this research was not made clear, but one would imagine that perceptions of ability were measured along an objective scale of personal performance. From a competitive viewpoint, it would be interesting for researchers to determine whether task-involved individuals, in possessing high self-referent ability, did display high perceptions of normative ability when asked whether their personal ability might be good enough to beat an opponent. The issue of normative self-confidence levels is a fundamental question for task-involved performers in direct competitive circumstances to answer.

### **2.933 Intrinsic Motivation**

Unlike dispositional research which has applied self-report measures of intrinsic motivation (Duda et al., 1995), studies which have induced goal involvement under specific experimental conditions have tended to operationalise intrinsic motivation in more overt behavioural terms (Vallerand et al., 1986b). An example of this was provided by Orgell and Duda (1990) who provided task or ego-involving instructions to university

students enrolled in a golf skills class. Intrinsic motivation was assessed by the time each student spent practising a golf putting task during a five minute free-choice period. Results showed how females spent more time practising in the task-involving condition than ego-involving condition. No condition effect emerged for males who spent longer on the task than the females as a group.

### **2.934 Learning Strategies**

Research which has documented the possible relationships between induced task and ego involvement and the use of sophisticated learning strategies within the achievement situation appears to be rare. Thill and Brunel (1995) extended the research conducted by Nolen (1988) in the academic domain which revealed that goal perspectives were related to the value and application of strategies requiring deep processing of information. In simple terms, a strategy corresponded to the control processes used to manipulate incoming information which allowed learning to occur. Professional and university soccer players were placed into task- and ego-involving conditions with respect to a soccer shooting task based on accuracy. Results showed how task-involved players used more processing strategies than ego-involved players. The results were explained in terms of the learning and effort focus of task-involved players, and their subsequent ability and bias towards allocating mental resources to task components.

### **2.935 Limitations of Situational Inducement Research**

The studies reported in this category of achievement goal research have been useful because they have reported the motivational processes or immediate outcomes associated with performers in an actual achievement situation. The situational goal structure has attempted to experimentally induce a particular state of goal involvement. Nevertheless, although this is a worthy methodology, there are three major limitations which need to be considered.

Firstly, although the methods used to invoke task and ego involvement might have been effective, these studies have not presented information on manipulation checks. This means that even though the performers may well be in ego- or task-involving conditions, they may well not be ego- or task-involved. This research appears to have assumed that goal involvement and the situational goal structure are one and the same. This could only be verified if one measured the actual state of goal involvement that was prevailing in the performer. These arguments do not make the research invalid, but they do admonish researchers to measure what the key independent variable actually is, namely goal involvement.

This point leads to the second limitation which relates to the vindication of achievement goal theory as an interactionist approach to motivation. Task and ego involvement will differentially relate to motivational processes and motivated behaviour.



However, it is widely recognised that levels of task and ego involvement will be dependent on goal orientation and prevailing situational factors within the achievement context (Duda, 1992, 1993; Roberts & Treasure, 1995). Dispositional and situational factors may either displace each other or support each other in influencing the meaning of achievement to the achiever. These studies have not measured dispositional goal orientation, so one cannot safely assume that the situational goal structure has possessed the power to displace a powerful, opposing goal orientation. Clearly, the opposite is true for dispositional research wherein behavioural predictions within actual achievement situations are no less than shaky if situational factors are blindly ignored within the interpretation of their findings.

The final limitation pertains to a point made within the drawbacks of dispositional research, namely orthogonality of goal perspectives. Performers are perfectly capable of adopting both goal perspectives and entering the achievement context with high levels of both task and ego involvement. In the real competition setting, event contexts may contain both task- and ego-involving properties to differing degrees, as opposed to strictly one alone. Therefore, presenting task- and ego-involving structures to performers would be an interesting extension to research. Furthermore, it warns researchers not to assume that their subjects will be high in one state of involvement and low in the other. For reasons discussed above, there are ways and means of activating different levels of goal involvement which must be appreciated.

Over the past few years, little research has adopted the experimental inducement strategy. Instead, investigators have accepted that within sport contexts certain situational goal structures will be prevailing. They have then measured the performers perceptions of the situational goal structure and correlated the findings with several motivational variables. It is research incorporating perceptions of the motivation climate to which the review now progresses.

#### **2.94 RESEARCH INCORPORATING PERCEPTIONS OF THE MOTIVATIONAL CLIMATE**

Aligned with the efforts of Ames (1992), the avenue of exploring relationships between motivational variables and perceptions of the prevailing situational goal structure (motivational climate) has been taken by a number of researchers (Seifriz et al., 1992; Walling et al., 1994; Kavusannu & Roberts, 1996). This research has also moved further towards the interactionist end of the continuum as it has included assessments of goal orientation to investigate dual predictions of dispositional and situational factor.

Seifriz et al., (1992) explored relationships between perceptions of the motivational climate (as measured by the PMCSQ), goal orientation, intrinsic motivation, and attributional beliefs about sport success in a group of male university basketball players. Correlational results indicated that perceptions of a mastery climate were related



to greater reported enjoyment and interest in basketball. Furthermore, a perceived mastery climate related to belief that effort was the dominant cause of team success. Perceptions of the performance (ego) climate, however, related to the belief that ability brings success, supporting theoretical predictions. Overall, it is interesting to note that despite predicting intrinsic motivation, perceptions of the motivational climate predicted much less than dispositional goal orientation. Indeed, dispositional goal orientation related to intrinsic motivation and attributional beliefs in a manner which corroborated previous research in this area.

In a subsequent validation study of the PMCSQ, Walling et al., (1994) found that perceptions of a task-involving climate related to higher satisfaction with team members and lower performance worry in a sample of young amateur international athletes across a variety of teams. In contrast, the reverse pattern of correlations emerged with perceptions of an ego-involving, performance team climate, with greater concerns over failing and lower team membership satisfaction.

Consonant findings have been recently reported by Kavusannu and Roberts (1996) in a sample of undergraduate recreation tennis class students which showed differing relationships between males and females. In males, intrinsic motivation was predicted by both perceived motivational climate and goal orientation, with perceptions of a mastery climate also predicting self-efficacy. Within females, an ego-involving climate was the strongest predictor of intrinsic motivation in a negative direction, with a similar relationship forming with self-efficacy. Finally, Treasure and Roberts (1994b) investigated whether perceptions of the motivational climate were more predictive of children's cognitive and affective response patterns in sport than dispositional goal orientation. The study involved the manipulation of the achievement context via an ego- or task-involving intervention (Ames, 1992) in a basic soccer skills class. When perceptions of the motivational climate were measured following the intervention, these perceptions of the situational goal structure emerged as better predictors of the sport experience than goal orientation.

#### **2.941 Limitations with Motivational Climate Research**

The practice of measuring perceptions of the situational goal structure has provided a means of assessing a performer's general feelings about the values, beliefs, and reward structure of the coaching and playing environment. The prediction of motivational variables by the mastery (task) and performance (ego) subscales, particularly in the face of sometimes differing predictions by goal orientation, suggests the importance of treating an interactionist perspective with respect. It appears not enough to assume that goal orientation will be the sole determinant of motivational variables, particularly when the performer experiences a situational climate containing properties of evaluation, instruction and selection which lie at odds with the principles



ingrained within their goal orientation or goal profile. The situation and its meaning to the achiever must be considered to allow researchers to develop a clearer picture of why a relationship has occurred, and in so doing, contribute more greatly to variance explained.

However, despite the advancement made by measuring perceived motivational climate, there exists a series of points which must be made in order to give a realistic perspective to how well this interactionist method can explain motivational variables. Firstly, a limitation of the current instrument being applied is its applicability solely to team sports. There is great difficulty in modifying the Perceived Motivational Climate in Sport Questionnaire to allow it to be completed by swimmers, tennis players, golfers and indeed any performer in a purely individual competitive sport context. Secondly, the questionnaire is essentially a 'trait'-based measure of perceived motivational climate which asks questions about the team culture in a very general manner. None of the aforementioned studies have applied the measure to specific competitive sport situations at the state level, only to varying levels of performer within a general setting such as after a beginner class session (Kavusannu & Roberts, 1996), or in mid-travel (Walling et al., 1994). Therefore, although it is measuring perceptions of a situational goal structure, it is the goal structure that appears to be perceived more generally rather than pertaining to a specific competitive situation.

Thirdly, although dispositional goal orientation has been assessed alongside motivational climate, interactions between the two factors have not been assessed in any systematic manner. Separate main effects have resulted from the studies which show which factors predict more or less strongly, but the combined effect of disposition and situational perception on motivational variables is understudied. Fourthly, an important issue for extending this research in the future rests with views on orthogonality. Ostensibly, if one constructively criticises goal orientation and situational inducement research for not treating predictions from the two goal perspectives in combination, then the same argument must apply for perceptions of two separate goal structures. The research thus far has correlated perceptions of one climate with a motivational variable, in complete disregard for how the other type of climate is perceived by the individual. In essence, predictions have not been made from individuals' combined perceptions of goal structures, they have been made from group perceptions of one climate and group perceptions of the other with little information about the predictions for the group or individual who perceive both climates to be high or low. Presumably, although Kavusannu and Roberts (1996) report an inter-subscale correlation of -0.30, the two scales should be viewed orthogonally in accordance with achievement goal theory. There appears the need for more research to profile perceptions of the situational goal structure in a similar fashion to previous arguments made.

It also needs to be made clear that measuring general perceptions of a motivational climate in a non-specific situation is not the same as measuring states of



goal involvement. However, there is a tendency for researchers to assume, in the same way as situational inducement research assumes, that perceptions of the climate will essentially reflect the goal state. One knows that goal orientation will have a say in this matter and, furthermore, that it is vital to measure actual goal involvement if clarification of the goal state is important to the prediction of goal-determined motivational responses.

Finally, a critical point to make is the somewhat narrow view that researchers have taken with respect to situational influences on achievement motivation. Situational expectancy plays a central role in perceptions of ability which are hypothesised to mediate the quality of achievement-related patterns. It may also play a significant role in the activation of a particular conception of achievement within a specific situation. Value of an activity, as the second feature of the expectancy x value approach, has not been treated in any systematic manner with respect to its potential influence on goal involvement. Maehr and Braskamp (1986) present a model of situational causes and influences of motivation, which goes beyond perceptions of the general climate, to include more specific situational factors such as personal incentives, normative and role-related expectations and inherent task characteristics. It seems important to ensure that researchers do not reserve 'perceptions of the situation' to simply goal structure, but that the specific effects of other situational factors on goal involvement within differing goal structures are investigated in living sport contexts.

## **2.95 THE SOCIALISATION OF ACHIEVEMENT GOALS**

The majority of research discussed thus far has been response-focused in nature, exploring the 'outcomes' associated with achievement goals in sport. In the main, researchers have made the case for the development of a task orientation, whilst being careful over their thoughts about an ego orientation (Roberts et al., 1996). Dispositional research has tended to correlate ego orientation with various motivational processes and performance variables without necessarily considering perceptions of ability. This research has typically denigrated ego-involved tendencies as maladaptive to developing achievement potential whether one has high perceived ability or not. Some situational inducement research has treated ego-involved individuals in high and low perceived ability categories (Hall, 1990) and found diverse relationships with motivational variables. This supports theoretical predictions from education-based research (Nicholls, 1989). Furthermore, goal profile research has suggested that developed levels of both goal orientations may be most conducive to achievement (Fox et al., 1994; Roberts et al., 1996).

With these points in mind, some achievement goal research has taken an 'antecedent' perspective to the investigation of factors contributing to the socialisation of achievement goal perspectives. Duda and Hom (1993) examined the interdependencies between the perceived and self-reported goal orientations of young athletes in a



basketball camp and their parents. Each child completed the TEOSQ both with respect to their own conceptions of success in basketball and also their perceptions of their most involved parent's conception of success. Each parent followed the same process generating an assessment of their own goal orientation and their perception of their child's goal orientation. The results showed that children's self-reported goal orientation was not related to parental goal orientation. More importantly, however, the strongest predictor of the young performers' goal orientation scores was the children's perceptions of their parents' goal orientation. Parents were also systematically inaccurate in predicting their children's degree of task and ego orientation, believing them to be more ego-oriented and less task-oriented than themselves. The findings of this study clearly indicated that the achievement goal beliefs projected by parents for a particular sport structure related to how the child defines success in that sport setting (Parsons, Adler & Kaczala, 1982). The insights from this simple study also supported Brustad's (1992) comments about the socialising role played by parents and coaches in the motivational and self-perception characteristics of young athletes. In line with Ames and Archer's (1987) suggestion, Brustad (1992) argues that parents appear to convey their own achievement perspectives to their children through interactional patterns and reward systems. In this respect, the choice points (Ames, 1992) that parents have in the way that they present information to children within achievement contexts could be critical to the moulding of the child's goal orientation.

Findings in support of these observations were documented more recently by Ebbeck and Becker (1994) who examined the psychosocial predictors of goal orientations in a sample of adolescent soccer players at the end of a 7-week competitive season. Player ego orientation was positively and strongly associated with perceived parent ego orientation, and also perceived soccer competence. In contrast, higher task orientation was linked to higher perceived soccer competence, higher perceived parent task orientation and perceptions of a mastery climate, and negatively related to a perceived performance (ego-involving) climate. These findings endorsed the impact of perceptions about parental beliefs and goal-related values on the development of personal achievement goals. For task orientation, the possible socialising effect of the perceived motivational climate on goal perspective was also recorded. Interestingly, perceived parent task orientation also predicted ego orientation which the authors explained by suggesting that players compared achievement of the task-oriented items valued by parents in relation to other players. In addition, the self-perception characteristic of perceived soccer competence positively predicted both goals. Whilst the authors reported that this was an expected finding, one might deliberate as to whether perceived competence should be related to task orientation given the hypothesis that perceptions of ability are less applicable to task-oriented performers. Nevertheless, this study showed



how goal orientation was perhaps associated with perceived social, contextual and personal factors in sport.

Lastly, from the perspective of a further significant other, studies by Chaumeton and Duda (1988) and Piparo, Lewthwaite and Hasbrook (1990) have examined the impact of perceived coaching behaviours on achievement goals. The findings in general suggest the significant role the coach plays in shaping or moulding the goal orientation of the athlete. Coaches focused on providing encouragement for mastery and enjoyment, and on giving 'performance process' feedback have been associated with a stronger focus on task-involved goals within the performer. In contrast, more ego-involved athletes tended to report their coaches as employing a more pressurising style with positive and negative feedback as a function of outcome.

### **2.951 Limitations of Socialisation Research**

Research into the socialisation of achievement goals has been limited, although there is clearly a need to achieve a greater understanding of the process by which these key qualitative motivational constructs actually develop. The majority of research has focused on social influences and their relationships to goal orientation in accordance with theoretical debate (Nicholls, 1989). This research has even led to specific measures of parent-induced situational goal structures in order to explore relationships in more detail (The Parent-Initiated Motivational Climate in Sport Questionnaire; PIMCSQ; White, Duda, & Hart, 1992). Little research has explored the social influences on goal orientation from a goal profile perspective, supporting a methodological limitation which has been discussed previously. Researchers have investigated the social correlates of each independent goal orientation, but have not examined the social correlates of goal profiles. Furthermore, whilst the research focus on antecedents of goal orientation has been both interesting and worthy, investigations honed on the precursors to actual states of goal involvement have been virtually non-existent. In light of this review and critique of the key research avenues applied within achievement goal theory in sport to date, the final section of this review considers ways in which our knowledge of achievement motivation may be extended.

### **2.96 TOWARDS A CLEARER UNDERSTANDING OF ACHIEVEMENT GOALS IN COMPETITIVE SPORT**

Achievement goal theory has provoked a major research drive within the discipline of sport achievement motivation. Nevertheless, the theory's application to sport is still at an early stage of understanding. The previous section of this review has systematically traced the research application of achievement goals to sport. It has identified the major foci of research and provided a constructive critique aimed at promoting research developments. Limitations of research were proposed which were



mainly methodological in nature, and which sometimes questioned the manner in which the theory had been investigated. With these points in mind, there are also a considerable number of research questions which remain unexplored and which could benefit learning from the research methodologies applied in previous research. The next few subsections draw out the areas in need of attention, including methodological implications, which will form the backbone of this thesis.

### **2.961 Goal States of Task and Ego Involvement**

To date, the majority of goal perspective research has investigated cognitive and affective responses associated with either dispositional goal orientation, task- or ego-involving conditions, or perceptions of the situational goal structure. Few studies (e.g., Goudas, Biddle, Fox & Underwood, 1995; Williams, 1996) have actually attempted to measure the performer's states of task and ego involvement. Ostensibly, if cognitions, affect and behaviour are goal-directed, information about these indices would appear to be much more externally valid when they are related to the goal state of the performer. It can be argued that the performer behaves in or reacts to a certain situation because of his/her present overall state of involvement and the definition of achievement that is most salient to the performer at that point in time.

There would appear to be a fruitful avenue of research behind exploring not only cognitive-behavioural associations with actual goal involvement in sport, but also the antecedents and precursors to activated levels of task and ego involvement. Nicholls (1989) viewpoint appears to be that task and ego involvement are orthogonal constructs where relatively independent levels of the two states can interact together within a given situation. However, some of his observations (previously noted in section 2.83; p. 32-33) may lead the reader to believe that in actual fact the two states may play off against each other.

Research in the educational and sport domains does not appear to present evidence to suggest that goal involvement is actually orthogonal. Nicholls' (1989) statement of orthogonality is not supported by research findings at the state level. Indeed, Dweck (1986) believes the goals to be bi-polar opposites which is more in line with Nicholls' particular statement on page 16-17 of his 1989 text. Goal profiling at the dispositional level is perhaps becoming more widely recognised as the way forward because, as alluded to earlier, it is inappropriate to treat task and ego orientation as separate entities. Orthogonal goal orientations should not be treated as distinct independent variables when investigating cognitive-behavioural associations. It is perhaps best to combine the independent levels of each goal orientation in order to form the goal profile groups which become independent variables. Given these arguments, it seems to be both interesting and critical to explore the question of orthogonality at the state level of goal involvement. This is an untouched research area with little or no



history behind methods of assessing goal involvement in sport settings. Nevertheless, studies of this sort would facilitate advancements in understanding and serve to increase levels of internal validity.

### **2.962 An Interactionist Perspective to Goal Involvement**

The methodologies applied in previous goal perspective research have typically been quantitative in nature with the predominant independent variable being *either* dispositional goal orientation, situational inducement *or* situational perceptions. Except for a few studies, an interactionist perspective to achievement goal research has largely been ignored. In theoretical terms, the predicted antecedents to any state of involvement are both the performer's goal orientation profile (Fox et al., 1994; Roberts et al., 1996) and also situational influences. One may argue that even trait-based predictions of cognitions, affect and behaviour, based solely on *one* category of antecedent, are less externally valid and more susceptible to low levels of explained variance in the dependent variable. As powerful situational influences and perceptions of the context may displace goal orientation, so may a strongly-disciplined disposition hold sway in what might be a contrasting situational goal structure (Treasure & Roberts, 1995). There remains scope, therefore, for not only a more complete investigation of the antecedents of goal involvement, but also the more appropriate application of an interactionist perspective. In basic terms, our understanding of the antecedent-outcome 'process' is limited to insights such as a 'task orientation correlating with intrinsic motivation'. Our understanding should be advanced to a stage where we are able to say that 'this overall goal state was activated because of an aspect of their goal orientation and certain perceptions of the situation.... ....this led to the following cognitions, affective reactions and behavioural responses within the situation'. At present we are not in a position to make such claims.

In terms of situational influences, it is fair to say that the literature has been somewhat narrow in its appreciation of the kinds of factors and perceptions of specific performance contexts that can influence achievement goals. Situational influences tend to have become synonymous with perceptions of the motivational climate, as though the situational goal structure is the only factor of importance. Even at this level, measures of perceived climate contain very general, team-based statements about the sport climate as opposed to generating accurate performer perceptions of a context within a living competitive situation.

The work of Maehr and Braskamp (1986) and Eccles (Eccles, Midgley & Adler, 1984; Eccles & Midgley, 1989) reinforce the existence of many *other* situational factors which influence motivation and which may impact upon achievement goals. In their discussion of Personal Investment theory, Maehr and Braskamp (1986) present a model of situational and contextual factors that are predicted to influence personal meaning and subsequent motivation, including social expectations and task characteristics. These



factors extend beyond a general perception of the environmental structure or motivational climate. Similarly Eccles et al., (1984) outline how changes in situational factors such as importance or usefulness of the activity influence the overall value of the activity and consequently affect motivational variables. Cognitive approaches to motivation preceding achievement goal theory recognised variables such as expectancy and value. These criteria could perhaps be considered more carefully with specific reference to their influence on the activation of goal involvement.

### **2.963 Highly Skilled Adolescents within Competitive Sport Contexts**

Despite achievement goal theory being vigorously applied to sport and physical activity settings, there appears to be very limited research on highly skilled adolescent performers. Despite some cross-cultural research, the vast majority of published studies in sport have employed samples with notable North American demographic characteristics. Typically, these have been undergraduate students enrolled in recreational sport classes; teenagers in a variety of sports at high school standard; adolescents on summer camps or sport training camps; and elite adults.

The implications of achievement goal theory are certainly geared towards high level competitive youth sport. However, even though research has paid some attention to adolescents, the attention has not stretched to highly skilled performers in actual competitive situations. Taking the observations made in the previous sections, it would be worthwhile investigating the achievement-related thoughts and beliefs of high level young performers, prior to the competitive experience, but within the real competition context.

## **2.10 SUMMARY**

The purpose of this review has been to trace the development of research into sport achievement motivation by paying attention to the foundation theories of motivation upon which researchers have built, and by detailing the contemporary research drives that have facilitated a more specific understanding of the area. As the most favoured approach at present, achievement goal theory has been focused on more assiduously and the typical paths taken by researchers have been documented. However, despite its contribution to an increasing body of knowledge, several specific issues have been raised which pertain to the increased need for a clearer understanding of the theory within the domain of sport.

Drawing together the major points made from the previous three sections, our knowledge of the antecedents of task and ego involvement, within competitive, field-based youth sport contexts, does remain limited. Questions such as 'what goal state reflects the young performer's focus of achievement prior to a competitive event?' and 'what range of factors have influenced that state of involvement?' seem virtually

unexplored within sport psychology, particularly from an interactionist perspective. The literature may therefore benefit from investigations focused on the measurement of pre-competition task and ego involvement alongside a thorough examination of the interactional antecedents of the pre-competition states reported.

Such a programme of research may provide a clearer understanding of achievement goals in competitive youth sport. This in turn should ameliorate interventions in youth sport settings designed to create structures to optimise the achievement focus of young performers in a variety of competitive situations.



# CHAPTER III

## *STUDY 1*

### **ANTECEDENTS OF PRE-COMPETITION ACHIEVEMENT GOALS IN COMPETITIVE- AND INDIVIDUALISTIC-FOCUSED YOUTH SPORT CONTEXTS:**

#### **LITERARY ISSUES AND METHODOLOGIES**

##### **3.1 INTRODUCTION**

In terms of the opportunities available for adolescents to participate or compete in a wide cross-section of popular sports, it might be argued that Great Britain stands ahead of many other countries. Competitive youth sport is a valued element of today's society and one would imagine that the goal of motivating young performers to develop their potential in their specific sports is of premium importance. The previous review has alluded to the importance and implications of achievement goals that are pursued by sports performers. It has been suggested that little research has focused on examining task- and ego-involved goal states prior to competition, particularly within a high level adolescent sporting population. More importantly, few investigations have explored the antecedents or precursors to the possible activation of task and ego involvement prior to competition. Whilst such research questions warrant attention, it is also important to acknowledge the variety of sport contexts and competitive structures that characterise youth sport. Study 1, therefore, is represented by two separate studies which address the same question within the two highly contrasting competition contexts of a County championship swimming competition and a National championships tennis event. The major purpose of the studies is to explore the antecedents of task and ego involvement prior to actual competition with the application of an interactionist methodology.

Given that the overall study question is addressed by two independent studies with similar methodologies, this chapter has a dual purpose. Primarily, it serves to highlight issues which are directly relevant to an understudied research question, in an attempt to rationalise the methodology employed in both studies. Secondly, it aims to describe in detail the particular methodologies employed. In view of the fact that the research literature relevant to this study has already received attention in Chapter 2, this chapter is reported in the following way. Firstly, the major areas of concern will be

elaborated on in more detail. These areas include: situational influences on achievement goals; the measurement of goal involvement; and, the measurement of goal orientation for competition contexts. Research in educational psychology (Ames, 1984, 1986), focusing on the implications of achievement contexts which are competitive or individualistic in nature, will then be discussed. This section of the review will support the need to investigate sport contexts classified by the goal structure that is prevailing within a given situation. Only then, it is argued, may one generate information on the antecedents of achievement goals that is more externally valid to that particular type of youth sport context.

The chapter then moves to the methodological details of each specific study. These include: details of the actual competition contexts; the development and employment of instrumentation; and, the procedures adopted for data collection. This will permit the subsequent two chapters to detail the results and discuss the findings of each study .

## **3.2 REVIEW OF RELEVANT ISSUES**

### **3.21 SITUATIONAL INFLUENCES ON ACHIEVEMENT GOALS**

The majority of research within achievement goal theory has treated situationally-induced goal structures or performers' perceptions of situational goal structure as the most salient situational factors. Little research, however, has taken a broader perspective to the impact of situational influences on achievement goals. This is particularly the case for living competitive contexts where it is of interest to extract the precise motivational properties of a competitive situation or discrete environment which are likely to influence performers perceptions of what achievement means to them in that scenario. Current measures of motivational climate appear to be less than adequate for the purpose of addressing the array of situation-specific perceptions and properties of contexts that exist 'in situ' prior to competition, and which may influence the meaning of achievement. As the instrument suggests, the Perceived Motivational Climate in Sport Questionnaire (Seifriz et al., 1992) assesses the performer's perceptions of the general team climate with respect to the achievement values and beliefs of coach, players and team system. These general perceptions may influence the personal theory of achievement prior to competition, but many other context-specific factors could be contingent to the performer's achievement goals in that situation.

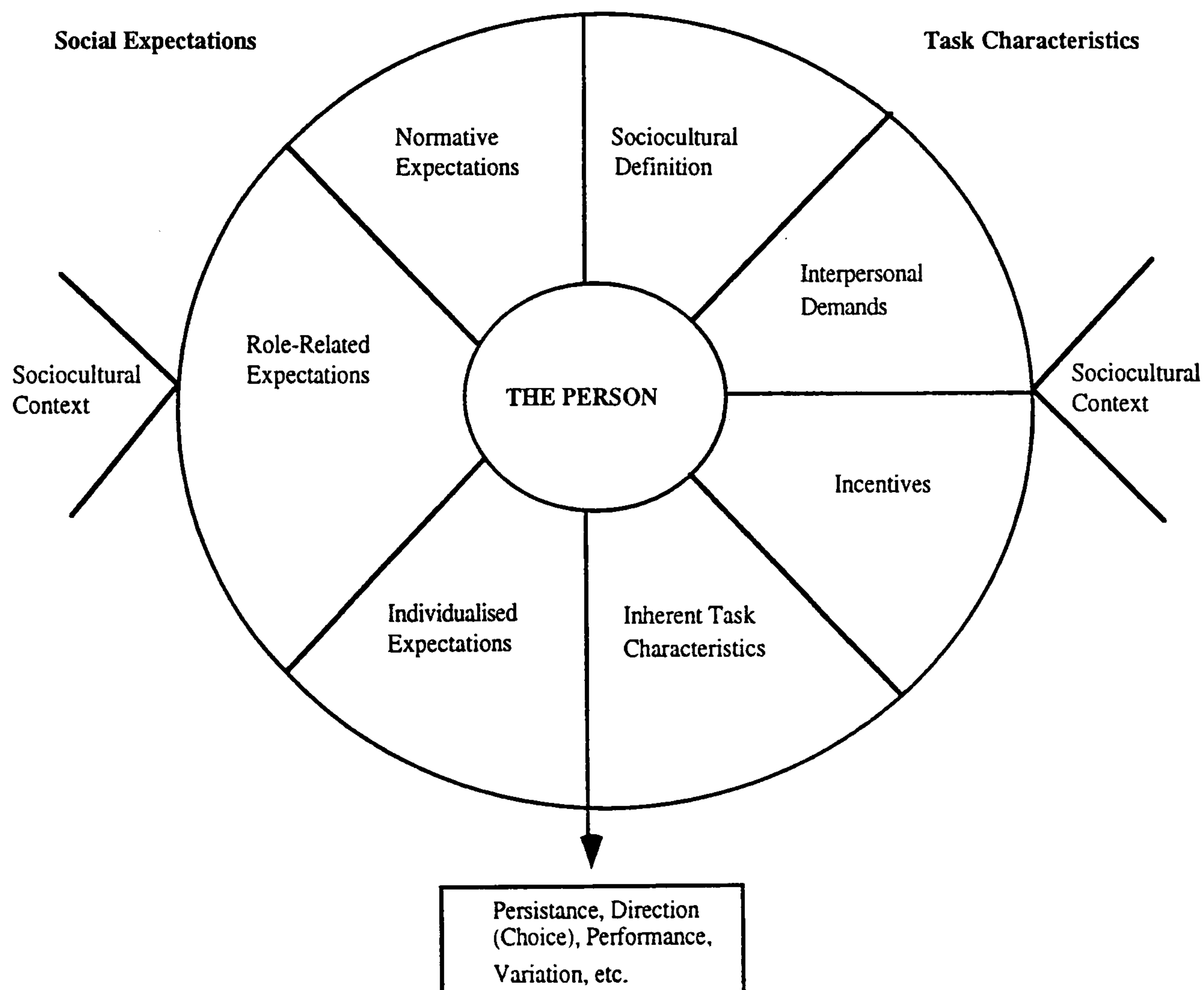
Earlier cognitive theories (e.g., Atkinson, 1957; Weiner, 1972) have incorporated situational factors such as personal expectancy and/or value within their approaches to motivation. Perceptions of expectancy have been represented in achievement goal theory as more of an individual difference variable in relation to the diverse effects of perceptions of ability when high in ego involvement (Hall, 1990). However, personal



expectancy as an antecedent variable to the activation of achievement goal states has received scant attention. In contrast, personal value of the activity/event, as in the case of attribution theory, has either not been incorporated into the theory, or has simply been taken for granted.

In their presentation of Personal Investment Theory (PIT), Maehr and Braskamp (1986) view situational factors as critical to the meaning of the activity held by the individual. It is the meaning of the situation to the person that will determine the personal investment of behaviour in an activity. PIT has links with achievement goal theory in that task and ego involvement are two major goal perspectives that individuals can adopt in a particular situation. However, within PIT, the situational antecedents of meaning espoused by elements of the situation are considered more rigorously. Maehr and Braskamp (1986) argue that no single motivational theory integrates all of the critical situational variables. Consequently, they present a taxonomy of situational factors which they believe influence meaning and motivation. Figure 3.1 depicts Maehr and Braskamp's (1986) model of the situational or contextual factors that influence motivation. Two basic categories of situational factor are proposed, that of social expectations and the nature of the task itself. Maehr and Braskamp (1986) stipulate that an individual's achievement motivation is critically dependent on social and personal expectations, alongside the nature of the task and what it means to him or her.

**Figure 3.1 A Model of Situational/Contextual Factors that Influence Motivation (Maehr and Braskamp, 1986)**



For the purpose of this review, it would be useful to define these antecedents of meaning in more sport-specific terminology. Normative expectations might refer to the performance expectations that would exist for a performer as a result of the beliefs, values and norms of significant others or the social group of which s/he were part. Role-related expectations are more particularised expectations where the performer has a certain role to play in a team which separate them from other members of the group. Individualised expectations might refer not only to the personal expectations of achievement that the individual possesses, but also the specific, targeted expectations placed upon the individual by others that are not necessarily normative or role-related.

In terms of task features, inherent attractiveness might refer to the value and interest in a specific sport or competitive event. Sociocultural definition refers to the meaning that an event has within the sport sub-culture. For example, some events will be perceived as important to enter because they are recognised as key competitions within the system (e.g., a county championships, national league, Wimbledon qualifying). Interpersonal demands/relationships reflect the nature of the competitive contest in terms of the degree of head-to-head confrontation, co-active dependence, or team interaction. Finally, incentives may refer to the external consequences of the event in terms of money, tangible rewards and performance feedback. Are these incentives available and on what basis are they earned or received? Implicit throughout the model is the fact that any task is performed within a socio-cultural context. In sport terms, this is possibly most reflected by the motivational climate of the sport or, more specific to this review, the existing situational goal structure that envelops a particular competition context.

Maehr and Braskamp (1986) suggest that the social expectation and task characteristic aspects of the prevailing situation form a group of motivational antecedents under the heading of 'Performance Situation'. If these factors are thought to influence the nature of personal investment, then it would be interesting to explore, from an achievement goal perspective, whether the situational antecedents of task and ego involvement are much broader than simply the motivational climate. No research appears to have explored the specific properties and perceptions of the competitive situation, acknowledged by the performer as factors which may mediate the nature of their goal involvement. Only by achieving this awareness may one explore whether the situational aspect of achievement goal theory should be given a wider birth with respect to the precursors of task- and ego-involved goal states.

### **3.22 THE MEASUREMENT OF GOAL INVOLVEMENT**

Measures of dispositional goal orientation or perceptions of the motivational climate have been the predominant research tools with respect to the assessment of achievement goals. Arguments based on the need to measure actual task and ego involvement have been previously noted. Nevertheless, no validated assessment method



exists for this purpose. Williams (1996) measured goal involvement by modifying the stem of the TEOSQ to represent the items in a 'state' like format (e.g., I will feel most successful in this next match when....) with performers subsequently completing the inventory prior to competition and training. However, if one is measuring task and ego involvement prior to competition, it might be argued that some of the item statements then become obscure, and perhaps less ecologically valid for that context (e.g., I will feel most successful in this next match when....I learn something that is fun to do; I learn a new skill and it makes me want to practice more). These statements may not necessarily be applicable to a performer's achievement focus or mind set 30 minutes before actually competing.

A different method of measuring task and ego involvement was presented by Goudas et al., (1995) in their investigation of the motivational effects of different teaching styles. In this case, task and work avoidance involvement were measured after the lesson (e.g., In today's lesson, I wanted to try to improve). Although, it would clearly be beneficial to assess goal involvement as one is about to perform, the idea of measuring what a performer's perceived achievement goals were after the fact has distinct merits. One might argue that the outcome and experience of the event itself provides the performer with 'influential hindsight' which may obscure their responses if they were left to reflectively appraise the experience (Hardy et al., 1996). However, if goal involvement was measured immediately after competition, during the intuitive appraisal stage (Hardy et al., 1996), one might gain a deeper insight into their true achievement goal states. Their immediate emotional reactions to the outcome of an event should perhaps reflect the levels of task and ego involvement characterising their attitude or focus during that competition.

Due to the fact that little research has been executed about goal involvement in sport, the previous issues raised about orthogonality of goal involvement have never been tackled in research terms. With reference to this study, it is important to be clear on the definition of concepts associated with goal involvement itself. Goal involvement is the generic term for an individual's achievement goal perspectives at a particular moment in time, in a particular situation. This lies in contrast to goal orientation which is the generic term for dispositional tendencies. Goal involvement is bi-dimensionally represented by task and ego involvement which can be viewed as orthogonal goal states, represented by two independent achievement goals. These independent 'state' goals, therefore, reflect the separate levels of task and ego involvement at a specific moment in time. Despite this level of definition, arguments proposed about goal profiling must not be neglected and the full meaning of orthogonality must be followed through. There should be some method of assessing the overall goal state which would reflect the differential levels of task and ego involvement in combination. In this respect, orthogonality means that although the two goals may be independently measured, they do not exist in isolation in



achievement terms. A performer's overall achievement goal state, therefore, will be represented by certain levels of both task and ego involvement, however high, low, or insignificant those levels might be. In sum, this overall goal state essentially reflects the overall state of goal involvement. As this overall state encompasses the individuals total task and ego-related beliefs about achievement in the activity at that moment, it may also mirror what is known by researchers (Nicholls, 1992) as the performer's 'personal theory of achievement'. Hence, at any point in time, a performer may possess a personal theory about what achievement in this task means to him/her. This theory will be represented by an overall goal state in which certain levels of task and ego involvement will have been activated.

### **3.23 THE MEASUREMENT OF GOAL ORIENTATION AS AN ANTECEDENT VARIABLE IN COMPETITION CONTEXTS**

The most popular instrument employed for measuring dispositional goal orientation has been the TEOSQ (Duda & Nicholls, 1989). As noted in Chapter 2, the TEOSQ has been developed from the Motivational Orientation Scales (Nicholls et al., 1985) which were applied in educational contexts. The majority of research employing the TEOSQ has involved correlating task and ego orientation in isolation to motivational variables (e.g., Newton & Duda, 1993a; 1993b). In this manner, goal orientation may be viewed as an antecedent to cognitive and affective responses. However, it has never been investigated as an antecedent to goal involvement in the specific context of competition. Further to this, surprisingly few studies have actually employed the TEOSQ within the context of high level competitive youth sport. Since the TEOSQ was designed to measure the tendency to be task and/or ego involved in sport, it is important to determine whether it measures dispositional orientations which contribute to pre-competition states of goal involvement from an interactionist perspective.

This study explores the interaction between dispositional tendencies and situational factors shortly prior to an actual competitive situation. Given this important premise, it would appear critical that the tendency assessed is related to the performer's general perspective on achievement for the specific achievement task of a competitive event. It may be argued that performers have similar or differing achievement goal orientations for practice, lessons and other sports - all contexts which contain achievement tasks. In Study 1, the *context* is *competition* and the *achievement task* is the *competitive event* itself. The TEOSQ contains item statements which can be viewed as sport specific when the stem reflects the sport in question. However, the item statements appear to 'tap' competition, training and practice/learning contexts in a very general manner. In this respect, the dispositional goal orientation may represent holistic beliefs about achievement in that sport, as opposed to a specific tendency to focus on achieving certain goals prior to a match or race. It would therefore be interesting to contrast the



TEOSQ with measurements of task and ego orientation which are more competition-focused in nature.

### 3.24 GOAL STRUCTURES: MOTIVATIONAL IMPLICATIONS FOR DIVERSE COMPETITION CONTEXTS

Preceding the intense popularity of achievement goal theory in sport, Carole Ames' work (e.g., Ames, 1984; Ames & Ames, 1981; Ames & Felker, 1979), in the educational domain, focused on how different contextual goal structures influenced students' motivational processes in different manners. Ames (1986) argued that the goal structure of a particular achievement context represented a particular motivational system which impacted on students' attributions for success and failure, attention to performance information, and other achievement-related cognitions such as self-instructional statements. Ames (1992) refers to these systems in present day research as representative of the prevailing motivational climate. However, in her earlier research, the three systems were embedded within competitive, co-operative and individualistic goal structures, of which the competitive and individualistic systems have most pertinence to this study.

A context is thought to possess a competitive goal structure when competition is interpersonal, and a negative interdependence of rewards exists in the situation (Weiss & Chaumeton, 1992). This means that, due to the head-to-head nature of the contest, an individual attains a reward at the expense and preclusion of others. In a competitive goal structure, performance tends to be evaluated in terms of ability demonstrated in relation to others with social comparison information being highly salient in this respect. The criteria used to define a competitive goal structure greatly resemble the contextual conditions required for the activation of ego involvement (Ames, 1992; Nicholls, 1989). In sport, this is an achievement context where performers work directly against each other, where only the winner receives rewards, where demonstrating superior ability is reinforced by normative feedback and social evaluation. As Ames (1986) neatly states,

"In essence, a competitive system of motivation can be depicted as a situation of forced social comparison where students are bombarded with information about their peers' performance and where their *survival* is based on their ability to compete, be better or the best, and to win.....The bottom line in a competitive structure is whether one is a winner or loser."  
(p.232)

By contrast, individualistic goal structures imply an independence of goals among individuals where the criteria for success are either self-referent or pre-established performance standards. In sport, this is more akin to a swimming competition where success in the context of a race may be defined as either achievement of personal target time or an event qualifying time. In this respect, attainment of personal rewards is independent of the attainment of rewards by others. Performance is evaluated in terms of



mastery and personal improvement with individualised feedback to aid self-referencing. The performance of others is less significant. Event contexts which emphasise the salience of personal performance, effort and improvement, by the manner in which the event is structured and rewards distributed, would be classed as individualistic in nature.

Ames' research in educational achievement settings has soundly documented the motivational implications for individuals participating in competitive or individualistic goal structural contexts. Her findings pertain to the effects of these systems on three major motivational factors. Firstly, the attention paid to different sources of available information on which to evaluate performance. Secondly, the attributional focus of individuals within these structures with respect to ability and effort. Lastly, the nature of achievement cognitions and self-instructional statements that are employed within tasks structured in the two different contexts.

Ames and Ames' (1981) study examined how children attend to different sources of performance information in competitive as compared with individualistic contexts. In most performance situations, sources of available performance information might include past performance on related tasks (i.e., performance history), current task performance, and relevant others' current task performance. According to Ames (1986) each of sources may impinge upon an individual's subjective evaluation of their performance. Ames and Ames (1981) allowed children to develop a history of past performance on an achievement task prior to imposing a competitive- or individualistic-structured context in which to perform the task again. At the conclusion of the task, all children were evaluated on the types or sources of information that they had utilised to subjectively assess their performance level. The findings showed how social comparison information (i.e., own performance outcome vs others performance outcome) was dominant in the competitive structure, with little usage of or attention paid to performance history. Feelings of success and satisfaction were based on whether they had won or lost with more attention paid to the quality of others' performances, as opposed to the quality of their current personal performance compared to their past performance. This was not the case in the individualistic setting where children's past performance was a salient source of information forming the basis for feelings of self-referent satisfaction. These overall results suggested that competitive and individualistic goal structures differentially affect the importance of certain informational cues (Ames, 1986). Specifically, within individualistic-structured performance contexts, a child's self-perceptions of achievement is contingent upon the consistency or changes in one's performance over time. Alternatively, social comparison information is clearly a more important cue in competitive structures where children appear to be more impervious to monitoring their performance change over time.

A number of other studies (Ames, 1978; Ames & Ames, 1981; Ames et al., 1977) have consistently pinpointed differences in children's self-attributions of ability and effort



with respect to performance in individualistic and competitive contexts. Findings have typically suggested that a direct competitive structure increases the salience of ability as a factor which differentiates winners and losers. Ames (1986) proposes the following argument, consistent with the differentiated conception of ability (Nicholls, 1989), as to why ability is the critical attribution offered in competitive situations:

"From a rational point of view, social comparison information provides the most information about the task difficulty and one's ability; and when one's performance is better or worse than others on the same task, ability becomes the logical focus of one's attention. Competition is necessarily a situation of winners and losers on the same task, thus a logical inference would be that differences in performance must reflect differences in ability." (p. 237)

In contrast, effort has been the focus of self-attribution in individualised settings where the emphasis is on self-improvement facilitated by trying as hard as one can in order to achieve personal success. Within individualistic structures, self-evaluations of effort become salient alongside the absence of a focus on social norms which would foster ability evaluations in competitive structures.

Finally, Ames (1986) reports how achievement-related cognitions such as self-instructional statements differ as a function of the situational goal structure. Her results demonstrate how more process-related self-instructions are made by those children placed in an individualistic structure as compared with a competitive structure. It appeared that competition encouraged self-cognitions that were more markedly based upon ability attributions.

The implications of these findings within educational psychology primarily correspond to the hypothesis that competitive goal structures invoke a more ego-involved conception of ability, whereas contexts characterised by an individualistic goal structure are more likely to activate high levels of task involvement (Weiss & Chaumeton, 1992). No research appears to have investigated these observations by measuring a performer's level of task and ego involvement within sporting contexts distinguished by goal structure. Additionally, no research has explored whether the dispositional and situational antecedents of task and ego involvement are mediated by the prevailing goal structure of the event context. Are the antecedents to each goal perspective similar or different within each context? The world of sport is represented by diverse activities and events, each of which are structured in contexts which contain competitive and/or individualistic elements. Research in this area may therefore benefit from investigations which focus on identifying antecedents to task and ego involvement within the two contrasting types of context.

### **3.3 PURPOSE OF THE STUDY**

The purpose of the overall study is to explore the antecedents of task and ego involvement in sport within an investigative structure and methodological design which both appreciated and accounted for the issues presented in the previous and present chapter. Namely, that the study should:

- a) focus on 'in vivo' competitive youth sport situations
- b) assess pre-competition task and ego involvement by the measurement of competition-specific state goals
- c) adopt an interactionist methodology by:
  - (i) measuring dispositional goal orientations in general and competition-specific terms, and examining their contribution to goal involvement.
  - (ii) examining performers' responses to those situational factors which have motivational meaning to the individual prior to competition, and assessing their relationships to levels of pre-competition task and ego involvement.
- d) research the focal question in two diversely structured competition contexts, hence the need for two separate investigations.

Specifically, these investigations sought to develop our understanding of the relationships between dispositional achievement goals, perceived situational criteria, and the state goals of task and ego involvement prior to active engagement in two competition contexts which differed in goal structure. The two competition contexts chosen for this study were County championship swimming events and a National championships tennis event. Based on the traditional perspective that the dispositional tendency to be task- and/or ego-involved should relate to actual task and/or ego goal involvement, it was hypothesised that the dispositional measures of goal orientation would predict the state goals of task and ego involvement respectively. However, due to the lack of research in this area, hypotheses concerning the situational variables were not established. Nonetheless, it was hoped that the findings from this investigation would serve to generate hypotheses for future investigations.

### **3.4 METHOD EMPLOYED**

This section of the chapter treats each separate investigation as one methodological unit with specific idiosyncracies related to each. Therefore, although the two investigations are matched on methodological design and composition, differences in sport terminology and event context demand that their respective methodological sub-components be articulated. The separate investigations will be referred to as Study 1A and Study 1B.



## **3.41 PARTICIPANTS**

### **3.411 Participants (Study 1A)**

In Study 1A, the participants (n=214) consisted of 110 male and 104 female age-group swimmers, ranging from 13 to 18 years of age (mean = 14.9 years; S.D.=  $\pm 1.8$ ), all of whom were competing in their 1994 County championship meets. In order to achieve an adequate sample size, these participants were drawn from 14 different swimming clubs within the North Midlands area.

### **3.412 Participants (Study 1B)**

In Study 1B, the participants (n=119) consisted of 60 male and 59 female National standard tennis players, ranging from 13 to 17 years of age (mean = 14.4 years; S.D.=  $\pm 1.6$ ). These players competed in the 1994 National junior tennis championships and were ranked within the top 48 players in the U-14 and U-18 age groups. This sample was composed of players from throughout the country, 102 of which were members of the Rover scheme, a Lawn Tennis Association initiative which supports the country's most talented players.

## **3.42 SITUATIONAL GOAL STRUCTURE**

By mere definition, it is difficult to research naturalistic competitive sport contexts that are totally non-competitive in terms of situational goal structure. All competitive sport contexts will provide objective or subjective measurements, normative feedback and generally rewards based upon comparing the absolute achievements of one performer with other competitors. The simple act of competing with or against others at the same task automatically allows a social comparative 'pecking order' to develop. However, given that most event contexts possess elements of a competitive goal structure, it is the degree to which some contexts are naturally competitive or individualistic which is of interest to this study. The properties of some event contexts, facilitated by the nature or structure of the sport, may serve to create achievement 'micro-climates' which, despite incorporating a competitive element, have strong individualistic components which recognise self-referent personal achievement. In this study, these contexts are referred to as being individualistic-focused. Conversely, the properties of other contexts do nothing more than to emphasise intense head-to-head competition, and the consequences thereof, at the expense of any individualistic aspects. This study recognises such contexts as being competitive-focused.

### **3.421 Study 1A: Individualistic-Focused**

The competition context in Study 1A comprised open age swimming events whose races were 'heated' by submitted personal times as opposed to age. This meant

that a good young swimmer could be 'hidden' in the same 'heat' as much older mediocre swimmers with similar submitted times. Therefore, although there was a distinct element of co-active competition, this may have occurred within swimmers from different age groups. At the end of each race, each swimmer could register their time and position from the publicly displayed electronic timing. However, only after all the races were completed, were the top six age group placings calculated from individually achieved times. Consequently, normative awareness would be reduced during the heats and public evaluation would be based more on what times were being achieved, as opposed to positions gained. This contextual goal structure was therefore characterised by:

- (i) a diminished emphasis on public evaluation and awareness;
- (ii) a less intense age-related interpersonal focus of competition;
- (iii) a reduced capacity for social comparison;
- (iv) increased salience in the value of achieving good personal times and national qualifying standards (self-competition), as compared with winning the heat or achieving certain positions
- (v) the capability of providing direct objective feedback on individual personal performance.

The nature of these competitive events presented swimmers with an achievement context that augmented the value of individual personal performance and therefore promoted several individualistic and potentially task-involving elements. In contrast, although the achievement context contained some properties associated with a competitive goal structure, these aspects of direct competition were much less intense and widespread than perhaps typical head-to-head competition (Nicholls, 1989). In this way, the competition context of Study 1A was subjectively deemed to be individualistic-focused.

### **3.422 Study 1B: Competitive-Focused**

In stark contrast to the swimming event, the ecological achievement context in Study 1B was a National championships tennis tournament. The National Championships are generally viewed as the major summer tennis event drawing together the top British juniors who have made the final 48 player draw on rating, results and qualifying. The U-14 and U-18 singles events are contested within a typical seeded knockout draw, where the emphasis is simply placed on winning through to the next round. Competition is characterised by direct, interpersonal, head-to-head encounters between two players who are rewarded simply on their ability to perform better than their opponent. The tournament context is further characterised by the presence of sponsors, national coaches, the media and peers which heightens the level of public evaluation and awareness. Each match is enclosed on a separate court, making performance highly public, along with the constant use of scoreboards to reinforce the current and normative



state of the match. Results and scorelines are updated on a regular basis within the information centre. Overall, therefore, characteristic elements of this contextual goal structure include:

- (i) the availability of rewards based solely upon favourable normative comparison;
- (i) an emphasis on normative-based social evaluation aided by public performance;
- (ii) direct, interpersonal competition within age-groups;
- (iii) ease and importance of social comparisons of ability;
- (iv) lack of social attention, evaluation or reward focused on achievements in individual, personal performance;
- (v) direct and overt normative feedback (win/loss);
- (vi) no objective feedback on personal performance.

This achievement context contained numerous properties which would appear to render it not only as a powerful example of a competitive goal structure, but also as a structure which contained little or no individualistic focus. The competition context of Study 1B was subsequently deemed to be competitive-focused in goal structure.

### **3.43 INSTRUMENTATION (DISPOSITIONAL)**

#### **3.431 The Task and Ego Orientation in Sport Questionnaire (Study 1A)**

The TEOSQ was designed to measure an individual's proneness to be task- or ego-involved in sport (Duda & Nicholls, 1989; Chi & Duda, 1995). Both the task and ego subscales have been found to be internally consistent (Duda, Olson & Templin, 1991) with Duda (1992) reporting alpha coefficients ranging from 0.81 - 0.86 and 0.79 - 0.90, respectively. Test-retest reliability coefficients of 0.68 for task and 0.75 for ego have also been demonstrated following a three week period (Duda, 1992). The questionnaire consists of thirteen items, seven of which correspond to a task orientation and six to an ego orientation. Each participant in Study 1A responded to the stem "I feel most successful in SWIMMING when.....". Items on the task scale include "I work really hard" and "I do my very best", whilst items on the ego scale include "I'm the best" and "Others mess up and I don't". A number of items (n=5) were modified slightly in order to reflect more swimming specific terms (e.g., an alteration was made from 'Something I learn makes me want to go and practice more' to 'Something I learn makes me want to go and train more'). With these changes, it was felt that the swimmers true task and ego orientations would be less obscured due to a lack of applicability to the swimming domain. Participants responded to a 5-point Likert scale ranging from (1) "*strongly disagree*" to (5) "*strongly agree*". The alpha coefficients for the swimming sample were 0.75 for the task scale and 0.76 for the ego scale, demonstrating acceptable levels of internal consistency (Cronbach, 1951). The swimming TEOSQ employed in Study 1A is presented in Appendix 1.



### **3.432 The Task and Ego Orientation in Sport Questionnaire (Study 1B)**

In Study 1B, due to the change of sport, each participant responded to the stem "I feel most successful in TENNIS when.....". Once again, a number of items (n=5) were modified slightly in order to reflect more tennis specific terms and increase item applicability to the tennis domain (e.g., an alteration was made from "A skill that I learn really feels right" to "A stroke that I work on really feels right"). The alpha coefficients for the tennis sample were slightly lower (0.72 for the task scale and 0.74 for the ego scale). However, these scores supported acceptable levels of internal consistency (Cronbach, 1951). The tennis TEOSQ employed in Study 1A is presented in Appendix 2.

### **3.433 Competition-Focused Measures of Goal Orientation (Study 1A)**

The TEOSQ appears to measure dispositional goal orientation in swimming in more holistic, less contextual terms. Therefore, it was felt that the study would be strengthened by more race-specific measures of goal orientation. These would more closely reflect the typical race achievement goals that a swimmer may inherently focus on prior to competitive races in general. Three single item measures of race task and ego orientation were subsequently included within the instrumentation. Following instructions which asked the swimmers to respond in a way reflecting how they generally feel, each player answered the three questions following the stem "When you compete in a swimming race.....". The first two items measured the independent levels of each achievement goal perspective, labelled as the "race ego orientation" and "race task orientation". The race ego orientation assessed how successful and satisfied the swimmer was if s/he beat other rival swimmers, but did not swim a very good personal time. The race task orientation measured how successful and satisfied the swimmer was if s/he swam a very good personal time, but lost to his/her rivals in the race. These two items were scored on a 7-point Likert scale ranging from (1) "not at all satisfied" to (7) "extremely satisfied".

Despite being more context-specific, it was vital that the wording reflected the conceptualisation of achievement goals within goal perspective theory in order to maximise the face validity of these items. Drawing satisfaction from and defining success by beating others is a well-referenced characteristic of an ego orientation in goal perspective research (Duda, 1993; Duda & Chi, 1989; Ebbeck & Becker, 1994). Furthermore, Duda (1992) reports a significant positive correlation between the TEOSQ ego orientation scale with both the Outcome orientation measure of Vealey's (1986) competitive orientation inventory (COI) and Win orientation of Gill and Deeter's (1988) sport orientation questionnaire (SOQ). Whilst acknowledging that these measures are generated from conceptual standpoints that differ from achievement goal theory, Duda's data indirectly provides an element of concurrent validity for the race ego orientation item. Similarly, as far as the conceptualisation of task orientation is concerned, feelings



of success and satisfaction from achieving a good *personal* time would be expected from swimmers utilising a self-referent conception of ability.

In order to yield a truer, more testing representation of a swimmer's separate race task and ego orientations, each item demanded the swimmer to consider a lack of success in the alternate goal whilst succeeding in the primary designated (achievement) intention (Maehr, 1989). This may not seem too dissimilar to the conception of performance and outcome orientation in the COI. However, whereas Vealey (1988) argues that performance and outcome orientation are bi-polar constructs, the items in this study measure orthogonal race orientations. Specifically, swimmers may be as equally and highly satisfied by beating other rival swimmers having swam badly, as registering very fast personal times, whilst still losing out to other swimmers.

This latter possibility led to a third single-item question termed the 'race goal preference' which attempted to satisfy theoretical assumptions regarding orthogonality and explored whether one of the race goal orientations was generally predominant and at a higher relative level than the other. Participants were asked what was generally *more* important to them as swimmers - achieving a good personal time (regardless of where they finish) *or* beating rival swimmers (regardless of time achieved). In this particular case, responses were given on a 7-point scale ranging from (3) "beating/winning most important" to (0) "equal importance" to (3) "personal time most important". These responses were subsequently converted and scored from 1-7 during analysis.

The reasoning behind the inclusion of this 'preference' item is to determine whether one goal perspective predominates should responses to *both* goal orientations be either high or low. Even if a swimmer felt satisfied and successful by the achievement of both goals, the achievement of one goal may still outweigh the other in her/his general thoughts about achievement in races. The goal preference scale therefore allows participants to chose a mid-point response where both goals are valued equally or indicate that indeed, one of the goals is generally more satisfying for them to achieve. It is important to reinforce that this is not a bi-polar measure of goal orientation, as Dweck (1986) advocates, but a scale which recognises the orthogonal features of goal perspective theory. Both goal orientations can be at certain relative levels and be of equal importance. However, when viewed together, one may or may not be more predominant than the other. Furthermore, there are no norms available to categorise participants into low, medium or high ranges of goal orientation. Thus, absolute scores alone do not necessarily allow us to judge whether individuals exhibit relatively high or low levels of the goal orientation. The race goal preference is also used as an alternative method to goal orientation profiling (Fox et al., 1994). This is firstly, because the analysis will consider antecedent relationships as opposed to individual differences in goal orientation; and secondly, because the swimmers are able to indicate their predominant goal orientation (if any) as opposed to being statistically forced into profile groups formed



from absolute scores on each separated item. In sum, it was felt that by assessing the levels of each independent race goal orientation in association with a perspective on the dominant goal orientation, the study would comprise an interesting and satisfactory set of dispositional antecedents.

#### **3.434 Competition-Focused Measures of Goal Orientation (Study 1B)**

A similar set of arguments pertain to the use of competition-focused measures of goal orientation for Study 1B. Professional tennis coaches and players who are familiar with the TEOSQ (Harwood, 1993) have queried its ability to directly question a player's general focus of achievement for a competitive match situation. Furthermore, the sample populations from which the TEOSQ was initially validated did not necessarily comprise high level young performers in competitive contexts (Hardy, 1996). Measures of a more specific type of goal orientation should capture the typical achievement goals upon which a player might focus prior to competitive tennis matches. Discussion points articulated for the development and wording of these measures in Study 1A apply here also. Three single item measures of match task and ego orientation were included within the instrumentation. Following instructions which asked the players to respond in a way reflecting how they generally feel, each player answered the three questions following the stem "When you play a tennis match.....". The first two items were labelled as the "match ego orientation" and "match task orientation". The match ego orientation assessed how successful and satisfied the player was if s/he beat the opponent and won the match, but did not personally play very well. The match task orientation measured how successful and satisfied the player was if s/he personally performed very well, but lost the match to the opponent. These two items were scored on a 7-point Likert scale ranging from (1) "not at all satisfied" to (7) "extremely satisfied".

The third single-item question, the 'match goal preference' explored whether one of the match goal orientations was generally predominant and at a higher relative level than the other. Participants were asked what was generally *more* important to them as players - personally performing very well (regardless of whether they won or lost) *or* beating the opponent (regardless of how they played). In this particular case, responses were given on a 7-point scale ranging from (3) "beating/winning most important" to (0) "equal importance" to (3) "personal performance most important". In this respect, both achievement goals were treated as orthogonal constructs whose salience could be assessed both independently and in combination with the other.

The competition-focused measures of goal orientation for Study 1A and 1B are presented in Appendix 3.



### **3.44 INSTRUMENTATION (SITUATIONAL)**

#### **3.441 Competition Context Questionnaires**

For Studies 1A and 1B, it was necessary to develop a broader understanding and appreciation of the possible situational criteria which may activate states of task and/or ego involvement in swimmers and tennis players prior to competition. Accordingly, a series of short structured interviews was conducted on seven swimmers and eight tennis players with the intention of identifying general properties or perceptions of the competition context which may influence the adoption of task- and/or ego-involved goals. Consistent with Personal Investment Theory (PIT; Maehr & Braskamp, 1986), these interviews questioned performers on the variables within a race or match situation which had meaning to the player in terms of mediating whether they would conceptualise achievement as merely performing well in self-referent terms (task involvement) or as beating the opponent/other swimmers (ego involvement).

Each interview consisted of brief orienting instructions about interview purpose, confidentiality, and the types of achievement goal (task vs ego) that performers may pursue in competition. It was also made clear to each interviewee how the importance of achieving each of these goals to performers may or may not differ as a result of the situation in which they find themselves. The performer was then asked to answer, and to elaborate where possible, on four main questions:

- (1) What goals do you feel that you gain the most satisfaction from achieving with respect to swimming races/tennis matches?
- (2) In what race/match situations might you most value achieving win goals where your most important goal above all others is to be better than your opponent(s)?
- (3) In what race/match situations might you most value achieving personal performance goals where your most important goal is to better your own performance, regardless of winning or losing?
- (4) Race/match situations are made up of different opponents, at different venues, with different people watching. There might also be different consequences following the race/match. Are there any other elements which you either perceive about yourself in the situation, the context of the match/race, or other people in the situation which may influence the importance of achieving the goals that you have discussed previously?

Short notes were taken from each interview with a focus on the key situational variables that emerged from the four questions. In total, twelve broad situational criteria

were identified. Ten of these criteria were covered in responses by both swimmers and tennis players, whilst one criterion was separately identified as specific to each sport sample. This led to eleven situational criteria which required attention when considering the format of the two competition context questionnaires.

For the purpose of Study 1A, the Race Context Questionnaire (RCQ) was devised, whereas for Study 1B, the instrument employed was referred to as the Match Context Questionnaire (MCQ). Excluding the measurements of task and ego involvement, these context questionnaires contained eleven separate items:

#### Race/Match Importance

Study 1A - "How important is it for you to swim well in the next race?"

Study 1B - "How important is this match for you?"

#### Rating of Opposition

Study 1A - "How good do you think the opposition are in your next race?"

Study 1B - "In relation to yourself, how do you rate your opponent"

#### Perceptions of Ability

Study 1A - "Do you think that you can beat your closest rivals in the next race?"

Study 1B - "To what extent do you think you will win this match?"

#### Desire to Win

Study 1A - "How much do you want to beat these closest rivals?"

Study 1B - "How strong is your desire to win this match and beat this opponent?"

#### Perceptions of Coach Belief

Study 1A - "In your opinion, would your coach think that you are capable of beating your closest rivals in the next race?"

Study 1B - "In your opinion, would your coach think that you are capable of beating this opponent?"

#### Perceptions of Parent Belief

Study 1A - "In your opinion, would your parents think that you are capable of beating your closest rivals in the next race?"

Study 1B - "In your opinion, would your parents think that you are capable of beating this opponent?"

#### Physical Readiness

Study 1A - "Do you feel physically ready for this next race?"

Study 1B - "Do you feel physically ready for this next match?"



### Mental Readiness

Study 1A - "Do you feel mentally ready for this next race?"

Study 1B - "Do you feel mentally ready for this next match?"

### Perception of Coach's Goal Involvement Preference

Study 1A - "In this next race, do you think that your coach would prefer you to beat other swimmers and win rather than achieve a faster personal time but not win?"

Study 1B - "In this next match, do you think that your coach would prefer you to win the match, playing badly, rather than play very good tennis but not win?"

### Perception of Parents Goal Involvement Preference

Study 1A - "In this next race, do you think that your parents would prefer you to beat other swimmers and win rather than achieve a faster personal time but not win?"

Study 1B - "In this next match, do you think that your parents would prefer you to win the match, playing badly, rather than play very good tennis but not win?"

### Goal Involvement Preference Required for Social Recognition

Study 1A - "To impress your clubmates and other swimmers, which do you think is more important - To beat other swimmers and win the race, regardless of the time you swim, or to swim a very good time, regardless of where you finish?"

### Goal Involvement Preference Required for LTA Recognition

Study 1B - "To impress the LTA/officials, which do you think is more important - To win the match and get the result against the opponent, regardless of how well you play, or to put in a very good performance, even though you might lose?"

A number of items were congruent with the situational factors identified by Maehr and Braskamp (1986), particularly those related to social expectations, individual expectations, and the importance and meaning of the competitive task itself. The single item discrepancy in the two questionnaires is revealed by the final two items. From the sample of swimmers interviewed, it became clear how their achievement goals may be influenced by values of teammates and other swimmers. Within the sample of tennis players, however, the achievement values of the LTA as an organisation, and its employees, appeared to influence personal goals.

The RCQ and the MCQ employed a 7-point Likert scale of measurement with the full questionnaires inserted in Appendices 4 and 5 respectively.

### **3.442 Measures of Task and Ego Involvement (Study 1A)**

In addition to the situational items, three single-item measures of pre-competition goal involvement were incorporated into the RCQ. Whilst being cautious of item similarity, these assessments of task- and ego-involved goals were devised in association

with the same principles and arguments presented for the single item measures of race goal orientation. The state of race task involvement was assessed by the state task goal which measured the extent to which achieving a good personal time, regardless of where the swimmer finished, was important to him/her in the upcoming race. In contrast, the state or level of race ego involvement was assessed by the state ego goal which examined the extent to which beating other swimmers, regardless of what time the swimmer achieved, was important to him/her in the next race. These two items (item no's 11 & 12 in the RCQ) were scored on a 7-point Likert scale ranging from (1) "not at all important" to (7) "extremely important".

It was important to ensure that these items measured states of task and ego involvement as conceptualised by achievement goal theory, even though no scales existed to assist in the establishment of concurrent validity. The arguments made earlier for the inclusion and wording of the race goal orientation items also apply here. Whilst phrasing the measures in such a way as to control for item similarity, the two questions attempted to tap into the self-referent and normative elements of task- and ego-involved conceptions of ability. Emphasising **good personal time** and **beating other swimmers** as achievement objectives for the race was a deliberate attempt to emphasise self-referent and normative achievement values. Furthermore, including the phrase "regardless of .....", for the task and ego items, forces the swimmer to consider the real importance of social comparative or self-referent goals, irrespective of personal time or finishing position (respectively).

In addition, however, it was important to support the orthogonal nature of task- and ego-involved goals. Although swimmers may have elevated levels of both task and ego involvement, one state of involvement (or conception of ability) may predominate over the other at that time. The possible existence of a dominant state of involvement was measured by the "state goal preference" (item no. 13). This simply asked the swimmer about what was more important to achieve in the next race - beating the swimmers in the race or swimming a good personal time? This item was scored on a similar 7-point Likert scale to the race goal preference. Swimmers could indicate that both goals were equally important, or they could select one goal with increasing degrees of dominance in their state of mind at that point in time. This item forced the swimmer to consider both goals in combination. Consequently, one might argue that whilst this item reflected the overall goal state of the swimmer, the two other items indicated the level or intensity of each separate goal state. It was hoped that this method of measurement would generate valuable information on pre-competition goal involvement via the assessment of what essentially is two sub-states comprising one overall state.



### 3.443 Measures of Task and Ego Involvement (Study 1B)

Devising the item assessments of task and ego involvement to be incorporated within the Match Context Questionnaire (MCQ) followed the same theoretical reasoning as points made in the previous section. In this case, however, the context was competitive tennis and the achievement task was a singles match. The state of match task involvement was assessed by the state task goal which measured the extent to which achieving a very good personal performance, regardless of whether the player won or lost, was important to him/her in the upcoming match. In contrast, the state or level of match ego involvement was assessed by the state ego goal which examined the extent to which winning and beating the opponent, regardless of how well the player performed, was important to him/her in the next match. These two items (item no's 12 & 13 in the MCQ) were scored on a 7-point Likert scale ranging from (1) "not at all important" to (7) "extremely important".

With regard to the wording of these items, the study acknowledged Duda's (1992) position related to the conceptual ambiguity of performance and playing well 'goals' from a goal perspective viewpoint. In line with Nicholls' (1992) argument, Duda (1992) clarifies how both task- and ego-involved individuals can be concerned with "performance". As with the match goal orientation measures, therefore, insertion of the word **personal** in bold type was a deliberate attempt to incorporate the self-referent nature of task involvement within the item.

The state task and state ego items measured the intensity level of the two independent goal sub-states of pre-competition task and ego involvement. The state goal preference remained as the third component to the assessment of pre-competition goal involvement (item no. 14 in the MCQ). In measuring the overall goal state, and by allowing for the possibility of a dominant sub-state, this item asked players about what was more important in the next match - beating the opponent and winning or feeling a sense of personal performance satisfaction. In a similar manner to the match goal preference, this item was scored on a 7-point scale ranging from (3) "beating/winning most important" to (0) "equal importance" to (3) "personal performance most important". These responses were subsequently converted and scored from 1-7 during analysis.

### 3.45 PILOT STUDIES

For Studies 1A and 1B, the respective competition context questionnaires were presented in a pilot study to a sample of ten age group swimmers and ten junior county players. The swimmers completed the RCQ one hour prior to racing at a local swim meet. The tennis players completed the MCQ one hour prior to their singles match start time at a county junior tournament. On completion, the participants were asked to provide feedback as to possible changes, and report any difficulties that they had encountered. No significant adjustments were made to the MCQ in Study 1B, however,



members of the pilot sample in Study 1A noted a difficulty with the 'rating of the opposition', 'perceptions of ability' and subsequently, 'coach belief' and 'parent belief' items. Although they had swim meet programmes which listed the swimmers in their event (e.g., 100m Freestyle) from which they could judge who was likely to be in their 'heat', some swimmers did not know their opposition in that specific heat. Despite the submitted times of these swimmers being publicly displayed in the programme and clearly indicative of standard, having knowledge of the opposition was an important asset. Lack of knowledge meant that it was difficult for the swimmers to perceive what their parents or coach would expect them to be capable of, let alone clearly establish their own normative-based expectations. To resolve these problems, several points were made to the swimmers in the full study. Firstly, that if the swimmer could not rate the opposition in their own race heat that they could consider other rival swimmers who were part of the same event but may be in a different race heat. Secondly, that the term 'rival' did not necessarily mean a swimmer that the participant hated, but a swimmer whose standard may be objectively or subjectively close to their own. The pilot sample agreed that these instructions would alleviate the problems that they had encountered and help those swimmers who may not know all of their heat opposition, but would certainly know those of a similar standard within a County championship event.

### **3.46 PROCEDURE**

The protocol for both studies was identical with the administration of dispositional measures some weeks prior to the competitive events, followed by the competition context questionnaires which were completed in the presence of the researcher or his assistants within one hour of the estimated race or match start time.

#### **3.461 Procedure (Study 1A)**

In Study 1A, the coaches to fourteen swimming clubs in the North Midlands area were contacted and invited to participate in the study. The majority of swimmers in each club were competing in their respective County championships in a variety of events. Each coach ensured that parental consent had been obtained for the swimmer to be part of the study. The investigator visited each club on a number of training evenings where the TEOSQ and the race goal orientation measures were distributed to swimmers. These visits occurred between six weeks and one month prior to their respective championships. Each swimmer was provided with instructions to complete the questionnaires in the privacy of their own home, without any assistance, and to return them to the coach within the next two weeks. These questionnaires also asked the swimmer to denote which events they would be entering in the championships and what event (by stroke and distance) would be their strongest. The investigator then made a final visit to each coach to collect the questionnaires, if the coach had not already returned them by post.



The county championship meets took place over several weekends with different events comprising each morning and afternoon session. In contact with the championships organiser, who provided updated event programmes and race entries, the investigator developed a definitive list of those club swimmers who would be competing in a certain heat, in certain event, in a certain session, on a certain day of a certain weekend. The investigator therefore knew exactly how many swimmers needed to complete the RCQ in a particular morning or afternoon session. He could therefore judge how many data collection assistants that he required to smoothly cover a particular session or day. These assistants were given full instructions on when and how to administer the RCQ amongst the list of swimmers provided for them to cover. The investigator eased the role of the assistant by giving them the responsibility of swimmers whose clubs were adjacent on the pool side.

Swimmers began to complete the RCQ thirty minutes to one hour before the 'heat' of their main event so that they responded to the RCQ prior to the particular race which corresponded to their strongest stroke and distance. Each swimmer was also informed about the heat in which they would swim along with the names of the other swimmers. Information as a result of the pilot study was also provided along with a reminder that all results would be treated in strictest confidence. The data collection assistants were told to follow the event programme and administer the RCQ to swimmers at least one and a half full events (approximately fifteen heats) prior to the swimmers own event. This was generally thirty to forty five minutes before, although for the early events of the session, some swimmers completed the RCQ immediately after the warm-up period only ten or fifteen minutes prior to being on the blocks. The data collection procedures ran extremely smoothly due to the required level of organisation and assistance. The numbers of RCQ's completed per morning or afternoon three hour session ranged from a modest ten to a hectic fifty five. Over eleven sessions in total, the procedures employed in Study 1A yielded a sample size of 214 swimmers.

### **3.462 Procedure (Study 1B)**

The detailed organisation and data collection planning necessitated by the ecological, field-based research in Study 1A was demanded to an even greater extent by Study 1B. The study was endorsed by the Lawn Tennis Association and its Rover Initiative who provided the investigator with the home addresses of all players supported by the scheme from thirteen to eighteen years of age. The LTA Events and Tournaments Department supplied the investigator with a list of those players who had entered the National Junior Championships at Nottingham. In total, the TEOSQ and the match goal orientation items were sent to the home addresses of 164 players one month prior to the Nationals. These included 134 Rover supported players who received a covering letter from Mark Cox, Director of the Rover Initiative, and thirty non-Rover players to which



the investigator gained access through fellow coaches. Having gained parental consent, each player was given strict instructions to complete the questionnaires in private, without any assistance, and to return the questionnaires within one week on a stamped addressed envelope provided. Within the package, each player was told that there would be a slip of paper waiting for them to collect at the signing-in table outside the tournament office. This sheet would tell them where to complete their second questionnaire and during what convenient time period to arrive prior to their first match. A high response rate of 79% was achieved (possibly as a function of National Governing Body support) with 129 players returning the dispositional measures.

Two weeks prior to commencing the main draw at the Nationals, the tournament director was able to supply the investigator with details of when each of the participants would be playing their first match. The tournament worked on a 'match followed by' system like the Wimbledon Championships where the player knows what court they are playing on and what match number they are on that court. The player is informed about the start time of the 1st match and then has to 'guestimate' what time his/her match might start dependent on how many matches are in front. Therefore, for example, a player might be fourth match on after 9.30am on court five which means that if the matches in front last between one to two hours, the player needs to be prepared for a start time which could be anywhere between 12.30pm and 3.30pm. Clearly, as matches progress on the court, the better the player can judge how long they have, with the changing scoreboard of the preceding match providing the most helpful and up to date information.

Completion of the MCQ would be optimised when it was as close to the match as possible whilst being of convenience to the player and without disrupting established pre-match routines. The thresholds were therefore set at no more than 75 minutes before and no less than 45 minutes before the guestimate match start time. It was therefore necessary to establish a consistent rule and response to the variability of the match start times caused by the duration of preceding matches. Consequently, each match was nominally apportioned a duration of 75 minutes, a common estimate applied by tournament referees when informing players about when to turn up for play. This guideline would probably be consistent with the player's own personal perceptions at the start of the day considering that a moderately close two set match would typically be of that duration. Therefore, if a participant was third match on after 9.30am, the estimate would be a noon start and the player was told to come to the portakabin between 10.45am and 11.15am. This policy was adopted for all players except those 'first match on' who were asked to meet the investigator prior to or after their morning warm-up.

Slips of paper addressed to each of the 129 players contained all of the relevant details including the estimated start time and time window in which to come to the adjacent portakabin at their convenience. An A3 poster above the sign-in sheets served to remind and direct players to their personal slip. This poster also displayed all of the



relevant information for players on that particular day, as it took the tournament three days to get through the first round. This procedure, with the help of one assistant positioned at the sign-in table on each day, was generally successful. The success of the data collection, nevertheless, was greatly facilitated by a very helpful set of tournament officials who tannoyed (lists of) players to report to the investigator at the appropriate time. Ninety two percent of the remaining 129 players completed the MCQ in the portakabin in the presence of the author. The procedure adopted left a total of 119 players who had satisfied the full requirements of Study 1B.

# CHAPTER IV

## *STUDY 1 A*

### ANTECEDENTS OF PRE-COMPETITION ACHIEVEMENT GOALS IN AN INDIVIDUALISTIC-FOCUSED YOUTH SPORT CONTEXT:

#### RESULTS AND DISCUSSION

##### 4.1 INTRODUCTION

The previous chapter detailed important methodological issues and the actual methodological design of Studies 1A and 1B in this thesis. As a direct progression, this chapter is devoted to the data analysis, results and discussion of findings for Study 1A. This investigation attempted to explore the antecedents of pre-competition achievement goals within a swimming event context characterised by individualistic properties of goal structure. The chapter begins by presenting descriptive statistics on the major variables of interest including intercorrelations and data in support of the single item measures applied in the study. This is followed by a report on the factor analysis of the RCQ with the identification of four main situational factors. The chapter then details the parametric statistical procedures employed in determining the predictors of goal involvement as assessed by the three single item measures of state goals. Having disclosed the findings for each of the dependent variables, the chapter concludes with a discussion and deliberation of areas of interest arising from the analysis.

##### 4.2 RESULTS

###### 4.21 DESCRIPTIVE STATISTICS

The intercorrelations, means and standard deviations for the measures of goal orientation and pre-race goal involvement are presented in Tables 4.1 and 4.2. Task orientation as measured by the TEOSQ was moderately high (3.8 per item), although of a slightly lower level than the task means in a large proportion of previous studies (e.g., Chi & Duda, 1995; Duda & Hom, 1993). The sample mean for ego orientation was moderate (3.2 per item) and fairly typical of ego orientation levels reported by previous research. The race goal orientation items revealed a higher level of race task orientation



compared with race ego orientation. This result corresponded with the sample reporting a slightly task-dominant race goal preference. These descriptive findings were mirrored with respect to race goal involvement. The level of race task involvement, as measured by the state task goal, was higher on average than race ego involvement. This corresponded to a modest task-dominant state of goal involvement, as confirmed by the state goal preference.

**Table 4.1 Means and Standard Deviations for Measures of Goal Orientation and Pre-Race Task and Ego Involvement (State Goals)**

Item	Mean	S.D.	Scoring range
TEOSQ task	26.8 (3.8 per item)	4.0	7-35 (1-5 per item)
TEOSQ ego	19.2 (3.2 per item)	4.5	6-30 (1-5 per item)
Race task orientation	5.5	1.2	1-7
Race ego orientation	4.3	1.3	1-7
Race goal preference	+1.4 (+ task*)	1.5	+3 task to 0 to +3 ego
State task goal	5.9	1.8	1-7
State ego goal	4.1	1.4	1-7
State goal preference	+1.5 (+ task*)	1.4	+3 task to 0 to +3 ego

**Note:** \* The race/state goal preference was scored on a +3 (high ego-dominant goal preference) to 0 (equal importance) to +3 (high task-dominant goal preference) Likert scale. The symbol "+ task" refers to the degree of task-dominant goal preference.

With reference to the data generated, it was important to examine the degree to which the single item measures supported the major psychometric assumptions associated with the use of parametric statistical procedures. One major assumption was that the sample data conformed to a normal distribution, a quality associated with the kurtosis and skewness of the data set.. Mardia (1985) considers data with values of less than +/- 2.0 degrees of kurtosis and skewness to support multi-variate normality. Schutz and Gessaroli (1993) however are less conservative suggesting values of +/- 1.0 and below. Above the level of +/- 1.5, it may be necessary to adopt distribution-free procedures (Li et al., 1996a; Li et al., 1996b).

In this sample, assessments of kurtosis and skewness fell inside the range of +/- 1.0 degrees for the majority of items. The distributions revealed low skewness and kurtosis for the race ego orientation (-0.29 & -0.13) and state ego measures (0.01 & -0.38); and moderate negative skewness with low kurtosis for the race goal preference (-0.84 & 0.15) and state goal preference (-0.82 & 0.30) items. Negative skewness and kurtosis were slightly higher for the race task orientation (-0.95 & -1.0) and state task goal (-1.02 & 1.05), but within or on the thresholds previously indicated. These latter findings are not unusual given the nature of the sample and competition context where greater importance may be more naturally placed on the achievement of personal task goals.

A further concern about the use of single item measures (especially as assessments of the dependent variable) related to the potential for heteroscedasticity within the data. The problem primarily occurs in cross-sectional research and can result from measurement error in the dependent variable (i.e., state goals). Should any error term variance in the independent variable(s) in the regression equation be correlated with the variance in the state goals, then *heteroscedasticity* (and not the desired *homoscedasticity*) is present.

In short, to increase the faith that parametric-based regression analyses were an appropriate means of examining these sorts of relationships, the assumption of homoscedasticity needs to be observed. In order to test for this, the Park test (Park, 1966) was applied by examining the relationship between the error term variances for each of the state goals with each of the independent variables. No statistically significant relationships emerged, revealing no evidence of heteroscedastic data.

Turning attention to Table 4.2 presented overleaf, several results are of interest within the correlation matrix. Firstly, low intercorrelations emerged between race task and race ego orientation (-0.14), between state task and state ego goals (-0.05), and finally between the TEOSQ task and ego sub-scales (0.16). These results support the orthogonality of goal perspectives and offer some support towards the validity of the single item measures for this study. Secondly, correlations between the race task and ego orientation items with the dominant race goal preference item were 0.57 and -0.30. Likewise, relationships between the state task and ego goal items with the state goal preference item ranged from 0.43 to -0.47 respectively. These moderate relationships suggest that in some cases the race goal preference may directly correspond with the level of response to the separate race task and ego orientation items. Thus, for example, a task-dominant goal preference may follow on from the swimmer indicating a very high race task orientation. However, the modesty of the correlations also suggests that, even though swimmers may well score highly on one goal orientation, they may generally prefer to achieve the other goal when viewing both goals in combination. A similar statement can be made at the 'state' level, where a swimmer may report high levels of



both ego involvement and task involvement. However, when considering both together, the pre-dominancy may lie, for example, in task involvement as measured by the state goal preference. This means that a swimmer's overall goal state of involvement might be viewed as higher task/high ego.

**Table 4.2 Correlation Matrix for Measures of Goal Orientation and Pre-Race Task and Ego Involvement (State Goals)**

	TEOSQ Task	TEOSQ Ego	Race Ego	Race Task	Race Goal Pref	State Task	State Ego	State Goal Pref
TEOSQ Task	1							
TEOSQ Ego	0.16	1						
Race Ego	0.05	0.21	1					
Race Task	0.16	0.06	-0.14	1				
Race Goal Pref	0.14	-0.13	-0.30*	0.57*	1			
State Task	0.06	0.11	-0.12	0.38*	0.36*	1		
State Ego	-0.07	0.10	0.33*	-0.18	-0.26*	-0.05	1	
State Goal Pref	0.04	0.02	-0.20	0.40*	0.43*	0.43*	-0.47*	1

\* p<.01

Finally, it is important to note that correlations between the TEOSQ task and ego sub-scales with the respective race task and ego orientation measures were low (0.16 & 0.21 respectively). This weak association suggests that, although the conceptual base from which these measures were generated may be the same, a contextual difference exists between what could be classed as a 'swimming' goal orientation and a 'competitive race' goal orientation.

#### 4.22 FACTOR ANALYSIS OF THE RCQ

The eleven situational items of the RCQ were analysed by means of a principal components factor analysis with both varimax and oblique rotations leading to similar solutions. This allowed the investigators to assess the degree of communality between the situational items and thus permitted groups of interrelated variables to emerge. Two

separate factor analyses were initially carried out for male and female samples with items clustering in the same factors and similar factor loadings emerging for both genders. Therefore, the data from male and female players were collapsed together for the main factor analysis. The results are shown in Table 4.3. The analysis revealed three highly recognisable combinations of variables with eigenvalues greater than 1. The lowest item loading on any one factor was 0.54 and no overlap or redundancy of factor items was evident. These three factors cumulatively accounted for 65.3% of the total variance.

**Table 4.3 Factor Analysis of RCQ with Factor Loadings Following Varimax Rotation**

Item (Factor No.)	F1	F2	F3	F4
<u>Social/Personal perceptions of ability (F1)</u>				
perceptions of ability	<u>-0.69</u>	-0.15	-0.07	0.33
coach belief	<u>-0.81</u>	-0.03	0.12	0.07
parent belief	<u>-0.82</u>	0.05	0.04	0.12
<u>Perceived goal involvement preference of significant others (F2)</u>				
coach goal involvement preference	-0.09	<u>-0.78</u>	-0.02	-0.09
parent goal involvement preference	0.01	<u>-0.81</u>	0.08	-0.09
goal invol. pref. for social recognition	0.01	<u>-0.65</u>	-0.04	0.21
<u>Race outcome value (F3)</u>				
race importance	-0.24	-0.06	<u>0.60</u>	0.44
rating of the opposition	0.17	-0.07	<u>0.82</u>	-0.14
desire to win	-0.38	0.16	<u>0.54</u>	0.21
<u>Perceived readiness (F4)</u>				
physical readiness	-0.16	0.02	0.05	<u>0.89</u>
mental readiness	-0.21	-0.01	0.05	<u>0.84</u>
Eigenvalue	3.06	1.75	1.25	1.11
% of variance	27.85	15.93	11.36	10.10
Cumulative % of variance	27.85	43.78	55.15	65.25



The first factor accounted for 27.8% of the total variance and was named *Social/Personal perceptions of ability*. The items comprising this factor reflected not only immediate personal perceptions of normative ability for the upcoming race (item 3), but also the swimmer's perceptions of their coach's (item 5) and parent's (item 6) beliefs in their ability. The second factor accounted for 15.9% of the total variance and was labelled *Perceived goal involvement preference of significant others*. The items comprising this factor included the swimmers' perceptions of the achievement goals that their parents (item 10) and coach (item 9) would want them to achieve in that particular race. Perceptions of the dominant achievement goal (if any) that would most facilitate social recognition from other swimmers in that context (item 14) became the last of the three items to compose this 'significant other' factor. *Race outcome value* emerged as the third factor explaining 11.4% of the variance. The perceived importance of the upcoming race to the swimmer (item 1) combined with an assessment of the relative strength of the opposition in the race (item 2) and the immediate desire to beat the closest rivals (item 4). The fourth and final factor which added a further 10.1% to the total variance was termed *Perceived readiness*. This factor represented the perceived mental (item 8) and physical readiness (item 7) of the swimmer for the upcoming race. The alpha coefficients for these four factors ranged from 0.56 to 0.76 demonstrating only moderate internal consistency (Cronbach, 1951). This suggests that a degree of caution is required when interpreting the results.

#### **4.23 HIERARCHICAL MULTIPLE REGRESSION ANALYSES**

In order to examine the antecedents of pre-competition task and ego involvement from an *interactionist* perspective, it was necessary to carry out three separate moderated hierarchical regression analyses. This provided the means to examine both the independent as well as interactive effects of dispositional and situational criteria on states of goal involvement. The 'state task goal', 'state ego goal' and 'state goal preference' items acted as dependent variables in each of the three regression equations. Unitary weightings were used to calculate the factor scores for the four situational 'factors' which, alongside both the TEOSQ subscales and the three race goal orientation measures (i.e., race task, race ego & race goal preference items), comprised the list of independent variables. Both the dependent and independent variables were then standardised in order to establish a common metric and to facilitate substantive comparisons between regression coefficients (Jaccard, Turrisi & Wan, 1990).

Preliminary regression analyses were then carried out on the relevant combinations of dispositional and situational predictors. In accordance with the primary hypothesis that dispositional criteria should contribute to the prediction of respective states of involvement, each of these moderated regression equations involved entering the relevant dispositional variable first (e.g., task orientation). The TEOSQ subscales and the

race goal orientation items were entered as dispositional variables in separate equations. Following the dispositional variable, each of the situational factors were entered individually into the equation. Finally, the computed products of each standardised dispositional x situational factor (e.g., race ego orientation x race outcome value) were entered into the equation to assess the presence of an interaction effect on the dependent variable. In this manner, increases in the variance explained ( $R^2$ ) could be noted at every incremental level. Independent variables which failed to contribute either as a significant main effect or as part of an interaction effect were removed as a step in the equation. The equation was subsequently recomputed (Jaccard et al., 1990) until a final hierarchical regression table began to develop, replete with statistically significant predictors of the dependent variable. Both the task and ego subscales of the TEOSQ and the 'Perceived readiness' factor failed to emerge in any of the regression equations. The following results arose from final hierarchical regression equations, each of which presented the major predictors of pre-race task and ego involvement (i.e., 'state task' & 'state ego' goals) as well as the overall or dominant state of involvement, reflected by the 'state goal preference'.

**Table 4.4 Hierarchical Regression Analysis: Pre-Race Task Involvement (State Task Goal)**

Independent variable	<i>B</i>	$R^2$ (cum.)	t- value
Race task orientation	0.22	0.15	3.25*
+ Race outcome value	0.27	0.21	4.58**
+ Perceived goal involvement preference of significant others	0.22	0.26	3.41**
+ Race task orientation x Perceived goal involvement preference of significant others	-0.13	0.29	2.88*

\*  $P < 0.01$ ; \*\*  $P < 0.001$

+ Indicates a new step in the hierarchical analysis

*B* values are the unstandardised regression coefficients from the final stage of the regression analysis

$R^2$  values are cumulative with each incremental step adding to the variance explained



#### 4.231 Pre-Race Task Involvement (State Task Goal)

As Table 4.4 indicates, pre-race task involvement was predicted by four factors, including three main effects and one interaction effect. In the final analysis, race task orientation was entered first, emerging as a significant predictor which explained 15% of the variance. The 'Race outcome value' factor was entered next adding a further 6% to the variance. Both of these predictors were positively correlated to the level of task involvement. The 'Perceived goal involvement preference of significant others' factor was entered third, bringing the combined variance to 26%. The positive relationship implies that swimmers, who perceived that significant others preferred a task-involved goal to be achieved in that race, reported higher levels of pre-match task involvement. Finally, the product of race task orientation and the 'Perceived goal involvement preference of significant others' factor was entered last, displaying a significant interaction, which brought the combined variance explained to 29%. The interaction effect is displayed graphically in Figure 4.1.

**Table 4.5 Hierarchical Regression Analysis: Pre-Race Ego Involvement (State Ego Goal)**

Independent variable	<i>B</i>	R <sup>2</sup> (cum.)	t- value
Race ego orientation	0.19	0.11	3.11*
+ Race outcome value	0.19	0.16	3.19*
+ Social/Personal perceptions of ability	0.22	0.19	3.60**
+ Perceived goal involvement preference of significant others	-0.37	0.32	6.25**

\* P<0.01; \*\* P<0.001

#### 4.232 Pre-Race Ego Involvement (State Ego Goal)

In terms of pre-race ego involvement, Table 4.5 demonstrates how race ego orientation, when entered first, emerged as a significant predictor accounting for 11% of the variance. 'Race outcome value' emerged as a further significant predictor when entered second, adding a further 5% to the variance. The 'Social/Personal perceptions of ability' factor was entered next, contributing a further 3% to the variance explained, at a higher level of significance. All of these first three predictors were positively correlated to ego involvement. The final entrant into the regression equation, the 'Perceived goal involvement preference of significant others' factor accounted for a further 13% of the variance, bringing the combined variance explained to 32%. The negative relationship that emerged implies that swimmers, who perceived that significant others preferred a

task-involved goal to be achieved in that race, displayed lower levels of pre-race ego involvement. There were no significant interactions between any of these variables.

**Table 4.6 Hierarchical Regression Analysis: Overall/Dominant State of Involvement (State Goal Preference)**

Independent variable	<i>B</i>	R <sup>2</sup> (cum.)	t- value
Race goal preference	0.24	0.18	3.90**
+ Perceived goal involvement preference of significant others	0.43	0.34	7.22**
+ Race goal preference x Perceived goal involvement preference of significant others	-0.13	0.36	2.78*

\* P<0.01; \*\* P<0.001

#### 4.233 Overall or Dominant State of Involvement (State Goal Preference)

Only 3 significant predictors emerged for the dominant state of involvement which essentially reflected the overall goal state. As depicted in Table 4.6, race goal preference was entered first, significantly accounting for 18% of the variance. This was followed by the 'Perceived goal involvement preference of significant others' factor which added a substantial 16% to the variance. A positive relationship emerged with the state goal preference for both of these predictors. These main effects suggest firstly, that a swimmer's overall goal preference towards races in general is statistically reflected in the dominant or overall goal state that is adopted for that particular race. Secondly, that the goal that a performer perceives would be preferred by significant others to be achieved, is associated with the performers own task or ego goal preference for that race.

The product of the latter two factors was entered at the third stage, revealing a significant interaction effect between the race goal preference and the 'significant others' factor on the state goal preference. This interaction effect, displayed in Figure 4.2., brought the combined variance explained by the three predictors to 36%.

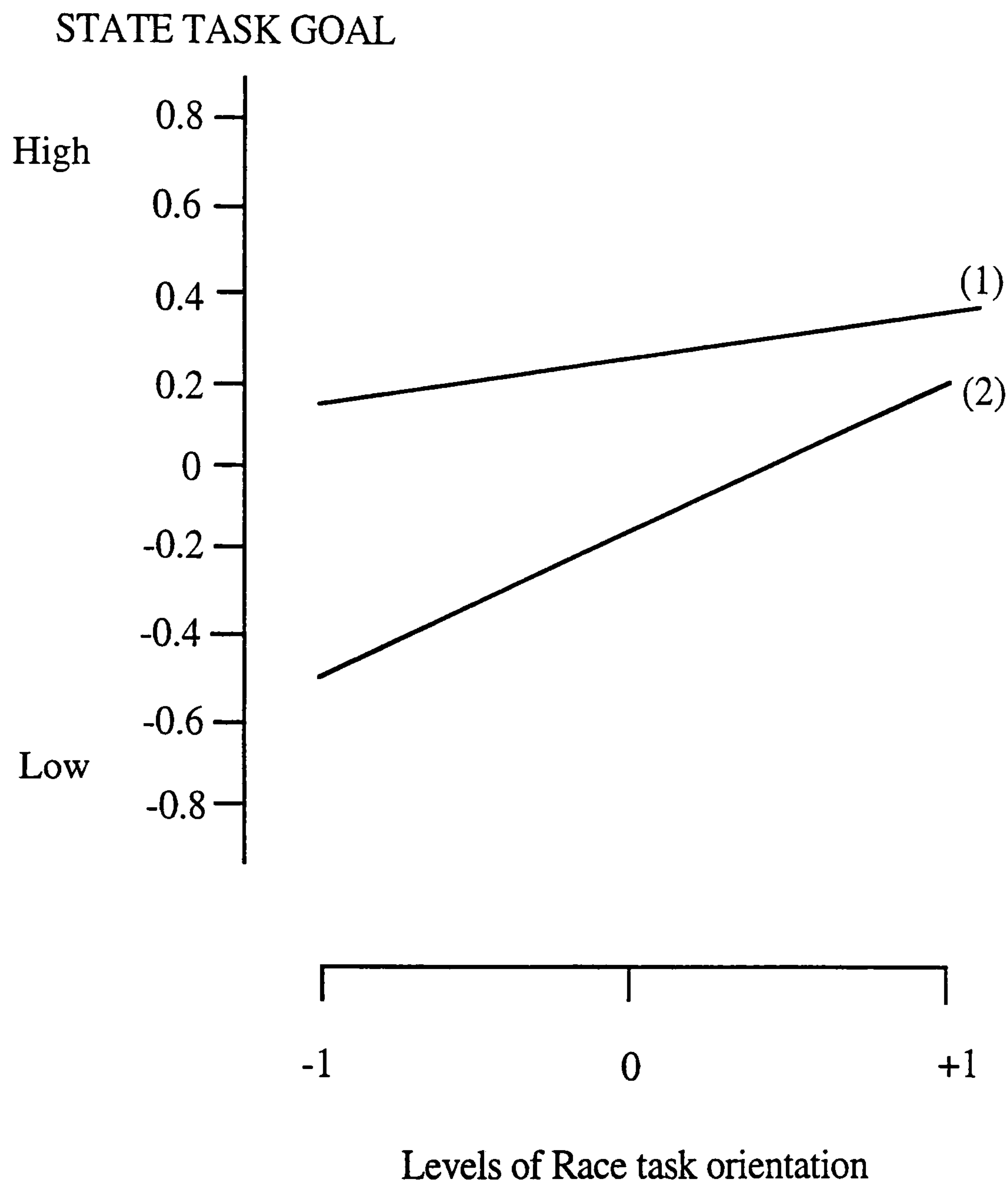
#### 4.234 Graphical Representation of the Disposition x Situation Interaction Effects

The 'Perceived goal involvement preference of significant others' factor interacted with race task orientation to predict pre-race levels of task involvement. By interacting with race goal preference, the 'significant others' factor was also responsible for predicting the dominant or overall state of pre-race involvement. From a theoretical perspective, it was therefore important to assess what moderating effect the situational variable might have on the dispositional variable in the prediction of the goal state in



question. In order to evaluate the form of these interactions, the unstandardised regression coefficients ( $B$ ) of the variables in question were used to create the equation which would predict the state goal scores (Jaccard et al. 1990; Parkes, 1991).

**Figure 4.1** Interaction Effect of 'Perceived Goal Involvement Preference of Significant Others' and Level of Race Task Orientation on the State Task Goal

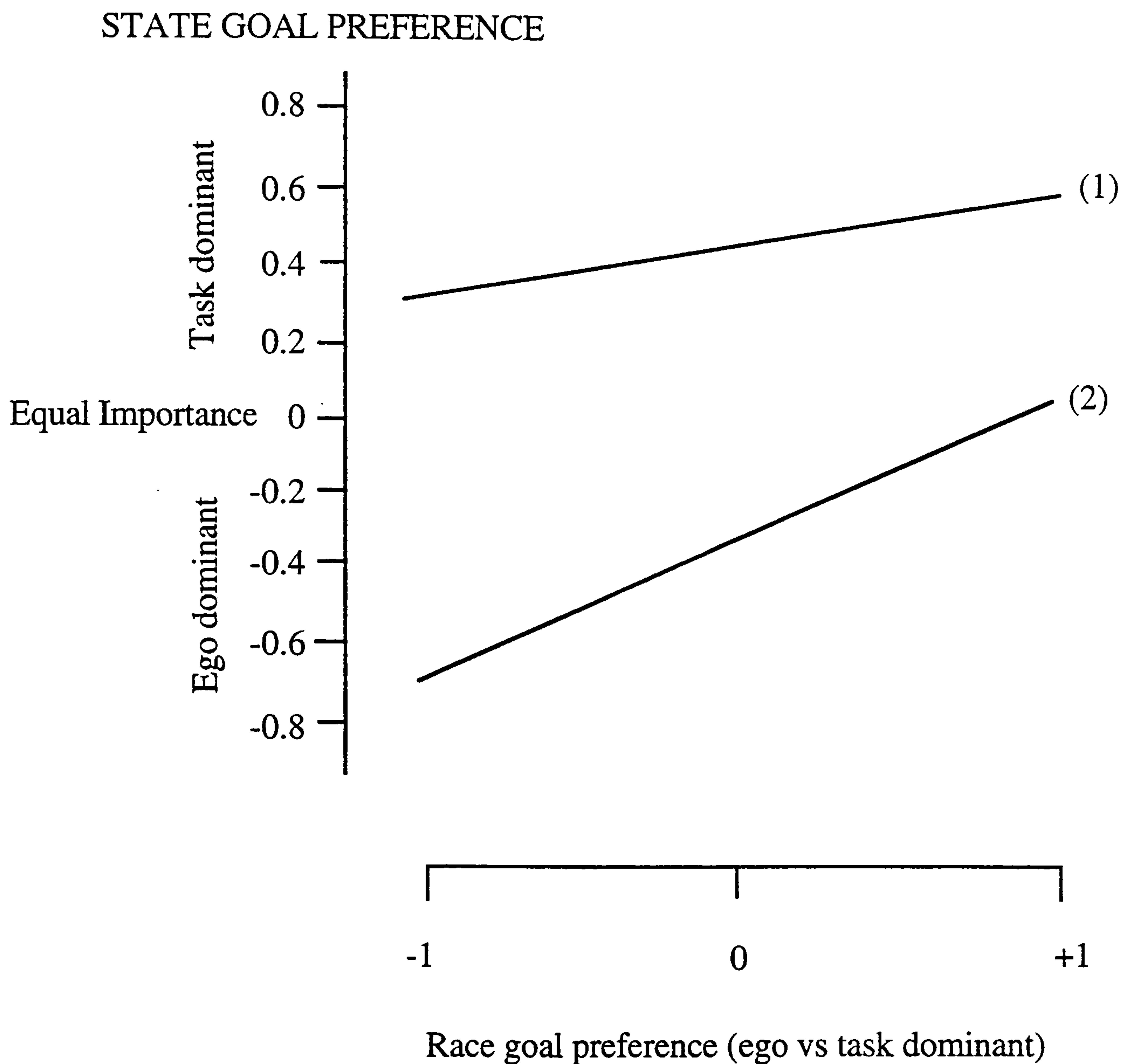


1 = High task goal perception  
2 = High ego goal perception

Specifically, two algebraic equations were employed for each interaction for different levels of the situational variable. In the first equation, the state goal scores were predicted with the situational variable at +1 S.D. above the mean. In practice, this created a situation where 'significant others' were perceived to prefer a task-involved goal (high task goal perception). Likewise, an equation was calculated with the situational variable at -1 S.D. below the mean, where the significant others were perceived to prefer an ego involved goal (high ego goal perception). Within each equation, the x-axis represented

levels of race task orientation/race goal preference with +1 S.D being high and -1 S.D. being low. The outcome of each equation in terms of resultant y-values (state task goal/state goal preference) were then depicted graphically to provide a clearer picture of the interaction effects

**Figure 4.2 Interaction Effect of 'Perceived Goal Involvement Preference of Significant Others' and Race Goal Preference (Dominant Goal Orientation) on the State Goal Preference (Dominant State of Involvement)**



1 = High task goal perception  
2 = High ego goal perception

The first interaction graph (Figure 4.1) shows the effects of high and low levels of race task orientation (x-axis) interacting with high task or high ego perceptions of significant others on pre-race levels of task involvement (y-axis). The second interaction graph (Figure 4.2) depicts the effects of a task-dominant or ego-dominant overall goal (orientation) preference (x-axis) interacting with high task or high ego perceptions of significant others on the dominant state of involvement (y-axis).



In Figures 4.1 and 4.2, a very similar pattern emerges for the moderating influence of the situational factor on the dispositional variable with respect to the prediction of both pre-race task involvement levels and also the dominant state goal preference. Specifically, when a high task goal perception of significant others exists, the influence of the dispositional race task orientation and race goal preference seems to be minimal. Thus, even with either a low race task orientation or an *ego-dominant* goal orientation preference, it seems to be the swimmers perceptions' of task-involved significant others that drive levels of pre-race task involvement or task-*dominant* states of involvement.

Conversely, under conditions of a high ego-involved perception of significant others, a weak task orientation or *ego-dominant* orientation results in low task involvement or high *ego-dominant* involvement, respectively. However, the stronger the race task orientation or the task-*dominant* orientation, the greater the increase in task involvement and the moderation of *ego-dominant* involvement. In this condition, it appears to be the nature of the race goal orientation which determines the moderating effect that perceptions of ego-involved others have on goal states.

### 4.3 DISCUSSION

The purpose of Study 1A was to examine the antecedents of pre-competition task and ego involvement within a competitive context which was rich in individualistic properties (Ames, 1984). This was facilitated in two ways. Firstly, by means of an interactionist methodology and analysis which assessed the contribution of dispositional and situational independent variables; and secondly, by conducting the study in a non-experimental, real life, individualistic-focused environment which permitted the assessment of goal states in an ecologically valid context.

The primary hypothesis proposed that dispositional task and/or ego goal orientation would predict the respective state of pre-race goal involvement. In opposition to this, the task and ego subscales of the TEOSQ failed to emerge as predictors of pre-race task and ego involvement at any stage of the hierarchical regression procedures. It might be argued that the TEOSQ was designed for a research methodology that is less context specific in nature and that the results here reflect the lack of a sharp enough competition-specific focus. However, the instrument is meant to measure the predisposing tendency or the proneness to be task- and/or ego-involved in a sport. Observations made later in this thesis urge future research to challenge the applicability of the TEOSQ as a dispositional measure in this specific area of achievement goal theory.

On the other hand, with reference to the contribution of dispositional tendencies for race situations, the primary hypothesis was well supported. The single item measures of race task orientation, race ego orientation and race goal preference contributed as significant predictors of their respective goal states. The study attempted to control for item similarity and a gap of at least three weeks was enforced between the assessments of



goal orientation and goal involvement. These results underline the importance of recognising the swimmer's achievement-related attitude towards swimming races in general. Swimmers would appear to approach a specific race, influenced in motivational terms by pre-conceived or socialised values about what achievement means to them in any swimming race. Of the three measures of race goal orientation, however, it is important to note the power, relative to other predictors, that each dispositional tendency exerted on levels of pre-race task and ego involvement. Although these dispositional variables were entered first in their hierarchical regression equation, subsequent stepwise regression analyses clarified the position of each dispositional predictor in rank order. Of specific interest was the finding that whereas race task orientation emerged as the most powerful predictor of pre-race task involvement, race ego orientation emerged as the weakest predictor of pre-race ego involvement. A possible explanation for this discrepancy may lie either with the individualistic properties of the context or the relevance of external criteria with respect to ego involvement.

The race context contained a number of individualistic properties which appeared, as Weiss and Chaumeton (1992) proposed, to produce high levels of pre-race task involvement. One might argue that a swimmer's race task orientation is psychologically developed by the emphasis placed on personal times, splits, stroke count, race pacing and the provision of individualised feedback on performance which are characteristics of swimming in general. Consequently, race task orientation is more likely to drive levels of pre-race task involvement prior to events which are themselves individualistic in nature. Other situational influences on task involvement may still exist, as they do in this study, but the race task orientation appears to possess both *level* and *strength* in its psychological development. In other words, a swimmer may indicate a high level of race goal orientation, but the actual strength of that goal orientation depends on the degree to which it reflects that state of goal involvement prior to competition. In this case, the level and strength of race task orientation is high, only perhaps facilitated further by the goal structure of the context.

A similar argument might be conferred to race ego orientation as it does possess the strength to predict. However, its lower relative strength compared with race task orientation may be function of powerful external perceptions which become more salient with respect to ego involvement in the actual context. Although two other situational variables did emerge as antecedents of task involvement, the self-referent nature of race task orientation might be associated with the quality of internal control (Dweck & Leggett, 1988). This disposition's influence on race task involvement, as a more internal goal state, should not perhaps be overpowered by external situational factors. Accepting the interesting interaction between race task orientation and the perceptions of significant others, race task orientation did predominate over its fellow antecedents. In contrast, with respect to ego involvement, one might contend that external criteria become much more



relevant and open to perception when the achievement goal is uncontrollable and involves others. By the very fact that a swimmer has a tendency to be ego-involved, s/he has the potential to be influenced by other external situational factors. In this study, the outcome value of the race, normative expectations and the thoughts and beliefs of significant others are perceived contextual cues strongly associated with ego involvement. In sum, although the socialised tendency to view race achievement in outcome terms transgresses to a specific race, the properties and perceptions of the race context may have a more immediate and pronounced effect on levels of ego involvement.

Situational factors, in the form of perceptions and properties of the actual context of the race, played a substantial role in predictions of pre-race goal involvement. Despite individualistic properties of goal structure, there appeared to be other contextual factors at work with both task- and ego-involving effects. The 'Race outcome value' factor emerged as a powerful antecedent to both task and ego involvement. In light of Duda's (1992) observations concerning the largely uncorrelated nature of the two goal perspectives, it is interesting to note that the factor was positively correlated to both states of involvement. The greater the value of the race outcome, as determined by the perceived importance of a race in which strong, rival competition would be competing, the greater the importance placed on an ego-involved goal shortly prior to the race. The perceived value of winning the race or beating close rivals contributed to the activation of ego involvement where importance was placed on beating other swimmers, regardless of time. In addition, however, the same situational perceptions also fostered a pre-race focus of achievement on personal time goals, regardless of position. The achievement value of self-referent performance (i.e., swimming a good personal time) seemed to match the value of the competitive outcome. Extrapolating the implications of this situational factor, the high task/high ego-involved swimmer cannot fail to feel satisfied if s/he swims well.

One can only speculate on the different functions or reasons why these normative-based perceptions should invoke task involvement. Firstly, it would be interesting to investigate whether 'Race outcome value' primarily activates ego involvement, and incites task involvement merely to facilitate the 'outcome' as a means to an end, as opposed to an end in itself. Secondly, one might question whether task involvement acts simply as a secondary 'satisfaction guarantor' where self-referent achievement is only considered after a negative outcome has occurred. Burton's (1989) intervention study with swimmers revealed that this type of cognitive strategy may exist when swimmers were faced by tough opposition in important races. If s/he swims very well but loses, task-involved satisfaction may still pervade as s/he subsequently acknowledges the good time achieved. However, it would be difficult to establish task involvement as a primary goal state at any other time apart from after the race had finished.



Finally, it might be inferred that an important race where the outcome is valued does truly intensify the significance of achieving a good personal time as an end in itself. It would be interesting to test this observation by examining affective reactions and the content of reflective appraisals (Hardy et al., 1996) characterising swimmers immediately after the race. One could imagine an intensely task-involved swimmer reacting with joy to an improved personal time, regardless of being beaten. At the very least, one would not expect to see disgust if a swimmer had logged a personal best, but had lost the race. This series of points are contingently made because 'Race outcome value' did not predict the state goal preference. This result would have indicated how these situational perceptions related to one dominant goal state when both goal sub-states were viewed in combination. Nevertheless, the findings here impress upon the importance of *value* of the achievement task in activating goal involvement. Value is a motivational criterion which has been somewhat overlooked in achievement goal research, but which probably deserves more careful consideration

A second situational factor labelled 'Social/Personal perceptions of ability' emerged as a significant predictor of ego involvement. This factor represented the belief that a swimmer possessed in their own ability to beat close rivals in the upcoming race as well their perceptions of their parents' and coach's beliefs in their ability. The positive relationship suggests that the greater the normative self-confidence and socially-derived confidence of significant others, the stronger the state of ego involvement. Although some research has tended to 'condemn' ego involvement as a state that is maladaptive, it must be remembered that a negative pattern of behaviour is not predicted when this goal state is coupled with high perceptions of ability (Nicholls, 1984; Duda, 1992). This latter statement emphasises how *expectancy* has been treated merely as an individual difference variable, mediating the qualities of ego involvement. Nonetheless, the result in this study emphasises that if one expects to win and perceives that others expect them to win, beating others becomes an increasingly important achievement goal. Despite being perhaps common sense, this finding is important for two reasons. Firstly, it treats expectancy as an antecedent variable; and secondly, in the same manner as 'Race outcome value', it demonstrates how the context, despite many individualistic properties, contains competitive elements which may activate ego involvement via these antecedents.

The final situational factor to emerge from the analysis was ostensibly the most significant, consistent and consequential variable in the entire investigation. The 'Perceived goal involvement preference of significant others' factor was formed from items relating to the swimmers' perception of whether their parents, coach and other swimmers (for social recognition purposes) had a task-involved or an ego-involved goal preference, or simply one of equal importance. Participants had been asked for their perceptions of what goal was more important to these significant others for them to achieve in the upcoming race. The factor significantly predicted all three levels of pre-



race goal involvement, explaining a considerable amount of variance in each case. Taken simply, it can be suggested that the more the swimmer perceived significant others to favour the achievement of one goal over another, the more likely that that goal state would be activated prior to racing. Nevertheless, apart from this factor's contribution as an independent antecedent to pre-race task involvement, ego involvement and the dominant goal state, the greatest insights into the role of this factor are afforded by its dynamic interaction with race goal orientation.

Two interaction effects arose from the moderated regression analyses, the 'Perceived goal involvement preference of significant others' factor interacted with both race task orientation and race goal preference in the prediction of pre-race task involvement and the overall or dominant state of involvement. The interactions propose that when significant others are perceived to be task-involved, those situational perceptions complement a race task orientation or a *task-dominant* orientation in creating high levels of task or *task-dominant* involvement. Even more pertinently, when the swimmer either has a low task orientation, or with regard to race goal preference, has an *ego-dominant* orientation, these task-involved perceptions of significant others 'hold sway', serving to maintain relatively high levels of task and *task-dominant* involvement. In essence, task-involved perceptions of significant others both complement the high race task orientation and seem to exert considerable influence over low task or high ego oriented individuals. These particular findings provide strong support for the perceptions of task-involved others being a critical precursor to high race task involvement, low race ego involvement, and an overall goal state in which a self-referent focus predominates.

In contrast, an opposing image emerges when significant others are perceived to be ego-involved, and the swimmer possesses a low task orientation or an *ego-dominant* orientation. These circumstances tend to foster either a very low level of pre-race task involvement (low state task goal) or a high level of *ego-dominant* involvement (ego goal preference). The particular disposition and the situational perception again seem to complement each other. However, the robustness of the high race task orientation, as compared to that of the *ego-dominant* orientation, provides for a startling contrast when one considers its effect in a situation where significant others are perceived to prefer the opposite goal. When others are perceived to be ego-involved, a high race task orientation seems to possess the power to increase the level of task involvement above the mean. Secondly, in the case of the state goal preference, a *task-dominant* orientation combats such perceptions to facilitate an overall goal state where both goals are valued equally. In sum, whereas a high ego orientation fails to displace a task-involved situational perception, the high task orientation moderates the impact of an ego-involved situational perception. Task orientation and task-involved perceptions of significant others are objectively more robust than their ego-related opposites. In combination, they would appear to have strong associations with activation of task involvement in competition.



From a pragmatic point of view, these results reinforce the need for and presence of task-involved significant others and role models from which children in competitive sport and life in general can breed their achievement goals. This is particularly the case for the pre-race period where a positive pre-race talk from a task-involved coach or parent would achieve much in terms of establishing an adaptive goal focus for the race. The work of Brustad (1988, 1992) and Eccles and Harold (1991) makes specific reference to the socialising processes which influence children's cognitive-motivational and developmental characteristics. Brustad (1992) clarified that research in the academic domain suggests that...."parental expectational patterns and orientations towards achievement are related to children's perceptions and motivated behavior in these settings" (p.72). Recently, Duda and Hom (1993) found that children's personal goals were best predicted by their own perceptions of their dominant parents' goal orientation. Chaumeton and Duda (1988) also reported the influence of perceived coaching behaviours on the motivational orientation of young performers. The results of the study reported here, however, clarify the existence of these relationships in terms of actual goal involvement in a competitive youth sport context. Social agents may be as fundamental to shaping the performers's perceptions of the event 'micro-climate' as they are with regard to the socialisation of goal orientations on a 'macro' scale (Ames & Archer, 1988).

A final issue pertains to the individualistic focus of the race environment. The findings of Study 1A suggest that the individualistic nature of the context may have encouraged a prominence in task involvement and favoured task orientation as a salient precursor to the intensity of this goal state. Nevertheless, the race context itself did contain elements of a competitive goal structure by the very fact that Study 1A investigated a swimming competition. More noticeably, the competitive elements of the race situation were reflected within the situational antecedents which activated moderately high levels of ego involvement. More useful information on this issue may be generated by a comparison between the results of Studies 1A and 1B. However, at this early stage, there is evidence to suggest that it may be inappropriate for research to casually label competition contexts as *either* task-involving *or* ego-involving.

In conclusion, the role played by 'race-specific factors' in mediating goal involvement emphasises the need to acknowledge the cognitive intimacies of the competition and performance 'context'. By serving to admonish the over-reliance on dispositional-based predictions of goal states which has typified previous research, these findings support Burton's (1992) competitive goal setting model which argues for greater recognition of 'situation type'. The interaction effects of dispositional and situational criteria alert researchers to the problem of oversimplification in achievement goal theory. Specifically, the incorrect prediction of critical achievement behaviours and cognitions in performers, because one fails to recognise more precisely what criteria can influence the actual states of goal involvement in individualistic-focused circumstances.



# CHAPTER V

## *STUDY 1 B*

### ANTECEDENTS OF PRE-COMPETITION ACHIEVEMENT GOALS IN A COMPETITIVE- FOCUSED YOUTH SPORT CONTEXT:

#### RESULTS AND DISCUSSION

##### 5.1 INTRODUCTION

The preceding chapter presented the results of Study 1A followed by a detailed discussion of the major findings. This current chapter is devoted to the data analysis, results and discussion of findings for Study 1B. The research question remained the same, however, this investigation examined the antecedents of task and ego involvement within an event context composed of a direct competitive goal structure (Ames, 1984; Weiss & Chaumeton, 1992). This chapter follows the same route taken by Chapter 4. Descriptive statistics on the major variables of interest are presented including comparisons with Study 1A. The factor analysis of the MCQ is followed by a brief recap on the statistical procedures adopted in the study. Having disclosed the findings for each of the dependent variables, the chapter moves to a discussion of the antecedents with an emphasis on comparing the findings from the two investigations. The chapter concludes with a summary of the major issues that have arisen from Study 1.

##### 5.2 RESULTS

###### 5.21 DESCRIPTIVE STATISTICS

###### 5.211 Means and Standard Deviations

The means and standard deviations for the measures of goal orientation and pre-match goal involvement are presented in Table 5.1. Task orientation as measured by the TEOSQ was fairly high (4.3 per item), and at a slightly elevated level compared with the task means in previous studies (e.g., Duda & Hom, 1993; Ebbeck & Becker, 1994). The sample mean for ego orientation was moderate (3.4 per item) but on the high side of ego orientation levels typically reported by previous research. The match goal orientation items revealed a higher level of match task orientation compared with match ego

orientation. This result corresponded with the sample reporting a weak but task-dominant match goal preference. The descriptive findings for race goal involvement, however, painted a different picture. The level of pre-match task involvement, as measured by the state task goal, was matched by an equally high level of pre-match ego involvement. The resultant state goal preference revealed an average overall goal state where both task- and ego-involved goals were equally important to achieve.

**Table 5.1 Means and Standard Deviations for Measures of Goal Orientation and Pre-Match Task and Ego Involvement (State Goals)**

Item	Mean	S.D.	Scoring range
TEOSQ task	30.1 (4.3 per item)	3.1	7-35 (1-5 per item)
TEOSQ ego	20.6 (3.4 per item)	4.0	6-30 (1-5 per item)
Match task orientation	4.9	1.4	1-7
Match ego orientation	4.0	1.2	1-7
Match goal preference	+0.5 (+ task*)	1.8	+3 task to 0 to +3 ego
State task goal	5.4	1.1	1-7
State ego goal	5.3	1.4	1-7
State goal preference	+0.1 (+ ego*)	1.8	+3 task to 0 to +3 ego

Note: \* The match/state goal preference was scored on a +3 (high ego goal preference) to 0 (equal importance) to +3 (high task goal preference) likert scale. The symbol "+ task" refers to the degree of task goal preference; "+ ego" refers to the intensity of the ego goal preference.

In respect of the major psychometric assumptions associated with the use of regression analyses, assessments of kurtosis and skewness fell inside the range of +/- 1.0 degrees (Schutz & Gessaroli, 1993) for the data generated by single items in this study. The distributions revealed low to moderate degrees of negative skewness for match ego orientation (-0.1) and match task orientation (-0.6). Similar degrees of moderate negative skewness also characterised the measures of pre-match task involvement (-0.8) and ego involvement (-0.6). As with Study 1A, these findings are not surprising given the nature of the context, and a sample of elite sports performers who may naturally place greater emphasis on achievement goals. Additionally, the Park test (Park, 1966) was conducted in order to assess the degree of heteroscedasticity. No statistically significant



relationships emerged between the error term variances for each of the state goals with each of the independent variables. Therefore, no evidence of heteroscedastic data was revealed.

### 5.212 Inter-Context Mean Comparisons (Studies 1A and 1B)

Table 5.2 shows how the mean levels of goal orientation and pre-competition goal involvement compare between tennis players and swimmers.

**Table 5.2 Inter-Context Mean Comparisons of Goal Orientation and Pre-Competition Task and Ego Involvement**

Goal Structure:	Competitive-Focused	Individualistic-Focused	F- value	P
Context:	Tennis (n=119)	Swimming (n=214)		
Age range:	13-17 yrs	13-18 yrs		
TEOSQ task	30.1 (S.D.=3.1)	26.8 (S.D.=4.0)	61.4	p<0.001
TEOSQ ego	20.6 (S.D.=4.0)	19.2 (S.D.=4.5)	7.2	p<0.01
Race/Match task orientation	4.9 (S.D.=1.4)	5.5 (S.D.=1.2)	17.1	p<0.001
Race/Match ego orientation	4.0 (S.D.=1.2)	4.3 (S.D.=1.3)	3.78	N.S.
Race/Match goal preference	+0.5 (S.D.=1.8) (+ task*)	+1.4 (S.D.=1.5) (+ task*)	21.7	p<0.001
State task goal	5.4 (S.D.=1.1)	5.9 (S.D.=1.8)	7.33	p<0.01
State ego goal	5.3 (S.D.=1.4)	4.1 (S.D.=1.4)	48.6	p<0.001
State goal pref	+0.1 (S.D.=1.8) (+ego*)	+1.5 (S.D.=1.4) (+ task*)	80.1	p<0.001

Significant mean differences emerged for all measures of goal involvement and goal orientation except race/match ego orientation. In terms of the TEOSQ, junior tennis players reported higher levels of task and ego orientation than swimmers. Swimmers, however, reported a higher race task orientation and a higher task goal preference than

tennis players on the context-specific measures. With regard to goal involvement, although both samples emphasised the importance of achieving a task-involved goal, swimmers were higher in pre-race task involvement from a statistical point of view. In terms of pre-competition ego involvement, whereas swimmers indicated moderate levels of this goal state, tennis players were significantly more focused on the importance of winning. Similarly, with regard to the state goal preference, the tennis players' mean score suggests an overall goal state where no achievement goal predominates. However, within the swimming sample, the dominant goal state reported prior to competition is significantly more task-involved.

### 5.213 Intercorrelations Amongst Achievement Goals

**Table 5.3 Correlation Matrix for Measures of Goal Orientation and Pre-Match Task and Ego Involvement (State Goals)**

	TEOSQ Task	TEOSQ Ego	Match Ego	Match Task	Match Goal Pref	State Task	State Ego	State Goal Pref
TEOSQ Task	1							
TEOSQ Ego	0.06	1						
Match Ego	0.04	0.19	1					
Match Task	0.08	-0.19	-0.26*	1				
Match Goal Pref	0.06	-0.22	-0.23	0.53*	1			
State Task	0.05	0.03	-0.09	0.25	0.18	1		
State Ego	-0.09	0.23	0.37*	-0.29*	-0.39*	-0.14	1	
State Goal Pref	0.11	-0.09	-0.22	0.34*	0.47*	0.43*	-0.53*	1

\* p<.01

Several correlations from the matrix displayed in Table 5.3 are worthy of attention. These results corroborate the relationships found between similar variables in Study 1A. Firstly, low intercorrelations emerged between match task and match ego orientation (-0.26), between state task and state ego goals (-0.14), and the TEOSQ task



and ego subscales (0.06). These results support the orthogonality of achievement goals and offer some support towards the validity of the single item measures for this study. Secondly, correlations between match task and ego orientation with the match goal preference item were 0.53 and -0.23 respectively. Likewise, relationships between the state task and ego goal items with the state goal preference item ranged from 0.43 to -0.53 respectively. As in Study 1A, these moderate relationships suggest that in some cases the match goal preference may directly correspond with the level of response to the separate match task and ego orientation items. Thus, for example, an ego-dominant goal preference may generally follow on from the tennis player indicating a very high match ego orientation. However, the modesty of the correlations also suggests that, even though players may well score highly on one goal orientation, they may generally prefer to achieve the other goal when viewing both goals in combination. Similarly, in terms of goal involvement, a player may report high levels of both pre-match ego involvement and task involvement. However, when considering both together, the pre-dominancy may lie, for example, in ego involvement as measured by the state goal preference. This means that a player's overall goal state of involvement might be viewed as high task/higher ego.

Lastly, it is again worth appreciating that correlations between the TEOSQ task/ego subscales and the match task and ego orientation measures were very low (0.08 and 0.19 respectively). These findings substantiate the similarly low correlations documented in the previous study. As preferred in Study 1A, these weak associations may be the result of a contextual difference between what could be classed as a 'tennis' goal orientation and a 'competitive match' goal orientation.

## **5.22 FACTOR ANALYSIS OF THE MCQ**

The eleven situational items of the MCQ were analysed by means of a principal components factor analysis with both varimax and oblique rotations offering the same solutions. As with Study 1A, two separate factor analyses were initially carried out for male and female samples with items clustering in the same factors for both genders. Therefore, the data from male and female players were collapsed together for the main factor analysis. The results are shown in Table 5.4. The analysis revealed three highly recognisable combinations of variables with eigenvalues greater than 1. The lowest item loading on any one factor was 0.64 with no evident redundancy or overlap of factor items. These three factors cumulatively accounted for 64.7% of the total variance.

The first factor accounted for 31.6% of the total variance and was represented by four items. These included the importance of that particular match to the player (item 1), the strength of desire to beat the opponent (item 4) and the perceived levels of physical readiness (item 7) and mental readiness (item 8). In the previous study, mental and physical readiness loaded together as a separate factor. Their association with match importance and desire to win in this study seemed obscure at first glance. However, it

was rationalised that if a player perceived the match to be of importance, strongly desired to beat the opponent and was both mentally and physically prepared for the contest, that the value to achievement of competing in the match would be high. Hence, this factor was labelled *Match value*.

**Table 5.4 Factor Analysis of MCQ with Factor Loadings Following Varimax Rotation**

Item (Factor No.)	F1	F2	F3
<u>Match value (F1)</u>			
match importance	<u>-0.70</u>	0.04	-0.29
desire to win	<u>-0.86</u>	0.05	0.09
physical readiness	<u>-0.87</u>	-0.01	-0.13
mental readiness	<u>-0.80</u>	-0.14	-0.22
<u>Perceived goal involvement preference of significant others (F2)</u>			
coach goal involvement preference	0.09	<u>-0.86</u>	0.13
parent goal involvement preference	0.06	<u>-0.87</u>	0.15
goal invol. pref. for LTA recognition	-0.19	<u>-0.72</u>	-0.07
<u>Social/Personal perceptions of ability (F3)</u>			
perceptions of ability	-0.20	0.01	<u>-0.76</u>
rating of the opposition	-0.09	-0.13	<u>0.84</u>
coach belief	-0.33	0.27	<u>-0.64</u>
parent belief	-0.18	0.12	<u>-0.77</u>
Eigenvalue	3.79	2.47	1.50
% of variance	31.59	20.56	12.52
Cumulative % of variance	31.59	52.15	64.68

The second factor accounted for 20.6% of the total variance and was labelled *Perceived goal involvement preference of significant others*. The first two items comprising this factor mirrored those items emerging from the factor analysis of the RCQ. They included the players' perceptions of what their parents (item 10) and coach (item 9) would want them to achieve in that particular match. Additionally, the player's



perception of the goal preference that would most facilitate recognition from the Lawn Tennis Association (LTA; item 11) for that match became the last item to compose this 'significant other' factor. The final factor was referred to as *Social/Personal perceptions of ability* which added a further 12.5% to the variance explained. The four items representing this factor matched those in the RCQ, with the exception of rating of opposition (item 3), which appeared to fit neatly into this expectancy-type variable. To recap, the other three items included personal perceptions of ability to win the upcoming match (item 2), and the player's perceptions of their coach's (item 5) and parents' beliefs (item 6) in their ability to win. The alpha coefficients for these three factors ranged from 0.74 to 0.78 showing acceptable internal consistency (Cronbach, 1951).

### **5.23 HIERARCHICAL MULTIPLE REGRESSION ANALYSES**

Exactly the same method of analysis, employed for the swimming data, was conducted in the present study. Three separate moderated hierarchical regression analyses were performed with the state task goal, state ego goal and state goal preference items acting as dependent variables in each of the three regression equations. Unitary weightings were used to calculate the factor scores for the three situational factors which, alongside both the TEOSQ subscales and the three assessments of match goal orientation, comprised the list of independent variables.

The analysis was theoretically driven with the relevant dispositional variable entered first in each of the moderated regression equations. The TEOSQ subscales and the match goal orientation items were entered as dispositional variables in separate equations. Following the goal orientation variable, each of the three situational factors were entered individually. Finally, the computed products of each dispositional x situational predictor (e.g., match task orientation x match value) were entered as two-way interaction terms into the equation to assess the presence of an interaction effect. In this manner, increases in the variance explained ( $R^2$ ) could be noted at every incremental level for each pre-match state of goal involvement.

Akin to the findings of Study 1A, the task and ego subscales of the TEOSQ failed to emerge as predictors in any of these regression equations. Furthermore, unlike Study 1A, no interaction effects were detected during these analyses. The following results emerged from the final hierarchical regression equations revealing the major predictors of pre-match task and ego involvement (i.e., state task & state ego goals), as well as the dominant state of involvement which was reflected by the state goal preference.

#### **5.231 Pre-Match Task Involvement (State Task Goal)**

As Table 5.5 indicates, pre-match task involvement was predicted by three factors. Neither the task scale of the TEOSQ (e.g., task orientation) nor match task orientation emerged as predictors in the equation. Therefore, in the final analysis, the

'Perceived goal involvement preference of significant others' factor was entered first explaining 20% of the total variance ( $t = 5.15, p < .001$ ). The 'Match value' factor was entered next and added a further 4% to the variance ( $t = 3.35, p < .001$ ). Both of these predictors were correlated positively to the level of task involvement. The 'Social/Personal perceptions of ability' factor was entered in the third and final step ( $t = 2.80, p < .01$ ), bringing the combined variance explained to 29%. Interestingly, this factor was negatively correlated to the level of task involvement, suggesting that the higher the confidence about winning the match from both internal and external sources, the lesser the importance attached to self-referent personal performance.

**Table 5.5 Hierarchical Regression Analysis: Pre-Match Task Involvement (State Task Goal)**

Independent variable	<i>B</i>	R <sup>2</sup> (cum.)	t- value
Perceived goal involvement preference of significant others	0.41	0.20	5.15**
+ Match Value	0.28	0.24	3.35**
+ Social/Pers. Perceptions of Ability	-0.24	0.29	2.80*

\*  $p < .01$ ; \*\*  $p < .001$

+ Indicates a new step in the hierarchical analysis

*B* values are the unstandardised regression coefficients from the final stage of the regression analysis

R<sup>2</sup> values are cumulative with each incremental step adding to the variance explained

### 5.232 Pre-Match Ego Involvement (State Ego Goal)

Table 5.6 overleaf shows how match ego orientation, when entered first, emerged as a significant predictor ( $t = 3.11, p < .01$ ), accounting for 14% of the variance. Entered second into the equation, 'Match value' emerged as a highly significant predictor ( $t = 5.77, p < .001$ ), combining with match ego orientation to add a further 17% to the variance. These first two predictors were positively correlated to the level of ego involvement. The final entrant into the regression equation, 'Perceived goal involvement preference of significant others' accounted for a further 10% of the variance ( $t = 4.47, p < .001$ ), bringing the accumulated variance to 41%. The negative relationship that emerged implies that players who perceive that significant others prefer task goals to be achieved, display lower levels of pre-match ego involvement.



**Table 5.6 Hierarchical Regression Analysis: Pre-Match Ego Involvement (State Ego Goal)**

Independent variable	<i>B</i>	R <sup>2</sup> (cum.)	t- value
Match ego orientation	0.23	0.14	3.11*
+ Match value	0.42	0.31	5.77**
+ Perceived goal involvement preference of significant others	-0.33	0.41	4.47**

\* p<.01; \*\* p<.001

### 5.233 Overall or Dominant State of Involvement (State Goal Preference)

Three significant predictors emerged for the dominant or overall goal state of involvement. As depicted in Table 5.7, match goal preference was entered first, accounting for 22% of the variance ( $t = 2.99, p < .01$ ). This was matched by 'Perceived goal involvement preference of significant others' which, when entered second, combined to provide a further 22% to the variance explained ( $t = 6.46, p < .001$ ). A positive relationship emerged with the dominant state of involvement for both of these predictors. This suggests that the more a player generally prefers a task or ego goal to be achieved in matches or perceives that significant others prefer a certain goal to be achieved, the more likely s/he is to adopt that preferred or dominant goal state in the match itself. 'Social/Personal perceptions of ability' was entered at the third increment ( $t = 2.40, p < .05$ ) and brought the combined variance explained to 47%. Although at a lower level of significance than the other two predictors, the negative relationship with the dominant state of involvement infers that higher internal and socially perceived confidence levels are consistent with levels of ego involvement predominating over task involvement.

**Table 5.7 Hierarchical Regression Analysis: Overall/Dominant State of Involvement (State Goal Preference)**

Independent variable	<i>B</i>	R <sup>2</sup> (cum.)	t- value
Match goal preference	0.23	0.22	2.99**
+ Perceived goal involvement preference of significant others	0.49	0.44	6.46***
+ Social/Personal perceptions of ability	-0.17	0.47	2.40*

\* p<.05; \*\* p<.01; \*\*\* p<.001

### 5.3 DISCUSSION

The purpose of Study 1B was to provide a clearer understanding of the antecedents of pre-competition task and ego involvement within a sport context comprising a direct competitive goal structure (Ames, 1984). An interactionist methodology within a natural setting matched the design and procedure adopted in Study 1A. In this way, even though Study 1B could be viewed as a separate study in its own right, comparisons between the antecedents emerging in two different contexts were facilitated. Despite the absence of any significant interaction effects, both dispositional match goal orientation and situational factors emerged as predictors of the elite junior player's achievement goal state prior to a competitive tennis match.

With respect to the contribution of dispositional tendencies, match ego orientation and match goal preference emerged as predictors of their respective state goals in support of the primary hypothesis. In terms of pre-match ego involvement, the general tendency to gain success and satisfaction through overcoming opponents was reflected in the personal approach to achievement possessed by the player prior to that specific match. However, two situational variables, namely 'Match value' and the 'Perceived goal involvement preference of significant others' appeared to be more strongly tied to the achievement-related thoughts of players in the moments before going onto court. These results replicate the prediction of ego involvement within swimmers where, notwithstanding the contribution of race ego orientation, levels of pre-race ego involvement were more substantially predicted by situational factors and perceptions of the context.

A similar picture emerged for the match goal preference. The weak but positive relationship with the state goal preference reinforces how the self-referent or social comparative achievements, which have most meaning to the player in general, transgressed to the overall achievement goal state prior to a particular match. However, the influence of this dispositional approach is again shared by two other situational variables, namely, 'Social/Personal perceptions of ability' and, more prominently, 'Perceived goal involvement preference of significant others'.

Contrary to these findings and to the primary hypothesis, levels of pre-match task involvement appeared to be related entirely to properties and perceptions of the match situation with no dispositional predictor emerging from the analyses. At this stage, it is worth making two observations. Firstly, that despite high levels of pre-match ego involvement, which might be expected in a direct competitive goal structure (Ames, 1984; Weiss & Chaumeton, 1992), players did report equally high levels of task involvement. Secondly, that race task orientation was a strong predictor of task involvement within the swimming context. Within this present sample, players seemed to value the importance of personal performance achievement in that specific match. However, it appeared to be entirely their perceptions of the match situation, as opposed to



their personal performance orientation, which determined the importance of achieving a task-involved goal. An explanation for this interesting and important finding is not easy given the novelty of the research area. However, one might propose that the antecedents of task involvement may be mediated by the goal structure of the competition context in combination with the typical achievement climate of the sport itself. It is impossible to predict the exact nature of the swimming/tennis training and competition climates within which the samples of Studies 1A and 1B would have been socialised. Nevertheless, one can make some intuitive observations given the nature and type of sport, in association with the specific competition context. Within a more individualistic, task-involving climate, exemplified to an extent by Study 1A, recognition and evaluation mechanisms (Epstein, 1989; Ames, 1992) tend to emphasise the importance of stroke mastery and self-referencing because personal times, splits, stroke count and pacing are consistently valued individual measures of achievement. The prime quality of all swimming contexts and competitions is that the individual participants receive very clear objective feedback on personal, controllable performance, without fail. This personal performance does indeed determine normative position, but it can equally lead to personal success at achieving non-normative-based qualifying times, or more importantly, reflect personal or season bests. In age-group swimming, personal times are the recognised method of evaluation, and consequently their salience to the swimmer should always be high in achievement terms. The *individualistic* properties of an achievement context are features which Ames and Ames (1981) have associated with the use of past personal performance information as the major source for deriving a sense of achievement. To restate points made in the previous chapter, a swimmer's race task orientation is more likely to be reflected in their goal state prior to competition which is individualistic in nature. In this setting, the swimmer is bestowed with individualised feedback on personal performance, and whether it is consciously or sub-consciously registered, the inherent value of personal time achievement is recognised. The feedback loop continually acts like an internal competence information service (Williams, 1994) which serves to strengthen the race task orientation and its potential to activate race task involvement in a similar race environment. High race task involvement predominantly 'funded' by a high race task orientation within a context which values self-referent performance would appear to make intuitive sense.

In the direct competitive goal structure and achievement climate of Study 1B, the specific context and sport structure possess an entirely different set of qualities which one would expect would have different motivational implications for tennis players. Although the study could not account or control for coach or parent actions, the context certainly provided little or no individualised feedback about personal performance and task mastery. The two most typically asked questions after a tennis match of this sort are 'Did you win?' and 'What score was it?'. This is emphasised further by the name of the



victor and the score publicly displayed for all to see on a knockout draw. Tennis does not provide style marks for the players forehand, or a personal score for the volley. There are no exact positions or places calculated in tennis from a knockout draw. The player is initially compared directly against his/her opponent in that match, only then to be compared with other players in the draw. This means that a loser in the 1st round is no better than the other thirty one losers in the first round, and has achieved significantly less than any of the sixteen losers in the second round. Indeed, the competitive goal structure of this type of context has important consequences for the development of a strong match task orientation (Weiss & Chaumeton, 1992) despite its level being fairly high on average. Within this sample, there may be little '*strength*' behind the '*level*' of task orientation to supplant it as task involvement in a competitive match situation. In other words, players may report that they derive great satisfaction and success from good personal performances, regardless of outcome in general. However, in an ostensibly ego-involving match context at the Nationals, the high levels of task involvement reported by the sample were not associated with their reported tendency to be 'match' task-involved. Hence, there may be little real and developed substance to their perceived match disposition. Ames and Ames (1981) report how performers in competitive goal structures rely predominantly on social comparison information available from the context in order to determine whether achievement has occurred. This may help explain the findings for task involvement in the following way. When performers rely on social comparison information within structures of high social evaluation and direct interpersonal competition, relevant situational factors (e.g., match importance; rating of opposition; social expectancy; personal expectancy; goal beliefs of others) may become much more salient (Williams, 1994). It is cues such as these which may govern how important it is to socially compare well and demonstrate ability in normative terms. However, it is also these cues which may dictate the relevance and value of achievements in self-referent performance. Consequently, in mediating their thoughts about achievement, these properties of the context may not only influence the nature and extent to which players become ego-involved prior to competition, but task-involved as well. The association of normative-related situational factors with ego involvement has been established in both studies. Two of the situational predictors of pre-match task involvement are also normative-based, findings which, as noted shortly, question the nature of task involvement and the sources of its existence as an achievement goal state.

Turning attention more specifically to situational cues, factor analysis of the MCQ revealed three factors all of which contributed to the prediction of pre-match state goals. The 'Match value' factor emerged as a strong predictor for both pre-match task and pre-match ego involvement. This factor's positive correlation with *both* goal perspectives replicates the findings in Study 1A. The greater the perceived match value, the greater the importance placed on an ego-involved goal of beating the opponent and winning the



match, regardless of performance level. However, personal performance, regardless of the outcome also seemed to be a highly important goal for this valued match.

The contextual influence of match value on levels of ego involvement may not be surprising when one considers 'valued' achievement criteria such as age-group rankings, rating points, seedings, sponsorship, prize money, wild-cards and team tour selections which characterise the Nationals and which are ostensibly dictated by favourable social comparison. Valued consequences of winning and losing are plentiful in this context. The reasoning behind pre-match task involvement being equally influenced is a critical issue for this study. One explanation that can be offered is that an important match, where outcome is valued, simply intensifies levels of both task and ego involvement. In this respect, match value acts almost like a 'volume control' which, when high, motivates the young player who recognises the inherent value of personal performance processes independently of the short term outcome. Nonetheless, this player clearly wants to progress through the draw and whether s/he did play well or not, by winning, s/he would at least have created another competitive opportunity in the shape of the next round. Many tennis players view competing well to win a match in the face of a poor overall performance, but a good mental performance, a valuable achievement and satisfying goal in itself. This argument may well help explain the subtle contradiction in goals reported by players with respect to this property of the situation. On the other hand, the same explanations offered for this finding in Study 1A become applicable. Reporting a powerful focus on personal performance, even apparently regardless of outcome, may simply be a way of utilising task involvement as a means to an end, as opposed to an end in itself. Alternatively, it may be acting as a secondary 'satisfaction guarantor' and ego protection mechanism for the highly ego-involved player *during performance*, who applies self-referencing in a reflective appraisal *after performance*, especially following failure. In tennis terms, this is epitomised by the junior player who never bothers to consider the way that s/he has played in the match, unless s/he has lost the match. One could argue that this player can adopt a task-involved goal state, but that this state is reserved to specific situations and delayed until after competition. It would be interesting to debate whether this type of task involvement is spurious, transparent, and a far cry from the true intrinsic state, or simply a highly functional side-car to 'during performance' ego involvement. As noted in the previous chapter, future research may also benefit from examinations of whether players are consistent in being both task- and ego-involved when intuitively and reflectively appraising the match (Hardy et al., 1996). Specifically, do performers who claim to be high in task involvement before competition actually react and evaluate post-performance in a manner which reflects their initial levels of this self-referent state goal? Furthermore, in line with Ames' (1986) research, what self-instructional statements, conscious thought processes or automatic responses do performers engage or display both before, particularly during, but also after performance,



which reinforce that s/he is actually in a state of task involvement from a practical point of view? Answering these issues will progress our understanding of the line drawn between what is a true, 'stand alone' form of task involvement and the differing degrees of pseudo or sham task involvement.

The 'Social/Personal perceptions of ability' factor contributed to the prediction of pre-match task involvement and the state goal preference in a manner which appears to support the argument for a sham form of task involvement. The negative relationship with the state task goal and the dominant state of involvement suggests that the greater the normative self-confidence and social confidence provided by significant others, the lower the level of task involvement and the greater the importance of achieving an ego-involved goal over self-referent personal performance. As noted already, a state of ego involvement coupled with high perceptions of ability is not necessarily negative in motivational terms (Nicholls, 1984; Duda, 1992). Indeed, in the presence of high task involvement, some would support this as an elite performer goal profile (Fox et al., 1994). However, what is perhaps disconcerting is the finding that with self and social-driven normative confidence, the player appears to de-emphasise his/her pre-match focus on personal performance. The independent importance of performance, regardless of outcome, is lower, which corresponds with the less surprising finding that a dominant/overall ego-involved state is facilitated. This latter finding mirrors this factor's prediction of pre-race ego involvement in Study 1A. The important difference, however, is that in the current study the factor predicted the overall state, as opposed to the independent sub-state of ego involvement. Consequently, whereas the result in Study 1A refers only to ego involvement, the finding in the current study incorporates both goals in combination and suggests that ego involvement predominates over task involvement. The alternative way of viewing the predictions is that when lower in normative expectancy, self-referent personal performance becomes more salient as an independent state, and is more likely to become the dominant goal state of involvement prior to competition.

When high in personal and social normative expectancy, one would not necessarily expect the devaluing of personal performance to be conducive to long or short term success. Furthermore, when personal and social expectancy of normative success is low, the latter state appears to de-emphasise the importance of winning in a way that inhibits competitiveness. In tennis terms, this is typically the player who, in doubting his/her ability to win the match, goes on court with a goal of trying to play their best with nothing to lose. Whatever then transpires in the match, their lack of competitiveness and self-belief will ultimately mean that they would struggle to come to terms with the possibility of winning the match, even if they went ahead.

A player who is task-involved in the purest sense might be expected to focus on task goals and invest attentional resources on achieving personal performance



improvements, irrespective of perceptions of ability and (social) expectancy (Duda, 1992, 1993; Weiss & Chaumeton, 1992). Players high in task involvement should not necessarily be 'expectancy-driven'. Yet the results of this study support a profile of players whose achievement goals may hinge on perceived normative expectancy. In this respect, it is difficult to establish whether the sample, in general, faithfully adopt a task-involved conception of ability and utilise it during the match, or whether they are essentially highly ego-involved players whose task involvement is at best, a *means to an end*, or at worst, an *escape hatch*. To investigate the performers' understanding of their perceptions of being task-involved in sporting contexts that comprise a direct competitive goal structure (Ames, 1984) may be a productive area for future research. Specifically, do they focus on self-referent performance processes throughout the competition and evaluate their personal performance after the contest? Or do they value and evaluate the self-referent performance afterwards, with more of an ego-involved attentional state during the contest? Issues of orthogonality and goal structure, which are woven into these questions, will be discussed in the summary and also in the final chapter of this thesis.

The final and most powerful situational factor, the 'Perceived goal involvement preference of significant others', does seem to reinforce the prominence of thoughts that players have about social agents and the implications of these cognitions on immediate achievement goals. In so doing, this factor also provides some clearer practical messages for coaches and parents, as all of the situational factors do, when considering the content of pre-match talks to facilitate a positive mental focus for the match. Replicating the findings of Study 1A, the factor strongly predicted all three state goals, particularly pre-match task involvement and the dominant state of involvement. Taken simply, it can be suggested that the more the player perceived these significant others to favour the achievement of one goal over another, the more likely that that pre-match goal state would be invoked pre-competition.

These findings again reinforce the impact of social agents on the thought processes and subsequent goal perspectives of young performers which has been documented by past research (Brustad, 1992; Chaumeton & Duda, 1988; Duda & Hom, 1993; Ebbeck & Becker, 1994). In addition, however, the predictions also support previous arguments based around the prominence of perceived situational influences on the states of goal involvement. Even without parents or coaches being necessarily present, and the LTA conveying all but 'hidden' messages to players, *goal cues* from these significant others formed part of the young performers conceptions of achievement for that particular match in the National championship.

On a separate point, it is worth noting that the 'Perceived goal involvement preference of significant others' factor seemed to invoke one conception of achievement and depressed the other. Put differently, if a player perceived significant others to be



task-involved for that match, pre-match task involvement would be activated, whilst pre-match ego involvement would be lowered according to the relationship with each goal. 'Match value', however, invoked both conceptions of achievement. The 'Social/Personal perceptions of ability' factor with the perceptions of significant others both emerged as antecedents of the state goal preference, which, given their predictions of the independent sub-states, does make sense. This serves to support the utility of measuring the two goal perspectives in combination and strengthens the case of these factors as being the more cogent precursors to an overall goal state of involvement. Interestingly, follow-up regression analyses revealed no interaction effects *between* the situational factors on the state goals. This might have been the case for 'Match value' and the 'Perceived goal involvement preference of significant others' whose situational cues predicted the goal state in opposite directions. However, future research might explore the complex interplay between situational variables which have the potential to induce (opposing) conceptions of ability in competitive contexts. This may allow researchers to understand, more precisely, the process by which two states of involvement are invoked, the relative levels of which will determine whether one state predominates at that point in time. This research may also have direct implications for during performance variables such as attentional style (Nideffer, 1985) and multidimensional anxiety responses which revolve around the quality of achievement motivation- or attitude-related thought processes.

Finally, it is worth noting that neither of the TEOSQ subscales predicted any of the state goals in this investigation. This provides further evidence of the need to examine the applicability of the TEOSQ as an instrument to measure the tendency to adopt achievement goals directly related to competition. Measured dispositions (i.e., TEOSQ/match goal orientation) did not play a powerful role in this investigation which reinforces the value of considering situational variables. Even so, relationships between the match goal orientation items and the TEOSQ task and ego subscales were low. Notwithstanding some of the validity issues raised earlier, one might expect the TEOSQ subscales to correlate to some degree with the single item measures. The results section did identify some psychometric properties of these items to support their high face validity. In addition, their ability to ask performers an economically direct question about what typical goal is generally the most satisfying to achieve in competition should not be overlooked. The TEOSQ subscales are designed to measure the tendency to be task- and/or ego-involved in a sport. This means that, within a sport situation (competition being the most obvious), the instrument should accurately assess the achievement goal states that a performer *tends* to adopt. Further research needs to address whether the TEOSQ possesses a sharp enough competition-specific focus to reassure investigators that its scales can achieve this goal.



## 5.4 SUMMARY OF STUDIES 1A AND 1B

The studies presented in the last few chapters attempted to investigate the question of antecedents of goal involvement at the least intrusive but most practical level. To this end, the most practical method, given the gap of knowledge in research terms, involved actual competitive situations involving young sports performers at a fairly high level. This was extended further by taking the research question into two contrasting competition contexts. Both could not fail to have elements of a competitive goal structure. However, whilst one context maximised the quantity of individualistic elements and minimised competitive elements, the other provided no better example of a powerful competitive goal structure with few individualistic properties. The least intrusive period for assessing goal involvement was shortly prior to actual competition which would provide the researcher with a good indication of the goal states with which the performer might at least enter competition. As a function of this, the results provided some very valuable insights into the precursors of pre-competition task- and ego-involved goal states. It is these insights and the limitations of the study which shall form the focus of this summary.

### 5.41 INSIGHTS AND ISSUES

Firstly, looking strictly at the two competition contexts, it is worth reflecting on Table 5.2 which shows the comparison means of goal orientation and goal involvement in the two investigations. The Table reports the match or race goal orientation for each sample and also the activated levels of task and ego involvement in each context. As regards race and match goal orientation, the samples reported significantly different levels of task orientation and a stronger task goal preference in swimmers. One can only speculate on reasons for this, but possibilities are the socialisation effects of different sport climates, or the fact that questions were specific to general race contexts which may be more individualistic and task-oriented than tennis matches. Prior to actual competition, although task involvement was fairly high in the competitive context, the comparisons suggested how levels of task and ego involvement differed in each context. Although it was not a primary objective to explore whether an individualistic-focused context activated task involvement, and a competitive-focused context invoked ego involvement, the results are noteworthy for two reasons. Firstly, they do support the hypothesis that different goal structures may be associated with different achievement goals (Weiss & Chaumeton, 1992). However, the results also suggest that it would be incorrect to label one context, purely task-involving, and the other, purely ego-involving. The achievement goal literature is littered with examples referring to how a certain context is *either* ego- *or* task-involving, when attention has neither been paid to the issue of orthogonality; to the actual measurement of task and ego involvement; nor to the



situational properties which may activate task involvement in an apparently ego-involving context.

Aside from the goal structure of the two contexts, the prominence of situational factors in the prediction of goal states was indeed a major finding. Although it must be remembered that these results are only correlational as opposed to causal, perceptions or properties of the situation were associated with the independent sub-states of task involvement, ego involvement and the overall or dominant goal state of involvement. Previous research has been quick to assume that goal orientation drives goal involvement, but the findings for both studies support the need to recognise situational factors as potentially complimentary or opposing mediators of task- and ego-involved goal states. Not only may situational factors reinforce or oppose dispositional tendencies, they may also reinforce or oppose each other. In addition, whereas previous research has assumed motivational climate (Ames, 1992; Seifriz et al., 1992) to be the 'situational factor', the results here corroborate the insights of Maehr and Braskamp (1986). Namely, that expectations, values, properties of the task, and perceived beliefs of others can influence the meaning of investing in certain achievement goals. This is particularly the case for the perceptions of significant others whose strong relationships with pre-competition achievement goals offers some exceptionally practical information that needs to be considered. The notion in both studies that ego involvement is connected with external, normative-based situational criteria is also worth taking on board, particularly since these contextual cues tended to outweigh the race or match ego orientation.

The most curious findings, however, undoubtedly pertain to the prediction of task involvement in both contexts. The antecedents of this goal state cause the issues of orthogonality of goal perspectives, the actual substance of a goal orientation, and the effect of goal structure to be raised in combination. Working through these in reverse order, it appears that individualistic contexts favour a self-referent dispositional tendency to be the primary motivator of a self-referent goal state. In this context, even though normative situational cues may exist to have some influence, they are not perhaps strong enough to override task orientation. In contrast, within a competitive goal structure, the power of this tendency is severely questioned when normative situational criteria become a lot more salient. It has been argued that the task orientation has level, but not strength or substance because it is not powerful enough to displace the effects on task involvement of perceptions that the performer may have of the situation. However, its strength is much more likely to be compromised if it is placed in a competitive goal structure which gives rise to such relevant external cues. Therefore, it might be unfair to suggest that a player's match task orientation is less strong than a swimmer's race task orientation. Perhaps it is the effects of the individualistic or competitive goal structure, in depressing or augmenting the presence of external criteria, which may be the crux of the matter. It



would be of interest to explore this question more specifically, and investigate the quantity and quality of situational criteria in each goal structure more rigorously.

The orthogonality of goal involvement was represented firstly, by the measurement of task and ego involvement as separate pre-competition sub-states; and secondly, by the state goal preference which assessed the importance of the two sub-states in combination to yield an overall goal state. The situational predictors of task involvement in both studies, particularly Study 1B with the prediction by an expectancy variable, raise questions about the issue of more clearly understanding the whole concept of orthogonality. Can performers be high in task and ego involvement at the same precise moment so that their attentional state is shared between thoughts about the outcome and thoughts about self-referent processes? Does high task/high ego involvement mean that task involvement is simply *the means* and ego involvement *the end* to beating the opposition? Lastly, can a performer still be classed as high task/high ego, if the high task involvement only comes into operation during a self-referent post-mortem of the contest? Isn't this latter state 'sham task involvement' because the performer is not actually focused on intrinsic self-referent performance goals, during performance!?! These are critical questions, without answers in achievement goal research, which have been prompted firstly, by the nature of pre-match task involvement and the sources of its activation; and secondly, because a fair proportion of the performers could be classed as high task/high ego in terms of goal involvement.

Table 5.8, inserted at the end of this chapter (p.124), summarises the key concepts and results of Studies 1A and 1B and, in so doing, permits some of these insights and issues to be put into context.

## 5.42 LIMITATIONS

Despite these outcomes, the studies did possess several limitations and methodological problems. In terms of execution, the experimental technique of timing the completion of questionnaires had to give way to the ecology of the competition contexts. Although as tight a control as possible was attempted via thorough organisation, it could only be as controlled as much as the competitive context would allow. The competition context questionnaires derived from brief interviews contained fairly broad categories of item which became even broader when factor analysed. Although, the factor loadings in each study appeared to be neat, the item constitution of the RCQ and MCQ factors were slightly different. The internal consistency of the RCQ was questionable which suggests in overall terms that much work needs to be done on developing a more construct valid measure of perceptions or properties of the event context beyond this exploratory tool.

The single item measures used in these investigations have attempted to assess competition-specific achievement goals. Despite the statistical problems facing single



items, there was a distinct rationale for their use and psychometric support for the validity of the data collected in both studies. However, even though they have been valuable in generating information about competition-related goal orientation and goal involvement, they have been sufficiently broad to have raised critical issues, but far too narrow to have answered them. For example, the prediction of task involvement by certain situational factors renders the nature of task involvement highly suspect. However, the item does not allow one to draw any real conclusion about what is actually happening beyond knowledgeable speculation. For this reason, these single items have at best raised an awareness that goal involvement is a key area for investigation in achievement goal theory. Whilst maintaining the competition focus, the development of a more detailed, construct and content valid measurement technology is required if we are to advance knowledge beyond these two investigations.

A further weakness pertained to the fact that the results were correlational as opposed to causal. Although strong relationships emerged between independent and dependent variables, leading to substantial levels of explained variance in some cases, the statement that 'this factor caused that resultant effect in the goal state' could never be made. Future research might progress beyond the parametric procedure adopted here by applying more sophisticated methods such as path analysis. To be fair to the approach adopted in this study, however, moderated hierarchical regressions allowed theory to drive the analysis and directly facilitated the assessment of interactions between variables as well as document their main effects.

Lastly, an obvious limitation of the study was its inability to address goal involvement during performance. Although the pre-competition period has been identified as a useful and valid time frame in which to question performers (Silva & Hardy, 1984), the assessment of their attentional focus with respect to achievement goals during actual performance would probably help researchers to understand the entire issue of goal involvement with greater clarity. However, competitive sport contests range from ten seconds to several days in length, with different time breaks, goal structures, scoring systems and modes of interaction. The question of when to assess becomes important and although goal involvement may be better understood in one sport, the transfer to others does not necessarily follow. There is no doubt however that a research programme focused on measuring goal involvement intra-competition and inter-sport would be considerably worthwhile.

## **5.5 CONCLUSION**

The findings of Study 1 provide evidence of the value to be gained from examining the antecedents of goal involvement in differing competition contexts and from an interactionist viewpoint. In so doing, they confirm to researchers the dangers of relying on *either* 'dispositional' *or* 'situational' based methodological perspectives in the



goal of extending knowledge about motivated behaviours in competitive sport. It appears insufficient simply to detect a strong relationship between a cognitive or affective variable and dispositional goal orientation, only to presume that such cognitions or affective reactions then occur in an actual competitive situation. Dispositions may not necessarily follow-through in certain sport situations with particular goal structures. States of goal involvement may be at the mercy of perceptions and properties of the event context which are far broader than merely motivational climate. This study has merely raised an awareness that goal involvement in youth sport may be a function of socialised tendencies to approach competitive contests with a certain attitude, the 'macro' motivational climate and goal structure of the sport, and finally, the 'micro' climate associated with properties of the specific event context.

Future research needs to explore these broad categories of antecedent with greater attention to detail. At present, the practical implications have been firmly established, but the lack of information to drive actual practical application is akin to a skeleton without flesh. One of the benefits of measuring the antecedents to a performer's achievement goal state prior to competition was that practical assistance can help the performer create an optimum state of mind in terms of what they want to achieve from competition. Coaches or parents can exert control over what they do with or say to the performer in this period. Consequently, their actions and words prior to competing can have a positive or negative effect on goal involvement.

The findings of both studies suggest that the coach, for example, needs to be aware of the performer's perceptions of significant others, the value of the event to the performer, the internal and external expectations perceived by the individual, and also the way that the performer typically approaches competition. S/he needs to use this information in such a way that the performer shuts out or controls negative perceptions of the situation, and focuses attention on task-involving stimuli. In this way, task involvement is maximised prior to competition alongside a focus on being competitive in the contest, if applicable. The ability of the coach or parent to do this rests upon researchers exploring not only the situational antecedents of task and ego involvement in more detail, but also the antecedents of competition-specific task and ego orientation. As goal orientation may influence goal involvement, one needs to understand how a certain goal orientation profile is formed so that coaches or parents can create optimum environments for their development. In this way, optimal states of goal involvement are facilitated because of an adaptive goal orientation profile and perceptions of situational influences which are only positive to an optimal goal state.

Study 1 has suggested that a bridge exists between antecedent and intervention research that is worth crossing. At the moment, practical information on the antecedents of goal involvement for the purpose of crossing that bridge is essentially limited. The aim of the next study in this thesis is to bridge the gap and allow theory to drive practice.

Table 5.8 Summary Table: Antecedents of Pre-Competition Task and Ego Involvement in Studies 1A and 1B

Conception of Ability	Goal Perspective	Goal State	Antecedents - Study 1A (Individualistic Context)	Antecedents - Study 1B (Competitive Context)	Key Comments/Issues
Undifferentiated	Task	Task Involvement	Race Task Orientation; Race Outcome Value;	Perceptions of Significant Others; Match Value;	Level and Strength of Race vs Match Task Orientation Power of Cues from Sign. Others
			Perceptions of Significant Others; Interaction effect: Sign. Others x Race Task	Social and Personal Perceptions of Normative Ability	Salience of 'Value' - Task Involvement: Means to an End or End in itself? Normative Expectancy-Driven Task Involvement in Study 1B; Degree of 'Sham' Task Involvement?
Differentiated	Ego	Ego Involvement	Race Ego Orientation; Race Outcome Value;	Match Ego Orientation; Match Value;	Contribution of Race and Match Ego Orientation, but relatively weak Situational Criteria: Greater Relevance when Social Comparison Information is Important to Performer
			Social and Personal Perceptions of Normative Ability; Perceptions of Significant Others	Perceptions of Significant Others	Power of Cues from Sign. Others
			Perceptions of Significant Others		Power of Cues from Sign. Others
Orthogonality; Relative Intensities or Levels of each Conception	Profile of Combined Task and Ego Perspectives	Overall Goal State; Dominant State of Involvement (if any)	Race Goal Preference Perceptions of Significant Others	Match Goal Preference Perceptions of Significant Others	Contribution of Overall/Dominant Race and Match Goal Orientation Power of Cues from Sign. Others (including interaction in Study 1A)
			Interaction effect: Sign. Others x Race Goal Pref.	Social and Personal Perceptions of Normative Ability	Dominancy of Task or Ego Involvement Associated with Normative Expectancy in Study 1B



# CHAPTER VI

## *STUDY 2*

### THE DEVELOPMENT AND ACTIVATION OF ACHIEVEMENT GOAL PERSPECTIVES:

### MOTIVATIONAL CRITERIA AT WORK WITHIN ELITE YOUNG SPORTS PERFORMERS

#### 6.1 INTRODUCTION

Several important points have been made from the results generated by the two investigations comprising Study 1. One of the most salient has been that researchers whose work mainly focuses on establishing the achievement behavioural profile of performers should be aware of the interactionist perspective to enhance the accuracy and validity of their work. An over-reliance on dispositional assessments of goal orientation when examining associated behavioural patterns is just as dangerous as expecting the behaviour displayed to occur as a result of manipulations within the motivational climate. Dispositional and situational factors have either interacted directly, or contributed as separate main effects to a young performer's goal state prior to a competitive situation. Future research should not be too quick to predict patterns of behaviour from an incomplete pool of antecedents of the goals which drive that behaviour.

From an applied point of view, the impact of situational factors on task and ego involvement are interesting to both coaches, parents and the power structures as a whole. However, from a research perspective, they invite the investigator to explore situational influences on conceptions of ability with much more attention to detail. This detail might be focused on the criteria which influence the differentiation process itself. However, it should also be aimed at identifying the factors which tend to invoke higher levels of one particular conception of ability after the differentiation process is complete at about twelve years of age (Nicholls, 1989). In the previous study, players' levels of task and ego involvement seemed to be related more closely to perceptions of the context and its properties than to dispositional match goal orientation. This prompted the intuitive argument of 'level' vs 'strength' of goal orientation and it would indeed be interesting to investigate the socialisation and antecedents of the goal orientation profile more closely. Similarly, a more detailed investigation into the goal-inducing properties of competition contexts would also be worthwhile. The results of this research could assist in advancing

the measurements of goal orientation and goal involvement in competition contexts beyond use of the limited single item measures incorporated in Study 1.

The previous study attempted to open up a new avenue of research and build an initial foundation, whilst drawing some caveats to the attention of researchers in closely-related areas of achievement goal theory. Knowledge has been acquired from the epistemological position of empiricism, and a nomothetic approach, focused on averaging data obtained from a large sample size, has been applied within the context of an essentially 'field-based' survey. The use of this type of quantitative methodology can be supported on the grounds that the research question was entirely raw and untouched and that empirical data generated from the study would provide the researcher with initial information on relationships with adequate levels of external validity. The substantial sample sizes also facilitated the investigation of a number of dispositional and situational antecedents.

The major antecedents of goal involvement such as the perceptions of significant others, match value and perceptions of ability may be of great interest, but there is an undiscovered aspect to their actual composition, existence and power. A much greater depth of understanding is required from the individual so that the researcher can trace the process and make better sense of the findings. With this latter point in mind, although the quantitative paradigm has provided a useful skeleton to the relationships between goal states and various antecedents, it can only ever measure the frequency of a particular response or relationship. Furthermore, these responses are 'researcher-imposed' upon the subject who is forced to answer a limited set of 'closed' questions. The ability to capture the meaning of these limited responses and to understand the active underlying processes that have led the individual to 'circle the number on the scale', is lacking from a 'constructivist' viewpoint. It is therefore important to note how quantitative research can highlight areas of interest at a general level within a relatively new field, but rarely allows the investigator to get a real grip on the meaning and content of the results at an individual level.

In applying these arguments to the programme of research, it was felt that an appropriate step to take was an examination of the individuals' own viewpoint and attempt 'to walk a mile in their heads' (Patton, 1980) down the road which results in the development and activation of achievement goal perspectives.

Study 2, therefore, addresses two key questions. Firstly, what motivational criteria influence the young performer's conceptions of ability and have subsequently contributed to the development of task and ego orientation levels? Secondly, what contextual variables within competitive sport situations influence the relative levels of task and ego involvement? In sum, the research question focused on tracing both the long and short term process by which a performer displayed an overall state of goal involvement prior to



a competitive match. Taking an interactionist viewpoint, goal orientation profile and situational factors would be key determinants. Therefore, it was important to look in depth at the history of motivational influences on the player that may have impacted upon conceptions of ability and personal theories of achievement. To appropriately address this question, it was decided to adopt the epistemological position of 'constructivism' and incorporate qualitative methods with an inductive analytic approach. In this manner, the investigator is able to explore, in greater detail, antecedents of the development and activation of achievement goals.

This chapter follows a different structure to the previous study with the content differing markedly due to the different methodology employed. The first section focuses briefly on the two epistemological research paradigms which embrace quantitative and qualitative research methods respectively. This conveys the reasoning behind the adoption of a qualitative approach and provides a justification for the particular research method employed. The review of relevant literature then refers to studies within sport psychology research which have adopted this particular qualitative approach. This review is followed by the study purpose and hypotheses. The methodology section provides details of subject selection, interview instrumentation and procedures. The findings of the study are then explained, following a detailed section on qualitative data analysis. Finally, the discussion elaborates on the major findings in specific sub-sections, followed by the strengths and limitations, and the main conclusions which bring the study to a close.

## **6.2 REVIEW OF RELEVANT LITERATURE**

### **6.21 QUALITATIVE RESEARCH METHODS**

"A human being is a unit of life, and even though made up of physical material, differs radically in one respect from a chemical substance, a mechanical structure, or an animal, in that an active intelligence of variously developed powers furnishes a self direction which interferes with the simpler sequences of causes and reactions which prevail in the physical science fields of research"

Thomas Cureton (1952; p. 54)

Despite the observations made by Cureton, the 'scientific method', or the means of inquiring scientifically to yield knowledge, has been well represented by the quantitative research paradigm within the social science of sport psychology. A significant amount of research has been characterised by 'epistemological empiricism' (Henwood & Nicolson, 1995) whereby research questions have been addressed via the collection and statistical analysis of numerical data. In this way, investigations have tended to pursue objective



knowledge of universal laws of cause and effect through the testing of specific hypotheses. Researchers following a quantitative paradigm distance themselves from the people and social phenomena that they are studying in order to maximise objectivity (Steckler, McLeroy, Goodman, Bird & McCormick, 1992). Whilst the term 'structuralist' or 'positivist' may not rest well with sport psychologists who deal on a day to day basis with active centres of consciousness, the methodology of the first two investigations does reinforce that, as researchers, we often seek the facts and causes of social phenomena with little regard for the subjective states of individuals (Bryman, 1988). However, as Bryman (1988) also rightly points out, "the choice between qualitative and quantitative methods is primarily a practical matter of deciding which approach is most suited to the research question or problem at hand" (p. 26).

In many cases, a quantitative approach is often warranted if one wishes to generate general information on a specific area across a large number of subjects. Quantitative methods tend to produce factual, reliable outcome data that are usually generalisable to some larger population (Steckler et al., 1992). However, in line with the aforementioned arguments for applying the qualitative paradigm in Study 2, Gould and his colleagues point out the limitations of quantitative techniques such as numerically based self-report measures.

"First, investigators have typically asked athletes to respond to already developed instruments, so that there has been relatively little opportunity to identify previously unknown or unhypothesised factors that influence athlete performance. Second, instruments have usually been given only once, typically well before competition, and hence investigators have not assessed athlete reactions to the actual events of the competitive experience. Finally, a need exists to move beyond the identification of general factors associated with performance success to an in-depth examination of such factors. Qualitative inquiry provided such an opportunity." (Gould, Ecklund & Jackson, 1992a; p.359)

The qualitative research paradigm rests upon the adoption of the epistemological position of 'constructivism'. The method of inquiry characterising this research approach involves the use of more open ended and detailed analysis of verbal, written or visual material which has not been converted into points on numerical scales. Phenomenologists who apply qualitative research are eager to search for meaning and understanding of human behaviour, sensitive to how individuals construct their own reality (Smith, 1995). Understanding people on their own terms and in their natural settings (Patton, 1980) gives researchers the freedom to explore and be sensitive to multiple interpretations and meanings which may be placed upon thought and behaviour when viewed in context (Henwood & Pidgeon, 1995; Lincoln & Guba, 1985). A major strength of the qualitative paradigm, therefore, is that in being discovery and process-oriented, the data collected usually leaves the subjects' perspectives intact (Steckler et al.,



1992). Qualitative data generated from unstructured, non-numerical material such as interviews is both personal, rich and deep in nature. It is particularly pertinent to populations which are small by definition of their characteristics in order to generate information about those characteristics. For this reason, it is often argued that qualitative methods of inquiry lack external validity as the information gained may be idiosyncratic to that particular individual, as opposed to generalisable to the wider population. However, as Bryman (1988) clarifies the problem of validity is reduced by investigating multiple cases within populations whose commonalities render them relatively small in number. Therein lies the reasoning behind the use of a qualitative approach to answer a research question which explores the motivational criteria across the developmental span of young, elite performers experiences within their sport.

The following section attempts to provide an underlying coherency to the array of qualitative methods which characterise the execution of Study 2.

### **6.211 Structured Retropective Interviews**

Over the past decade, a number of studies within sport psychology have successfully employed qualitative methods of enquiry via the use of structured retrospective interviews (Gould, Ecklund & Jackson, 1992a, 1992b, 1993a, 1993b); Gould, Finch & Jackson, 1993; Scanlan, Ravizza & Stein, 1989; Scanlan, Stein & Ravizza, 1989, 1991). Interview techniques provide the opportunity for open searching and probing necessary to explore new or relatively untouched topics (Orlick & Partington, 1988). They are also relevant when the sample size is small and of an elite (British) standard as in this current study. The opportunity is afforded to accumulate a high level of quality information on the research question. There are also some practical benefits behind interviewing which are less facilitated by researcher-imposed self-report measures. Firstly, sport specific terminology and jargon used by performers can be more easily acknowledged and understood by the research team. Secondly, from an organisational perspective, interviews can be scheduled at the performer's own convenience, which may enhance their participation and co-operation in the study. Finally, from a performer's perspective, the ability to relate their own experiences in an open manner, whilst responding to questions about their sport participation, has often been documented as an extremely valuable and worthwhile *personal* experience for those involved (Scanlan et al., 1989).

### **6.212 Interview Guide and Use of Probes**

For the purposes of the interview itself, an interview guide is typically adopted in order to minimise interviewer bias, whilst at the same time, clearly facilitating the collection of qualitative data. The guide itself allows pertinent issues to be covered in an unstructured manner (Patton, 1980). Specifically, although all subjects are asked the



same questions from the guide, the topics themselves and order of questioning is free to develop with the flow of the discussion. Patton (1980) also advises that the research team establish a priori probing rules in order to ensure responses that are as consistent as possible in terms of their depth and complexity. Therefore, prior to the interview, researchers tend to decide upon a number of elaboration and clarification probes to be used per response.

### **6.213 Retrospective Interviews and 'Bounding'**

Previous research employing interviews (Bloom, 1985; Scanlan et al., 1989) has demonstrated the viability of retrospection, especially when subjects were recalling experiences in their lives which were highly salient. However, the process of retrospection and the correct recall of information is facilitated by certain interviewer techniques. Two recall techniques are most often employed. Firstly, 'bounding' which involves specifying the beginning and end points of the time period which is being explored (Moss, 1979). For example, the interviewer may bound the time period from eight to eleven years of age in order to discuss the subjects experiences within those few years. To be most effective, Moss (1979) recommends that 'bounding' in this manner takes place over two sessions. It can be discussed in the initial contact phase with the interviewee and reviewed at the time of the interview. Involvement Progression Questionnaires, discussed later, are a practical and helpful tool in achieving this goal. Secondly, rebuilding the larger context in which participants lived is an additional method of anchoring the interviewee within a specific time period under discussion and facilitating recall (Hindley, 1979; Morton-Williams, 1979). This involves questioning subjects on other events and people in their life during that time period. Although these questions may be unrelated to the research question, they are directly related to the topic under discussion as they allow the subject to more easily draw out all possible aspects of their experience in that life period.

It is worth noting that these aforementioned techniques, though originating from within the social sciences, were not successfully adopted by sport psychology researchers until Scanlan and her colleagues' thorough examination of the careers of former elite figure skaters in 1989.

### **6.214 Qualitative Data Analysis**

Smith (1995) points out that there is no one correct method for analysing qualitative material. The method chosen should be appropriate to the data collected and the research question (Bryman, 1988). Structured retrospective interviews can provide a richness of information which is often best captured by 'content analysis'. However, the analysis itself can employ either a deductive or inductive procedure. Deductive content analysis involves organising quotes from the interview transcripts around themes and



categories pre-determined and imposed by the investigator. This is in contrast to a 'grounded theory' approach (Glaser & Strauss, 1967) which aims to generate theory grounded in interview transcripts of participants accounts, however unstructured the qualitative material may be. One of the major characteristics of this approach is the inductive process which allows themes and categories to emerge from the data (Patton, 1988) and the meaning of social phenomena to be deciphered (Steckler et al., 1992).

Inductive content analysis has been the most favoured method within sport psychology research. Scanlan, Gould and their respective colleagues have successfully executed the inductive procedures proposed by Glaser and Strauss (1967) and Patton (1980) to yield a wealth of emergent information on elite figure skaters and wrestlers respectively. These procedures emphasise how an inductive content analysis moves through a number of stages starting with the content of the verbatim transcripts of the subjects' accounts.

The overall goal of the procedures is to organise initially raw data into interpretable and meaningful themes and categories. The process begins by clustering the quotes around underlying uniformities and it is these clustered quotations which become the emergent raw data themes (Glaser & Strauss, 1967; Scanlan et al., 1989). The clustering process, akin to a conceptual factor analysis involves comparing and contrasting quotes with all other quotes in order to unite those with similar meaning and separate those with different meaning (Glaser & Strauss, 1987; Patton, 1980).

The inductive process then builds upon itself where, by means of comparing and contrasting the meaning of the raw data themes, new higher level (or higher order) themes are emergent. The analysis continues to progress in this manner until it is no longer possible to locate further underlying uniformities to create a higher theme level (Scanlan et al., 1989). In some cases, the descriptiveness of the raw data theme may vary due to the articulation level of the subject. If less description is involved, a raw data theme may not neatly progress through all inductive levels, and may therefore stand alone and be carried forward directly to become a higher inductive level.

Each higher level theme becomes more analytic, interpretive and abstract requiring greater inference as the analysis moves conceptually upward from the quotes. However, in order to delimit a meaningful theme at whatever inductive level, three criteria must be supported (Krippendorff, 1980; Patton, 1980). Firstly, each theme must be inclusive, whereby it adequately captures the clustering of lower order themes that comprise it. Secondly, each theme within a given inductive level should be mutually exclusive and distinct from each other as far as possible. Thirdly, a higher inductive level must capture most of the lower order themes, leaving as few as possible unclustered themes. With these criteria in mind and to enhance the credibility of the inductive process, it is advisable to include consensus validation procedures when conducting the analysis (Scanlan et al., 1989). Specifically, mutual agreement of the researchers should



be reached at all stages of the process, prior to inductively moving on to the next level of analysis.

The purpose of this section was to provide the reader with a coherent understanding of the research methods that were employed in Study 2. However, as noted earlier, a number of researchers have adopted these methods previously within sport psychology to address questions related to the elite performer. One of the major qualities of employing a 'grounded theory' approach for these elite samples has been the amount of emergent information which has been generated on questions about which there was little existing information. The next section very briefly reviews the context of this research

### **6.215 Retrospective Interview and Inductive Content Analysis Studies**

As already noted, a number of studies have been conducted over recent years which have examined aspects of elite performance via the use of qualitative interviews (e.g., Gould et al, 1992a, 1992b, 1993; Gould, Finch & Jackson, 1993; Gould, Jackson & Finch, 1993a, 1993b; Jackson, 1992; Scanlan, Ravizza & Stein, 1989; Scanlan et al., 1989, 1991). The pioneers of this research approach within sport psychology were Scanlan and her colleagues who reported, in a series of three articles, findings from twenty six former elite figure skaters (Scanlan, Ravizza & Stein, 1989; Scanlan et al., 1989, 1991). Their research question focused on identifying the skaters' sources of stress and enjoyment during the most competitive phases of their careers.

Daniel Gould and his associates extended the use of this method over the next 4 years with both elite wrestlers and figure skaters. In the first series of two studies, elite wrestlers who competed at the 1988 Seoul Olympics were the focus of attention. The research question based broadly on identifying characteristics of athletic excellence focused firstly on investigating the mental preparation, cognition and affect of these performers prior to competition (Gould et al, 1992a). Secondly, their thoughts occurring during competition were explored (Gould et al., 1992b). Finally, in a later study (Gould et al., 1993), the personal coping strategies utilised by these wrestlers were also examined in detail.

The same line of investigation was continued by Gould in his research with seventeen National Champion figure skaters who held their titles between 1985 and 1990. In a series of three research papers, their sources of stress (Gould et al., 1993a), their coping strategies (Gould, Finch & Jackson, 1993), and the positive and negative aspects and experiences of being a National Champion (Gould et al., 1993b) were examined. Most recently, Gould, Tuffey, Udry and Loehr (1996) investigated reasons for burnout in competitive tennis players using qualitative techniques having initially applied quantitative methods to identify the most burned out players on a variety of psychological and demographic measures. Finally, Hanton (1996) examined the long term process by



which elite swimmers had developed the cognitive skills and strategies which allowed them to interpret their anxiety in a facilitative manner.

Without detailing the results of these studies, as their content is not central to the study reported here, they have demonstrated the validity and wealth of intriguing information that can emerge via the use of retrospective interview techniques, complemented by inductive content analyses. Only one study to date appears to have employed qualitative methods such as these within the achievement goal literature. Hayashi (1996) explored the nature of individual differences in goal orientation and social contextual factors related to achievement motivation among Anglo-American and Hawaiian male physical activity participants. Results of the content analyses revealed that subjects defined positive and negative experiences in the weight room through task and ego orientation. Subjects also perceived the weight room environment through competitive, individualistic and co-operative goal structures (Ames, 1984). Although cultural differences were detected, the content analysis was more deductive in nature in that the major categories (e.g., task orientation; competitive reward structure) were already pre-determined.

The qualitative research method in sport psychology has generally reserved its application to specific questions within specific populations. Little or no qualitative research to date has explored the process by which achievement goals are developed and socialised over time or activated under competitive conditions. The methodology, however, does provide an excellent template for examining this specific question.

### **6.3 STUDY 2: PURPOSE OF THE STUDY**

As highlighted in Chapters 2 and 3, research which has specifically addressed the antecedents of goal perspectives from an interactionist viewpoint has been sparse in nature. The work of Brustad (1992), Duda and Hom (1993) and Ebbeck and Becker (1994) has focused on aspects relating to the socialisation of goal orientations. Likewise Seifriz et al., (1992) and Walling et al., (1994), each supported by Joan Duda and Likang Chi, have focused on characteristics of the motivational climate which are purported to influence a particular goal perspective. All of these studies have taken a quantitative and empirical route in the same manner as Study 1. No published research to date appears to have focused on the question of antecedents of goal involvement from a qualitative perspective. However, the results of Studies 1A and 1B reinforce the need to understand more about the social and cognitive processes which influence the composition of achievement goal involvement prior to competition. Firstly, a greater understanding is required of the role of significant others and how perceptions of these agents mediate pre-competition achievement goals. Secondly, a closer look needs to be taken at the aspects of the competitive context which increase the 'value' of achievement and activate both task and ego involvement. Thirdly, greater clarification is required about the basis of



which personal expectancy is generated in a competitive context and how others' expectancies of the performer influence goal involvement. Lastly, more information is demanded on the socialisation experiences that have characterised the performers development in achievement contexts and thereby contributed to the level and strength of their goal orientation profile. In the context of being related to antecedents of pre-competition goal involvement, these issues warrant more detailed attention.

The purpose of the study, therefore, was to explore the antecedents of pre-competition achievement goals in a more all-embracing manner. Firstly, this involved investigating the motivational criteria which have contributed to the (continuing) development and formation of task and ego goal orientation levels. It also encompassed an investigation into those factors which, within specific match situations, activate task and/or ego-involved conceptions of ability, and may therefore influence levels of task and ego involvement.

Data collection would focus on the development and activation process of achievement goals for each individual subject. However, it was the study's aim to collate the information and identify general categories that were representative of the sample and individuals within it. In this manner, a bigger picture could be painted of the factors, at the dispositional and situational levels, which may play their part (either historically, currently or temporarily) in determining exactly what a performer's overall state of goal involvement is likely to be prior to a specific competitive match. Due to the exploratory nature of this study and the research methodology employed, there were no specific hypotheses to consider.

## **6.4 METHOD**

### **6.41 SELECTION OF SUBJECTS**

Twenty subjects were contacted by a letter from the investigator with detailed information about the nature of the study. All of these players were LTA/Rover sponsored and had participated in the previous study. The credibility of the project was enhanced by a covering letter to these players from the Director of the Rover Initiative, Mark Cox, who endorsed the project. In this initial contact phase, the researcher emphasised that all information would remain strictly confidential. In order to address the research question, the subject sample had to be of a particular nature, and therefore subjects were selected on their responses in the previous study. Specifically, a broad cross section of dispositional task and ego orientation scores and goal involvement responses was required in order to facilitate a comprehensive answer to the question. Interviewing players who were all high in a particular goal orientation and who possessed a correspondingly powerful state of task and/or ego involvement would prevent the research question from being answered fully. If the motivational criteria lying behind



personal theories of achievement were to be investigated in depth, then the sample had to be constructed of players who, as a group, possessed the full range of personal theories of achievement and utilised both differentiated and undifferentiated conceptions of ability. Therefore, a mix of players were selected on the following criteria:

1. The single item 'match goal orientation' profiles. Players who scored in the top or bottom third of the distribution on the two separate items.
2. The match goal preference. Players who responded with either 'equal importance' (0) or strongly preferred either a task or ego goal (+2/+3).
3. The TEOSQ 'goal profiles'. Players who were high and low in either or both goal orientations as measured by the TEOSQ.
4. The single item state goal responses. Players whose dispositional goal profile was reflected by their state goal responses, compared to players whose state goals differed from their dispositional profile.

Based on the results of the previous study, with the influence of situational criteria on levels of task and ego involvement (state goals), the following conditions were applied. Firstly, ten players were selected whose pre-competition states of task and ego involvement differed from their goal orientation profile. Secondly, a further ten players were selected who varied across goal orientation profile but whose goal involvement responses corresponded closely to that profile. These guidelines aided the process of selecting players whose varying pre-competition responses seemed to stem from a variety of dispositional or situational antecedents.

An attempt was made to select players whose single item goal profiles and TEOSQ goal profiles were similar. However, when this became no longer possible, the single item match goal profile was used as the default profile. Whilst acknowledging that it would be wrong to be unduly influenced by questionnaires that predict positive associations over and above those that do not (in this instance - the TEOSQ), it still seemed appropriate to apply the single item measures as the default criteria considering their predictions of the state goal.

It was decided to use an all male sample for the purpose of the study. Controlling for sex differences would allow the content analysis to be more manageable. Furthermore, being a competitive male tennis player himself, it was believed that the investigator would be able to develop a closer relationship with the subjects and draw out richer and more personal responses.

Of the 20 players contacted one declined to take part and two were unavailable. This left seventeen players, nine chosen by 'dispositional' goal profile, eight selected due to their pre-competition goal involvement responses being less related to their goal orientation

### **6.411 Subjects**

The subjects selected consisted of seventeen current male tennis players who ranged in age from 13 to 17 years (mean age = 15.5 years, S.D. = 1.33). Parental consent was given for all players to participate in the study. On average the players had nine years of experience in the game of tennis, and were currently ranked within the top ten in their respective age groups nationally. They were all current members of the Rover Scheme, an initiative spearheaded by the National Governing Body (LTA), which supports the top National players in the country.

## **6.42 THE INTERVIEW**

### **6.421 Instrumentation**

In order to efficiently address the research question and facilitate the interview process as a unit, three separate instruments were developed: The Involvement Progression Questionnaire; An 'Understanding Attitudes of Elite Tennis Players' reader; and the Interview Guide.

#### **6.4211 Involvement Progression Questionnaire**

With the development and socialisation of achievement goal perspectives within tennis being a key area of interest, it was important to understand the processes of involvement and commitment which characterised the player. Therefore, a tennis-specific Involvement Progression Questionnaire was developed (see Appendix 6) based closely on Bloom's (1985) seminal work on talent development. Bloom found that talented individuals in the areas of art, sport and science became accomplished in these fields following an arduous process which took them through three key phases. These were referred to as the early, middle and later years, each being characterised by gradual increases in commitment and dedication. Scanlan et al., (1989) first adapted these progressions to their figure skating study, enabling both the researcher and the participant to personally clarify three key phases of the commitment to the sport. For the purposes of this current study, the progression questionnaire tracked the players' participation in tennis from initial exposure to the game up to the present day. The questionnaire was discussed with each of the players separately during their first initial session with the investigator. The characteristics of each phase were described to the player who then completed the questionnaire at home. Phase One focused on the player's early experiences in the game, the time period in which he first got involved in tennis, took mainly group lessons and practiced perhaps once per week around other sporting activities. Phase Two characterised the time period where there was an increased level of commitment. In this phase, there were perhaps more individual lessons, where tennis was played more seriously, took up more time, and cost more money reflective of the



competitive level that the player was attaining. Finally, Phase Three centred around the period up to the current timing of the interview where players were fully committed to tennis, engaged in high level coaching programmes, and had received competitive honours at Regional and National level leading to selection as a Rover player. Having completed the questionnaire and denoted the time periods in these phases, the questionnaire was returned to the investigator and reviewed for clarity and 'bounding' purposes prior to the interview. Table 6.1 illustrates the descriptive data for the sample of players resulting from completion of the Involvement Progression Questionnaire.

**Table 6.1 Descriptive Background Information for the Sample**

	<b>Mean</b>	<b>SD</b>	<b>Range</b>
<b>Current Age</b>	15.50	1.33	13-17
<b>Age Began Playing Tennis</b>	6.53	1.21	5-8
<b>Years in Each Phase</b>			
Phase 1	2.65	1.27	1-4
Phase 2	2.47	0.72	2-4
Phase 3	3.76	1.14	2-6
<b>Time Spent Playing in Phase 3</b>			
Hours per day	2.58	0.79	1.5 - 4
Days per week	5.71	0.69	5-7
Weeks per year	48.23	3.17	44-52

#### **6.4212 The 'Understanding Attitudes of Elite Tennis Players ' Reader**

The youthfulness of the sample and the complexity of truly exploring achievement goal perspectives and their antecedents, rather than receiving superficial responses, demanded that the players take part in an educative exercise prior to the interview. Whilst at all times trying to guard against socially desirable responses from the subjects, it was felt necessary to provide the player with knowledge about the area of

research in player-practical terms, so that more educated responses might be elicited from the sample. There was certainly a fine line between giving the player information which may bias his responses compared to information which would allow both the individual player and the researcher to make sense of his responses. In order to allow the player to make greater sense of the questions within the interview guide, they were each given a reader called 'Understanding Attitudes of Elite Tennis Players' (see Appendix 7). The booklet attempted to help players to understand achievement goals in an impartial manner. This was effected by informing players that elite players in the game can possess two types of achievement attitude, namely a 'Performance Goal Focus' and/or an 'Outcome Goal Focus' (James & Fox, 1995). In this respect, the basic tenets of achievement goal theory were brought across to players in practical terms, whilst reinforcing how neither goal focus was better than the other and both could be adopted by elite players.

Players were given the booklet during the first initial session with instructions to read at home and urged to contact the investigator if there were any areas that they did not understand. Following the study, players commented on how the reader had helped them understand much more clearly the questions within the interview guide which now receives attention.

#### **6.4213 Interview Guide**

The questions contained within the interview guide were probably the most important constituents of the study. The findings from Study 1, the results of studies in closely-related areas of goal perspective research (e.g., Ebbeck & Becker, 1994; Seifriz et al., 1992; Walling et al., 1994), and the literature available on antecedents of achievement goals (e.g., Ames' work; Brustad, 1988, 1992) provided the rationale and stimulus for many of the questions in the interview guide. These sources were supported by insights from LTA qualified professional coaches and research colleagues within the department. Methodological and psychological advice and guidance on how to maximise the effectiveness of the interview guide was also received from an associate who had just completed extensive interviews with elite performers (Hanton, 1996).

A pilot-test of the interview guide was conducted on six junior players who competed at U-16 regional level. This allowed the researcher to go through the full standardised interview schedule and modify the guide with the minor changes as a result of player feedback. Positive feedback from players included allowing them to talk on an issue without any interruptions, but with good use of follow-up questions. Constructive feedback was given by players who argued that some of the questions were very similar within the same phase and that they had answered the same question three times. With the former point in mind, a vital quality of the pilot interviews was the ability to physically and mentally rehearse the full interview procedure. The practice and



refinement of interview techniques and skills during these pilot tests proved invaluable mental preparation for the researcher himself and certainly enhanced 'interviewing' performance in his own opinion. The complete interview guide is presented in Appendix 8.

### **6.43 PROCEDURE**

In the first initial meeting with each player following confirmation of participation, the Involvement Progression Questionnaire was discussed and distributed with the pre-interview 'reader' as previously noted. Furthermore, any questions regarding the study were answered and a date and time for the full interview was agreed. Immediately prior to the scheduled interview, responses to the Involvement Progression Questionnaire were reviewed allowing the player to be mentally 'warmed-up' and facilitating recall for interview purposes.

#### **6.431 The Scheduled Interview**

The interview format with each of the players was standardised, with players being taken through an identical set of questions and asked in the same manner. However, despite being structured to this extent, the presentation of topics within each section was free to vary with the flow of the discussion. Often the direction and content of the players open responses led the interviewer to react to and develop pertinent issues at that moment. Therefore, running with an issue that had arisen, as opposed to halting the flow of the subject was a skill which enhanced both the fluency of the subject's responses and the richness of information gained. A priori probing rules had been established for the interview guide. These included clarification probes where necessary (e.g., "I'm not sure exactly what you mean, could you please go through that again?"); elaboration probes for questions of specific interest (e.g., "Could you please explain this further?"); and general probes for questions of greater breadth where other sub-factors might be explored (e.g., "Were there any other situations in which your attitude might change?"). These probes were designed to ensure that responses were as consistent as possible in terms of depth and complexity (Patton, 1980).

All interviews were carried out by the author in order to ensure consistency of technique. The interviewer was a competitive tennis player and coach with an extensive background in the sport, and was well known within the tennis fraternity. This ensured that both the interviewer and interviewee were familiar with the sport terminology and shared high level competitive experiences within the game.

The interview guide, forming the backbone to the interview schedule, was divided into a number of interrelated sections which progressed through the players career from early experiences to the present day. The Involvement Progression Questionnaire worked as a template to the interview guide, and the responses to this questionnaire animated



each of the interview sections. With the aid of 'bounding', subjects were asked to keep their perspective in the particular phase (1, 2, or 3) that was being discussed.

Six interrelated and progressive sections existed in all. Section One consisted of a list of introductory comments made to the subject prior to recording. These included: a 'thank you' for being part of the project; the basic reason for the interview; issues of confidentiality and how the information would be used; reasons for taping the interview and the rights of the interviewee; and an encouragement for honest responses. Most importantly, however, two orienting instructions were given to each subject. Firstly, it was emphasised that the interview would progress through the three phases of development and that it may take some time to recall experiences which had occurred early on. The subject was asked to take their time in recalling this information, and if they could not remember, to tell the interviewer that this was the case rather than guess. Secondly, the subject was reminded that when answering any question about their involvement in tennis, they could draw upon all their experiences both on and off the court. Lastly, any questions raised by the subjects were answered before the interview formally began. Each of the following sections included brief introductions about the topic of interest. Additionally, sections two, three and four commenced with 'bounding' techniques (Moss, 1979; Scanlan et al., 1989) where subjects were reminded of the beginning and end points of the phase that was about to be discussed.

Section Two referred closely to Phase One of the Involvement Progression Questionnaire where questions focused around their early experiences as tennis players. Apart from rebuilding the wider context in this period (Hindley, 1979; Morton-Williams, 1979) to aid recall and enable players to talk descriptively, questions also focused on the motivational climate in this learning phase.

Section Three examined in detail the period during which commitment levels increased (Phase Two) alongside the quantity and nature of their competitive experiences. However, having rebuilt the larger context of this phase with very general tennis-related questions, the interview progressed to a subsection labelled 'Sources and Meaning of Achievement'. This section contained questions which focused directly on drawing out knowledge of the players achievement goals in that specific period and precursory motivational factors which were salient in this respect.

Section Four brought Phase Three into life by discussing the period from recent times to the present day where players were fully committed to their tennis and were regularly competing at national and junior international level. As this phase had existed for a number of years for some players, they were encouraged to answer the questions, whilst considering changes that may have taken place during this time period. For example, many players reported changing coaches, each of whom had influenced the player's achievement goals in different manners due to their coaching style and behaviour. The first subsection bounded this time frame and then focused once again on



uncovering reinforcements, changes, and antecedents of achievement goals which had occurred across this developmental phase. The second subsection was labelled 'situational factors and goal states' and addressed the competitive context in greater detail. Questions focused specifically on goal involvement prior to the match, exploring the situations where personal meanings of success and failure were either emphasised, strengthened or altered. For some subjects, Phase Three had definite sub-phases which were brought out in the two subsections. However, the majority of players were able to talk about Phase Three as a whole, whilst noting any minor events or changes during this period which they felt were of significance to the way they defined achievement.

Section Five allowed the player to express his own personal advice that he would give to younger players developing in the system with regard to the achievement goal focus that they should possess. This personal advice extended to parents, having been asked what role he would play if he was a 'tennis parent'. This has been a technique used by interview guide research previously (Scanlan et al., 1989) and it serves to increase a sense of ownership and contribution to the interview from the viewpoint of the participant. It allows the player, as an achiever, to talk at a very personal and responsible level about how he would contribute to an optimum achievement environment.

Section Six brought the interview to a close by asking subjects about how they perceived the interview experience, if their responses had been influenced by the interviewer, and whether they had any further comments to make about the topics under discussion.

The seventeen interviews were conducted face to face in tournament locations on the day prior to the player competing. With reference to the question being studied, it seemed appropriate that the interview context be as ecologically valid or 'field-based' as possible. This might enable responses to be generated from players whilst they were in a 'competitive tennis' mind-set. Each tape-recorded interview lasted between 40 to 65 minutes with verbatim transcripts amounting to approximately 280 typed pages. A complete interview transcription is presented in Appendix 9.

#### **6.432 Interviewer Bias**

The issue of interviewer bias was addressed in a number of ways. Firstly, all the interviews were conducted by the same person who endeavoured to adopt a neutral stance whilst working through the salient topic areas. Secondly, the topics themselves were structured within the interview guide and treated in standard manner. Further to this, a second researcher, who had gained experience in interviewing, attended one of the pilot interviews and provided valuable feedback on technique. This information was reinforced by the pilot subjects who offered constructive feedback on 'how the interview went'. Both the pilot participants and the subjects themselves expressed that they were in no way influenced by the interviewer, and, in being able to tell their story fully, felt



satisfied by the interview experience. In addition, verbatim transcripts of the interview were randomly sent to five subjects in the full study for verification of their accounts. Lastly, any bias on the part of the interviewer within the next stage of data analysis, and indeed any individual biases of the other investigators, were controlled by the triangular consensus validation procedures discussed forthwith.

#### **6.44 DATA ANALYSIS**

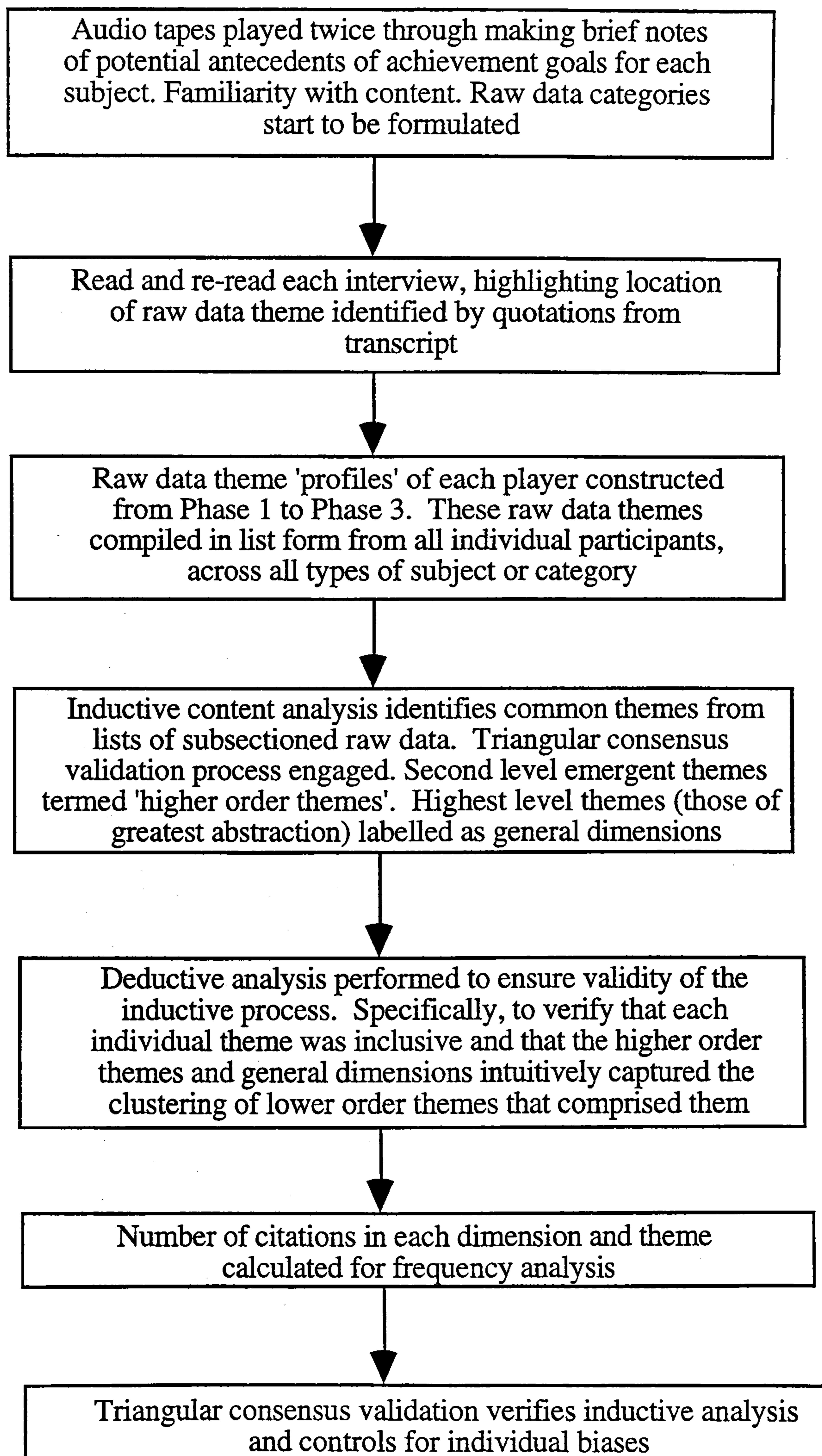
As alluded to earlier, an inductive content analysis was applied to the verbal data 'grounded' in the interviews. This feature of a grounded theory approach (Glaser & Strauss, 1967) as advocated by Patton (1980) has been successfully applied within sport psychology research by Scanlan, Gould and their colleagues. The inductive process involves organising raw verbal data into interpretable and meaningful themes and categories which emerge from the quotations (Patton, 1980). Themes emerge as the quotes are clustered together around common underlying threads, in a similar vein to factor analysis. Common threads are then located within these new emergent themes and the hierarchical process of induction progresses to a higher level of theme until it no longer possible to create a new level of thematic representation. Each of three researchers had to reach agreement on the themes representing each progressive hierarchical stage of inductive content analysis. In this case, it involved the primary researcher (i.e., the author), who had greatest affinity with the sample and sport terminology, sifting out the raw data themes and placing them into second level higher order categories meaningful to him. This process was then validated by two other sport psychologists. When agreement had been reached, the primary researcher then continued to progress the inductive analysis to themes of greatest abstraction. This process was then validated and triangular consensus on the structure of the content analysis was achieved. Figure 6.1 depicts the specific procedures adopted for the study, illustrated by a step diagram .

#### **6.5 RESULTS**

The interviews underwent an inductive content analysis with the focal question being 'what motivational criteria both develop and/or activate achievement goals?' The results obtained via the inductive process represent the collated responses from all seventeen tennis players. However, the frequency analysis in Table 6.2 displays the actual number of players who provided raw data themes that fell into the higher order themes and general dimensions. In total, 261 raw data themes emerged from the transcripts reflecting the diverse nature of motivational criteria which appeared to influence the personal goals of action characterising the elite junior tennis player. These were indexed into 87 higher order sub-themes, 22 higher order themes and further abstracted into 4 general dimensions.



**Figure 6.1 Data Analysis Procedures**



From a general point of view, as players developed their levels of commitment through the years, the nature of the motivational climate in which they existed, the structural and social nature of tennis, their level of cognitive skill and experience, and finally the context of different matches appeared to play significant roles in influencing both dispositional and pre-competition achievement goals. The findings suggest that the differentiation process, the socialisation of goal orientations, and the nature of pre-competition goal involvement rested on a complex configuration of internal and external factors. The four general dimensions, the higher order themes and associated lower level themes are depicted in Figures 6.2 to 6.5. A closer scrutiny of the findings within each dimension, crystallised by representative quotations from the transcripts, now follows.



**Table 6.2**                      **Number & Percentage of Players Citing Raw Data Themes in the Major Categories**

<b>Motivational criteria - Dimension/Higher order theme</b>	<b>Frequency No. of citations</b>	<b>% of total</b>
<b>Cognitive-developmental skills and experiences</b>	<b>16</b>	<b>94</b>
Degree of cognitive maturity and competitive experience	14	82
Task-focused pre-match cognitive skills & strategies	12	71
Task-focused post-match cognitive skills & strategies	7	41
<b>Motivational climate conveyed by significant others</b>	<b>17</b>	<b>100</b>
Motivational characteristics of early coaching experiences	12	71
Perceived ego-oriented coaching behaviour	10	59
Performance and development-related coaching strategies and behaviour	13	76
Ego-oriented parental climate	3	18
Ego-oriented nature of paternal involvement	4	24
Task-oriented parental climate	11	65
Ego-oriented attitudes of peer group	8	47
Perceptions of performance-related attitudes within peers and professionals	7	41
Regional culture	3	18
Attitude education resources	4	24
Perceptions & influences of LTA-related motivational climate	16	94
<b>Structural &amp; Social nature of the game</b>	<b>16</b>	<b>94</b>
Outcome-based social influences of tennis	9	53
Value placed on outcome-based social approval	10	59
Perceived nature and consequences of social comparative evaluation	8	47
Performance-based social attitudes	3	18
Personal consequences of structured competition	13	76
<b>Match context</b>	<b>17</b>	<b>100</b>
Meaning and importance of match situation	14	82
Conditioned response to personal perceptions of normative ability	11	65
Personal expectation of overcoming opponents skills	10	59

## **6.51 Cognitive-Developmental Skills and Experiences- Inductive Content Analysis**

As Figures 6.2a and 6.2b depict, 49 raw data themes were extracted from the interviews concerning the effects that cognitive skills, experience and maturity seemed to have on the psychological development and operation of achievement goals. These themes were organised into thirteen higher order sub-themes, three higher order themes and finally abstracted into a general dimension labelled 'Cognitive-Developmental Skills and Experiences'. This dimension represented 88% of the sample with 15 out of 17 players making remarks which encapsulated a theme within that general dimension. The first higher order theme, 'Degree of cognitive maturity and competitive experience' was cited by 82% of the players. This theme firstly highlighted players' cognitive immaturities at a young age and their inability to place improvement within the game into a meaningful context. This was further supported by the lack of cognitive ability to place personal performance into perspective alongside the outcome. This is encapsulated by the following quotation:

"Until 12 years old it was all very competitive, players were all the same as me. All you could ever think of was winning, because you cannot really analyse things at that age.....you can't break things down.....you're not old enough or mature enough to break things down in your mind." (Subject no. 7)

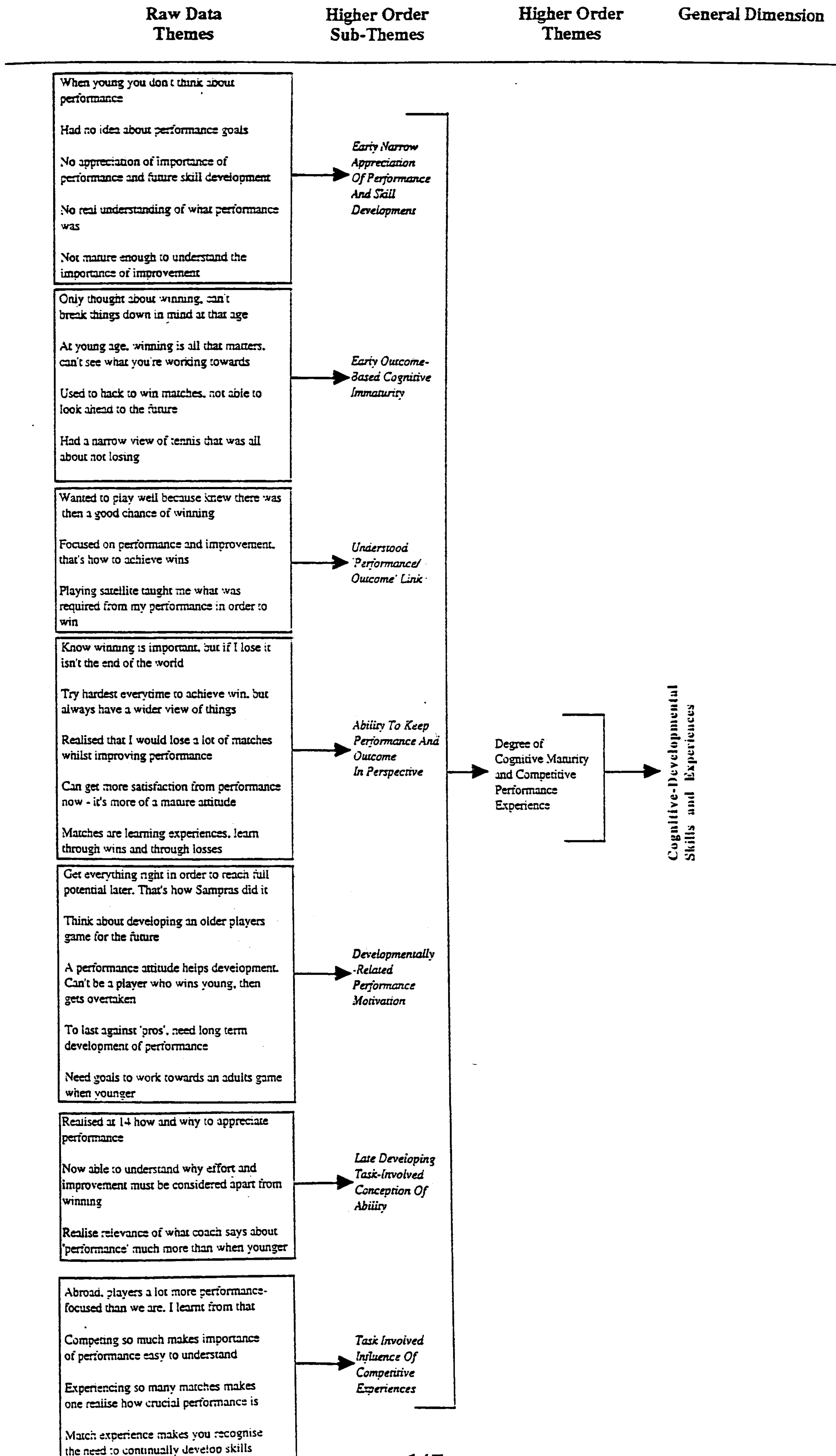
Further to this, however, the theme also embraced the effects of developments in cognitive maturity. Specifically, this included an understanding of how personal performance links to outcome in being pivotal to long term objective success. This prompts the player to keep both performance and outcome into perspective as well as motivating developments in performance skills. Three players captured these themes in their interview:

"You've got to develop a game that will last against the professionals and which will win against the professionals like Agassi. You've got to be looking for performance so that when you're older, you can perform your optimum to win." (Subject no. 17)

"You've got to be looking to improve.....you can't just play twenty feet behind the baseline and just loop the ball 100 miles in the air to win.....that's just not going to win in 2 years time. You must look more at your performance for the future" (Subject no. 8)

"Performance is much more important to me now, because you need to try and change your game into an adults game. You need to try out your performance against better people." (Subject no. 2)





Finally, the theme reinforces the importance of competitive experiences in maturing the player's attitude towards personal performance and its place in the game:

"I've competed so much that you learn about what you need to do for the future to give yourself the best chance of winning. At that age, you can't see what you are trying to work towards and winning or losing shouldn't be so important as improvement and learning. I wish I'd been able to see that, but it's not that easy." (Subject no. 3)

"It happens when you are growing up, you can assess more when you've seen it....When you're young, you're just seeing your first tournaments, you want people to say you're good. As you develop in life, you appreciate things more and when you come off court and have lost, but your coach says 'but you did this well, this well and this well etc', you can realise that much more than when you are young." (Subject no. 8)

The second higher order theme representing the general dimension was 'Task-focused pre-match cognitive skills and strategies' referred to by 71% of the players. This theme encapsulated how players used performance recall and planning skills prior to matches, performance goal setting techniques, and attempted to maximise and control the quality of their personal performance via ritual patterns referred to here as performance segmenting. One player shares an aspect of his pre-match mental performance preparation:

"In order to play well against an opponent, I think back to what happened last time - and I think what did I do wrong last time and what worked well for me last time." (Subject no. 1)

The final higher order theme depicting this general dimension was termed 'Task-focused post match cognitive skills and strategies'. 41% of players cited their 'after match' appraisal skills and techniques which appeared to be task-involving in motivational terms. These included thorough reviews of competitive performance, feelings of competence resting on the internal achievement of performance goals, and self-learning as a result of the review process. One player mentions the overall process:

"I set performance goals for every match off a performance review sheet, and analyse the match afterwards. I rate the goals that I set so I learn from every match." (Subject no. 2)

and another explains how this skill has improved:

"I analyse the match a lot afterwards. I'll go through it in my mind, seeing if I played the right shots at the right times. Before it was I'd won or lost.....and that was the end of it!" (Subject no. 4)

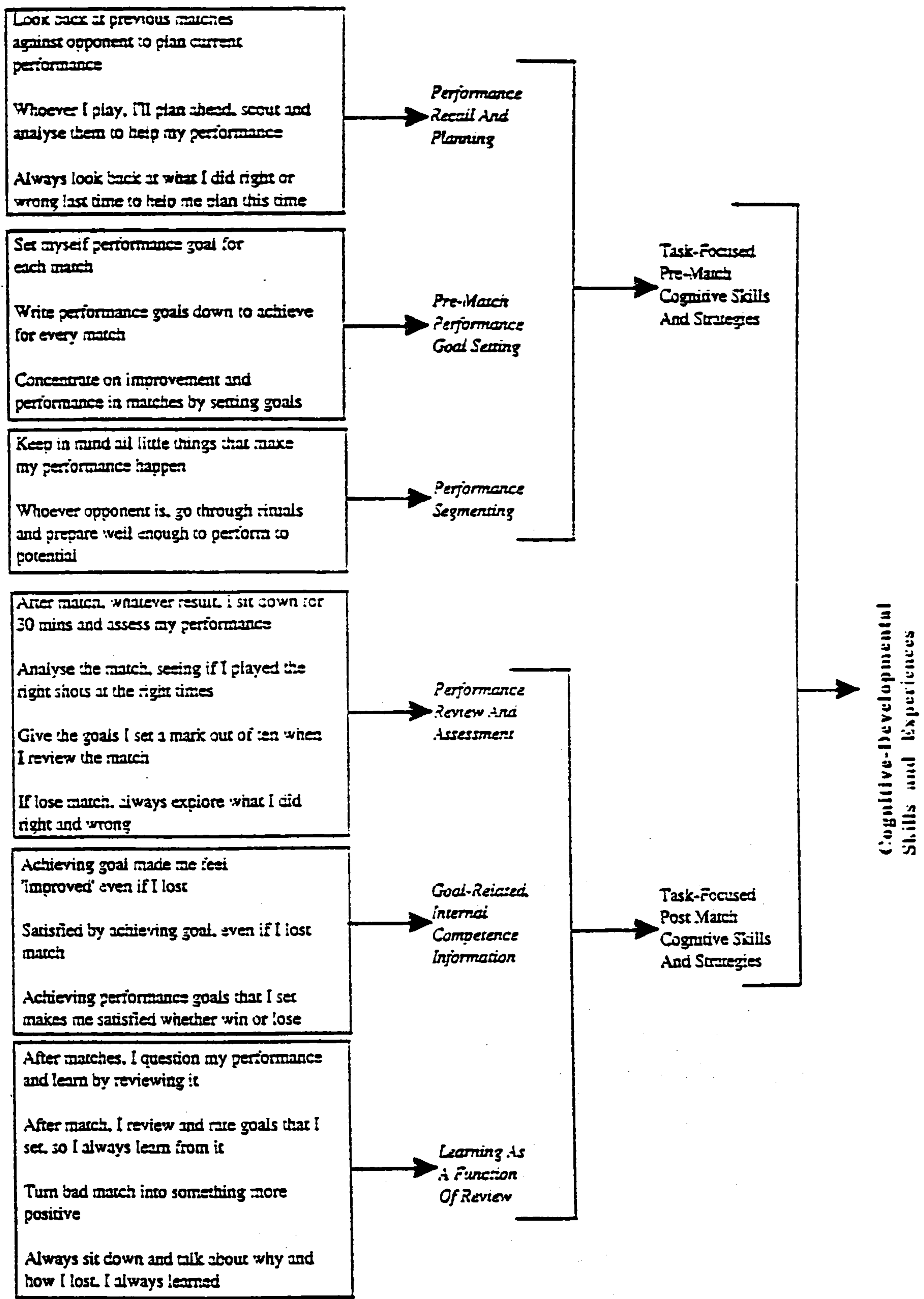


Raw Data Themes

Higher Order Sub-Themes

Higher Order Themes

General Dimension



## 6.52 Motivational Climate Conveyed by Significant others - Inductive Content Analysis

As illustrated in Figures 6.3a, 6.3b, 6.3c, 6.3d and 6.3e, a substantial amount of rich information was gathered pertaining to the influence of environmental agents and the goal-related cues transmitted to players by these external criteria. Over 100 raw data themes reflected the role played by significant external factors in both socialising dispositional tendencies and influencing match specific thought processes. The raw data was processed into eleven higher order themes which were subsequently represented by a general dimension labelled 'Motivational climate conveyed by significant others'. This dimension prevailed in 100% of the interview transcripts and became the most extensive factor in the study.

Progressing through the higher order themes in sequence, 71% of the players alluded to the motivational impact of their early coaching experiences in Phase 1. References were made to how sessions and lessons were related to personal improvement and skill learning. This was reinforced by the task-oriented nature of the coach's behaviour, as one player points out,

"He concentrated on letting us enjoy the game, and made sure that everything was technically correct, so that I would be technically good when I was older." (Subject no. 17)

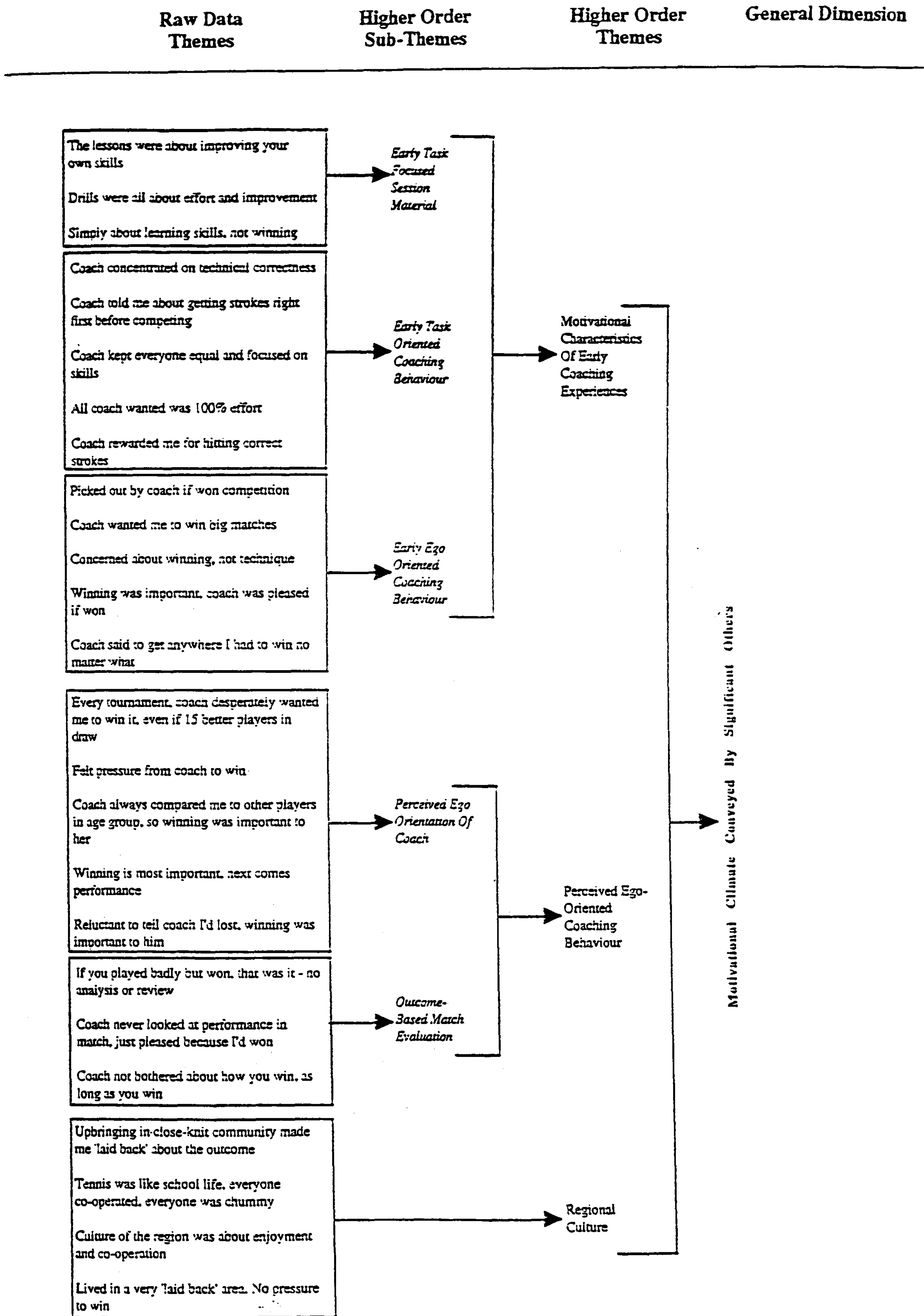
However, an equal number of players maintained opposing perceptions of their first coach, arguing that their values reflected more ego-oriented behaviour:

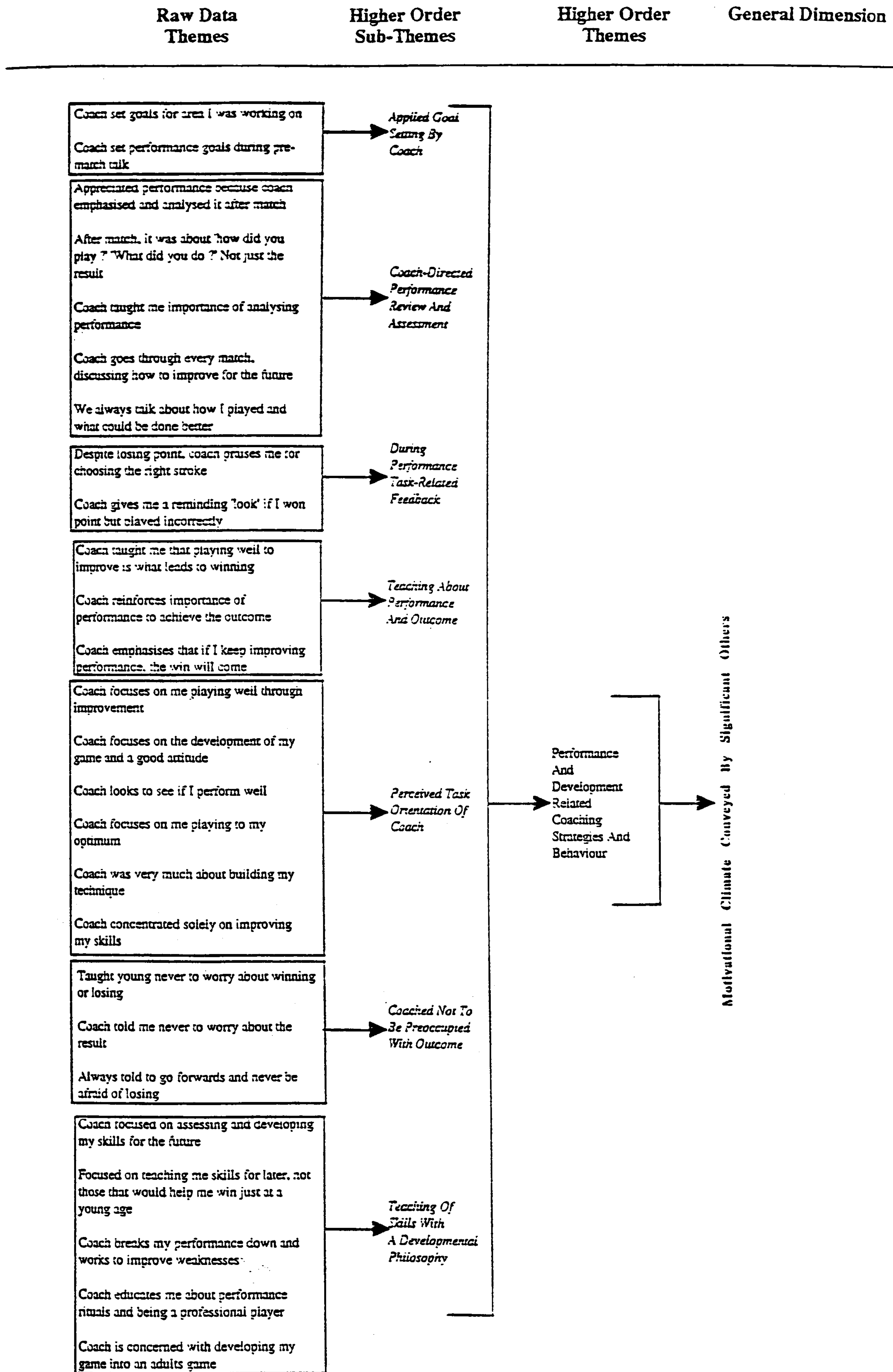
"There was nothing technical to start off with, she mostly wanted me to win. She said that if I was to get anywhere in tennis, I'd have to win a lot of matches, no matter how I won them, as long as I won. That was her main thing." (Subject no. 4)

Ego-oriented coaching behaviour in later stages of development was perceived by 59% of the subjects. This higher order theme arose from two sub-themes, one which conveyed the coach's ego orientation in general and the other which emphasised how matches were analysed on a basis of outcome only, as one player clarifies "He wasn't too bothered about how you win, as long as you win. That was his philosophy."

It is certainly of value to point out that players within the study typically experienced four or more different coaches for significant amounts of time, some of whose behaviour contrasted markedly with the ego-oriented picture painted above. Indeed, 76% of the players referred to how the coach (at some stage in their development) behaved in a manner which was performance and development-related, applying strategies which reflected this more task-oriented behaviour.









Within this theme, players noted the coaches' task orientation and their operating strategies which included goal setting, performance review and appraisal:

"After the match, they'd always analyse the match a lot technically. If I played badly, they'd tell me and go through it all and how I could improve it for the future." (Subject no. 4)

"My coach would set me goals for a part of the game that I was working on, and if I played well and I felt I had achieved the goal, I felt that I'd got better even if I lost the match. I was satisfied." (Subject no. 15)

Coaching behaviours, such as during-performance feedback, teaching the links between performance and outcome, and applying a developmental philosophy to performance skills, further embraced the coaching climate:

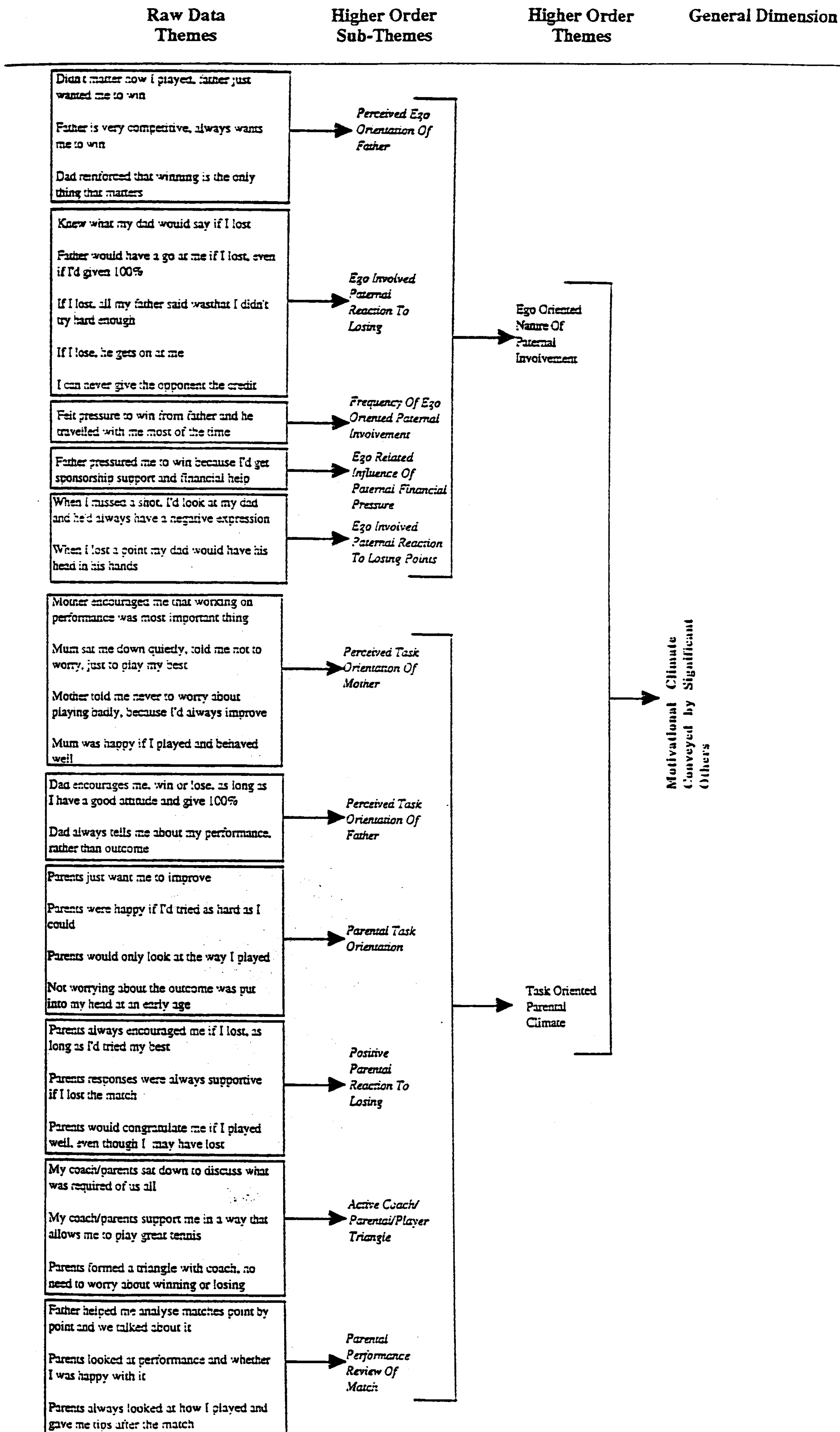
"He encouraged me to play my own game and attack.....he said I wouldn't win all matches, but I would in the long run. He told me never to worry about the result, because you will always get better." (Subject no. 11)

The following quote also conveys this theme but alerts to the simultaneous and dysfunctional influence of cognitive immaturity, highlighted previously:

My coach was very focused on teaching me things that I'd be good at later, doing things differently, not just hacking but taking the ball on. I didn't agree because I wanted to win, but he's right, you look at kids now and the hackers are going nowhere. When you're younger it's difficult to appreciate that." (Subject no. 8)

Moving away from the coach as an active agent in the players psychological development, a further set of higher order themes emphasised the crucial role played by parents within the player's motivational framework. With reference to both parents in general, 18% of players made observations which suggested that they lived in a parental climate with ego-oriented elements. Several players remarked of the negative repercussions which transpired following a loss, including one who stated "They'd moan at me if I lost, so I got it into my head that I can't lose this or I'll get a bollocking, you know." (Subject no. 12). This impression was established further by the extent to which rewards were forthcoming as a function of outcome only. 24% of players made specific reference to the ego-oriented behaviour of their fathers. This higher order theme was composed of several sub-themes which were of considerable interest in the context of the question. Players reported the father's preoccupation with winning and his maladaptive reactions to matches being lost:

"After the match, if I lost my father would have a go at me. He'd ignore me, ask me why I didn't win and then wouldn't talk to me. I always gave 110%, but if I came off court and didn't win, he'd say that I didn't try hard enough." (Subject no. 6)





"My dad always got on at me if I lost, so I always thought I played a lot worse than I did, and I was never allowed to give the opponent enough credit." (Subject no. 5)

In addition to this, however, players talked of the pressure of having an ego-oriented father who travelled with the player most of the time, pressure to win to gain financial support and sponsorship, and most contextually, negative visual reactions expressed by fathers during the match. A classic quote from one player reads,

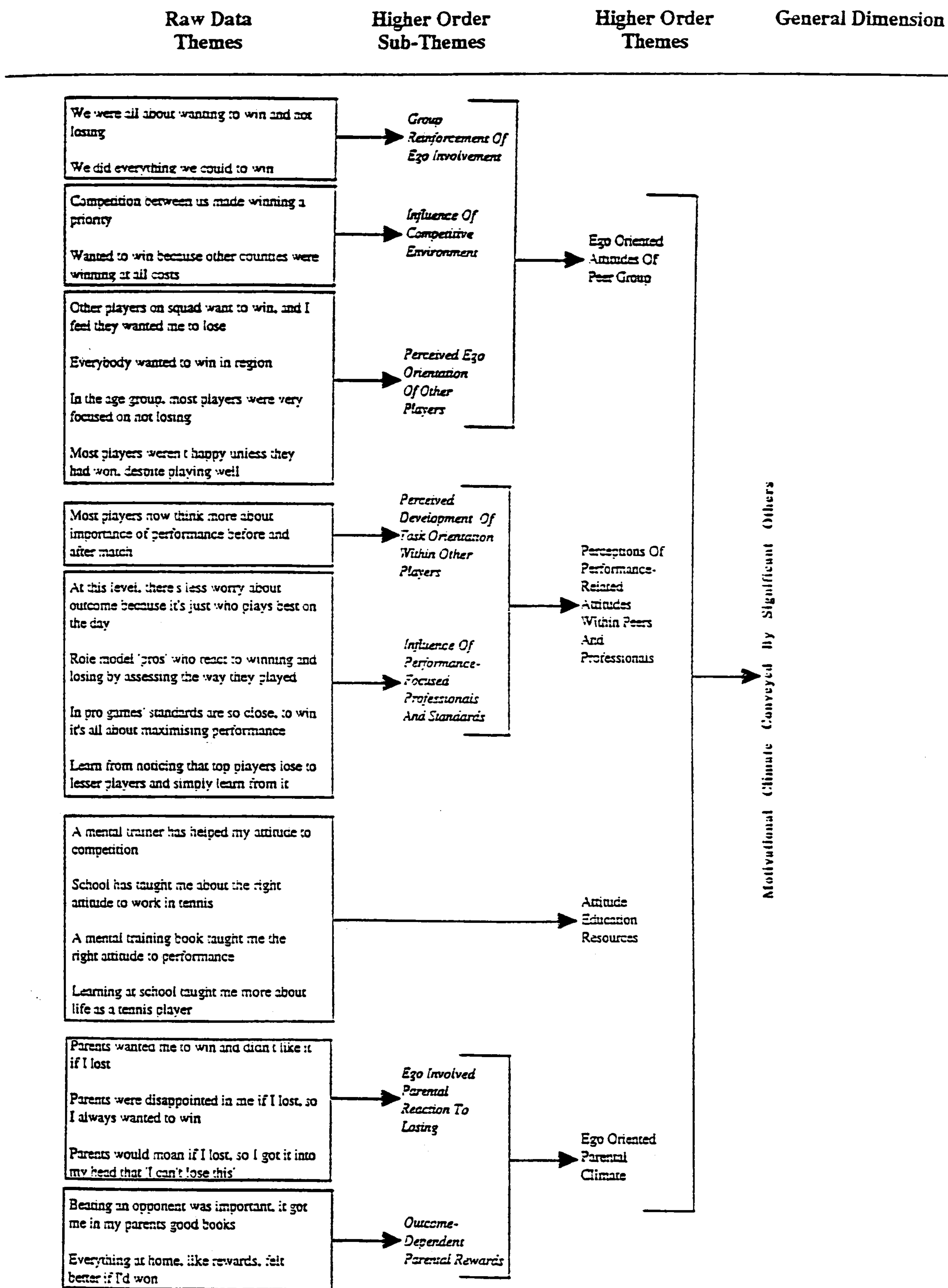
"I worried a lot. I'd always look at my father and if I played a bad point, then he'd have his head in his hands and I'd worry about that."  
(Subject no. 5)

In contrast, a large proportion of the players (65% in total) commented on parental behaviours which led to a higher order theme labelled 'Task-oriented parental climate'. Players referred to the ways in which their fathers, mothers and parental unit as a whole encouraged, recognised and reinforced self-referent performance criteria, as well as offering positive reactions to losing. For some players, however, the task-focused support went even deeper with an active triangle formed with the coach, and an active role taken by parents - that of constructively reviewing performances after the match:

"My parents gave me some encouragement, they'd look at my performance and give me some tips. They'd say 'you tried hard, maybe you could have done this.....your concentration started off better, but you lost it towards the end' - things like that." (Subject no. 3)

The higher order theme of 'Ego-oriented attitudes of peer group' was present in 47% of the transcribed accounts. Striking insights were provided by many players on why socially comparing well to other players was of vital importance in tennis. Although these insights are reserved to a different general dimension (see Structural and Social Nature of the Game), their knock on effect lies in the practical influence that ego-oriented peers have on other players. Specifically, several players in the early competitive stages (Phase 2) remarked how for all other players winning was what mattered. The competitive environment of fellow players, reinforcing the importance of winning, led their attitude down a similar path. As one player explains,

"When I left the county.....everyone was out there to win. I remember I played Devon in the first big county match at Devon and the things they did to try and win were outrageous, I couldn't believe it. If you live in Cornwall, it's totally different. That's when my mental approach changed a bit." (Subject no. 10)





In later stages of development, however, there were several players (41% in total) who reported on their 'Perceptions of performance-related attitudes within peers and professionals'. As one player remarks,

"The better players with me in this age group appreciate performance and that's why they are the better players. They've realised at 14 or 15 that this guy's 2 years older and a much better player.....what do I need to do to better that in 2 years time. They've sat down with their coach and assessed what's required to be something better." (Subject no. 8)

This statement itself highlights a Phase 3 response where maturing players perceive their maturing counterparts to attach greater significance to self-referent performance. A number of players also related to the interviewer how they were influenced by their personal insights into professional player behaviours and elite standards, which seemed to have a marked impact on their motivational attitude to competition:

"When I went abroad, they are a lot more performance-focused than we are, than British players. I learnt a lot from that and matured and saw what the pro's did. I now try to role model what the pro's do much more." (Subject no. 2)

A handful of players representing 18% of the sample cited that their upbringing within a highly co-operative culture in tennis and social terms had a significant impact on their views about the meaning of achievement. With respect to the higher order theme of 'Regional culture', one of the sample stated,

"The area in which I lived was definitely a reason for my attitude. I lived in quite a close knit community.....everyone's nice to each other .....everyone gets along and nothing is too serious. They're all laid back and relaxed, there was no pressure to win, so I just suppose that's the way I am." (Subject no. 10)

The penultimate higher order theme, characterising the motivational climate, was termed 'Attitude education resources' and contained in 24% of the transcripts. This comprised of players beliefs about the important role played by access to 'tennis education' in facilitating the development of an optimum approach towards the game. Specific education resources which influenced their attitude included firstly, the process of schooling and the (compulsory) opportunities presented to learn about life and competition through the medium of secondary education. As one player points out,

"I've realised at school that you've got to keep working through to progress, and keep your mind on improvement. You can't leave anything to the last minute, and that's helped me a great deal with my attitude towards tennis." (Subject no. 3)

Secondly, the availability of, or introduction to mental training resources in the form of tennis specific texts or mental skills trainers seems to have helped attitudes (e.g., "I read a book about success and your attitude and I kept positive about my performance in the match and won", Subject no. 5).

The final higher order theme representing a powerful source within the motivational climate, and of particular relevance to this standard of player, was the perceptions that players held of achievement theories transmitted by the LTA and Rover Initiative. Nine sub-themes in total reflected these perceptions which were pertinent to 16 out of the 17 players (94%). Six players in total remarked on the task-oriented aspects of the Rover Initiative and the perception that individual performance and improvement was a major concern. Two of these players commented,

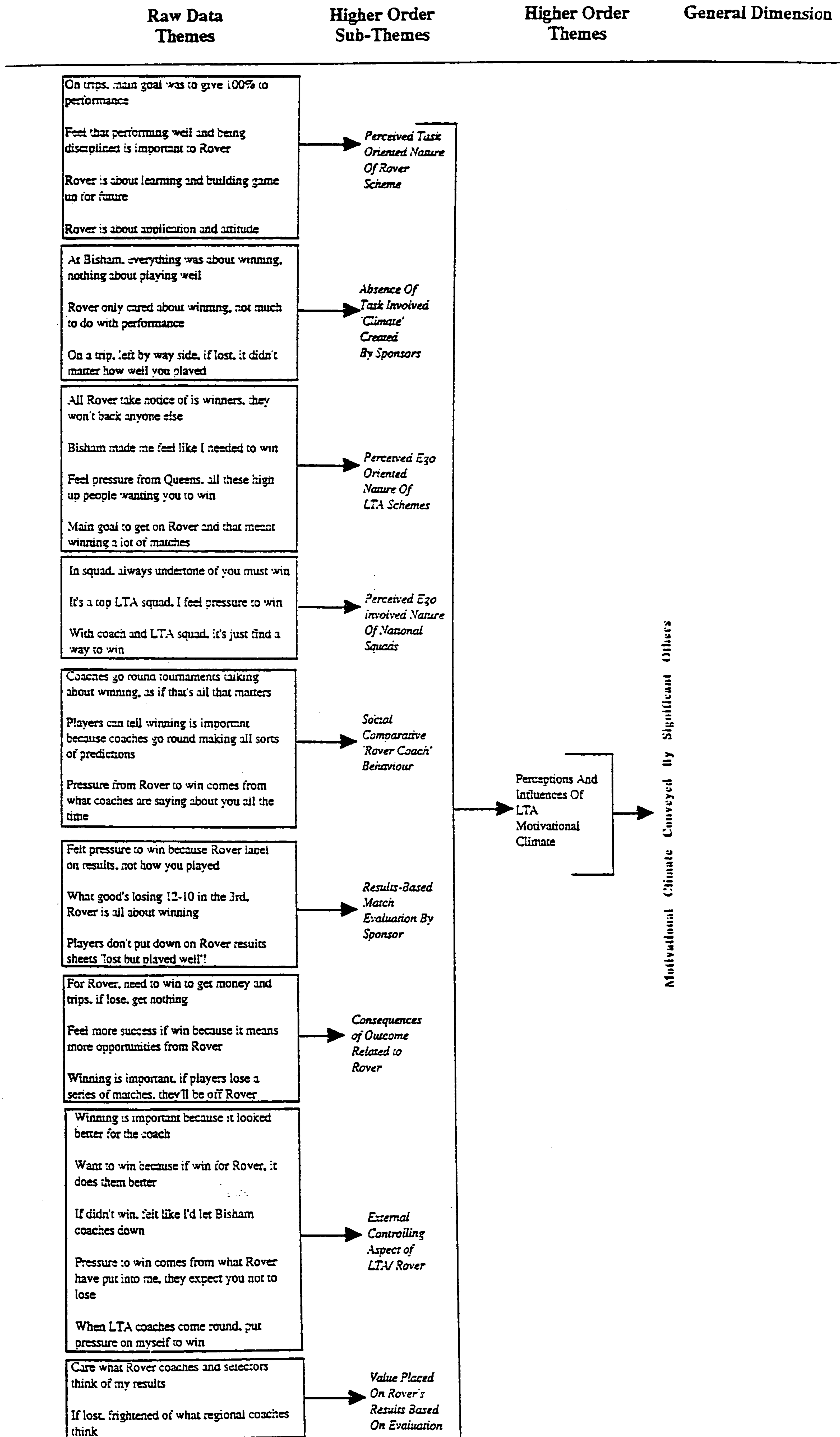
"Rover are about getting everything sound - technique sound, fitness sound, mentally sound.....the coaches are not really worried about results, or that's what I get anyway." (Subject no. 1)

"I mean I can't speak for all the Rover coaches, obviously, but the one I had, he always emphasised performance, so that's how I really began to appreciate performance a lot more than when I was younger."  
(Subject no. 8)

On the other side of the coin, however, salient observations were made about the lack of a climate to instil the importance of self-referent performance, and the ego-oriented nature of LTA schemes. One of the players vehemently stated "Winning, that's all they take notice of, they can't look past the end of their noses. They're scared of backing someone who isn't going to win." (Subject no. 12). The atmosphere of some national squads appeared not too dissimilar, as one player disclosed "With the coach and the LTA squad, it was all about winning.....even if you are playing awful, just find a way to win". (Subject no. 5). Another player also stated "If I'd lost, I'd be reluctant to go and tell him.....in the squad there was always an undertone of you must win." (Subject no. 3). These sentiments were further reinforced by players who noted the behaviour of coaches to be consistently 'normative' as opposed to 'self-reference' based:

"All the (Rover) coaches go round and they keep talking about winning and that winning is important, it's the only thing that matters.....which is true, I mean it is, but all of us players don't want to hear it all the time.....I know that we are expected to win and play well....but the coaches.....are the first people to really give you a strong message that winning is important because they're always going around talking about it."  
(Subject no. 10)





This pattern of coach behaviour corresponds directly to the manner in which several players felt matches were evaluated by the Rover scheme - on a basis of results, with a disregard for the standard of personal performance placed alongside the outcome. Two of these players embraced their sentiments beautifully:

"For Rover, getting results is more important than anything - even if you've lost 12-10 in the 3rd, what good's that result?!" (Subject no. 6)

"At 13, winning was the most important thing to Rover.....you got picked for trips abroad, more ratings points and bonuses. The performing well was less important because you don't put down on your Rover results sheet 'lost to Joe Bloggs, but played really well' - you put down 'lost 2 and 2', but no-one knows that you played really well." (Subject no. 2)

A number of players took the perceived importance of results a step further by referring to the personal consequences of outcome with respect to Rover opportunities and support:

"For the Rover coaches, you need to win.....you get money, you get trips, but if you lose you get nothing.....I don't like the Rover coaches watching me if I'm losing to someone, or else I might not go abroad again." (Subject no. 12)

"The Rover coaches tell you not to worry about winning and losing, just to improve, but they are the ones that put the pressure on you to win cos' if you lose, you don't get anything. It's mostly because of them that people want to win. They tell you that it doesn't matter, they tell you that.....but they lie really!" (Subject no. 11)

Interestingly, the final two sub-themes seem to comprise the personal responses that one might expect considering the influence of aforementioned sub-themes. Firstly, the degree to which players are externally controlled by the LTA and its related schemes; and secondly; the personal value that the player places, not directly on winning matches, but on the scheme's 'criteria' for evaluating matches. As these criteria are perceived to be normative and objective, the value placed on winning is automatically at a premium.

### **6.53 Structural and Social Nature of the Game - Inductive Content Analysis**

The previous general dimension encapsulated the motivational climate from a perspective of the significant others within that environment and their behaviour, actions, attitudes and beliefs. However, the interviews affirmed that the sport of tennis comprised a motivational climate in its own right. The nature of the game imposed a number of achievement-related influences on players either directly through its structure or indirectly through its influence on social subcultural norms. In sum, 36 raw data themes were categorised into 5 higher order themes, and further abstracted to compose a general dimension labelled 'Structural and Social Nature of the Game'. 88% of the players responses focused on the impact of social evaluation and expectation, in tandem with the



competitive reward structure imposed by the sport. As Figures 6.4a and 6.4b illustrate, the first higher order theme, 'Outcome-based social influences of tennis', alluded primarily to the expectation placed upon players by the social subculture. As the expectations were result-based, so seemed the achievement goals for those matches. As one player puts it, from the 53% who cited these issues,

"If I've beaten the player before, I'm expected to beat him and everybody at home expects me to beat him, so I think 'I just don't want to lose this match'." (Subject no. 14)

These normative expectations are also inherent in the second sub-theme, where several players seem to actively process the need to win when important people are present at specific matches.

The second higher order theme representing this dimension reinforced the typical nature of match evaluation by 'others', perceived by 47% of the players to be in the guise of results-driven social comparisons. One player, for example, states,

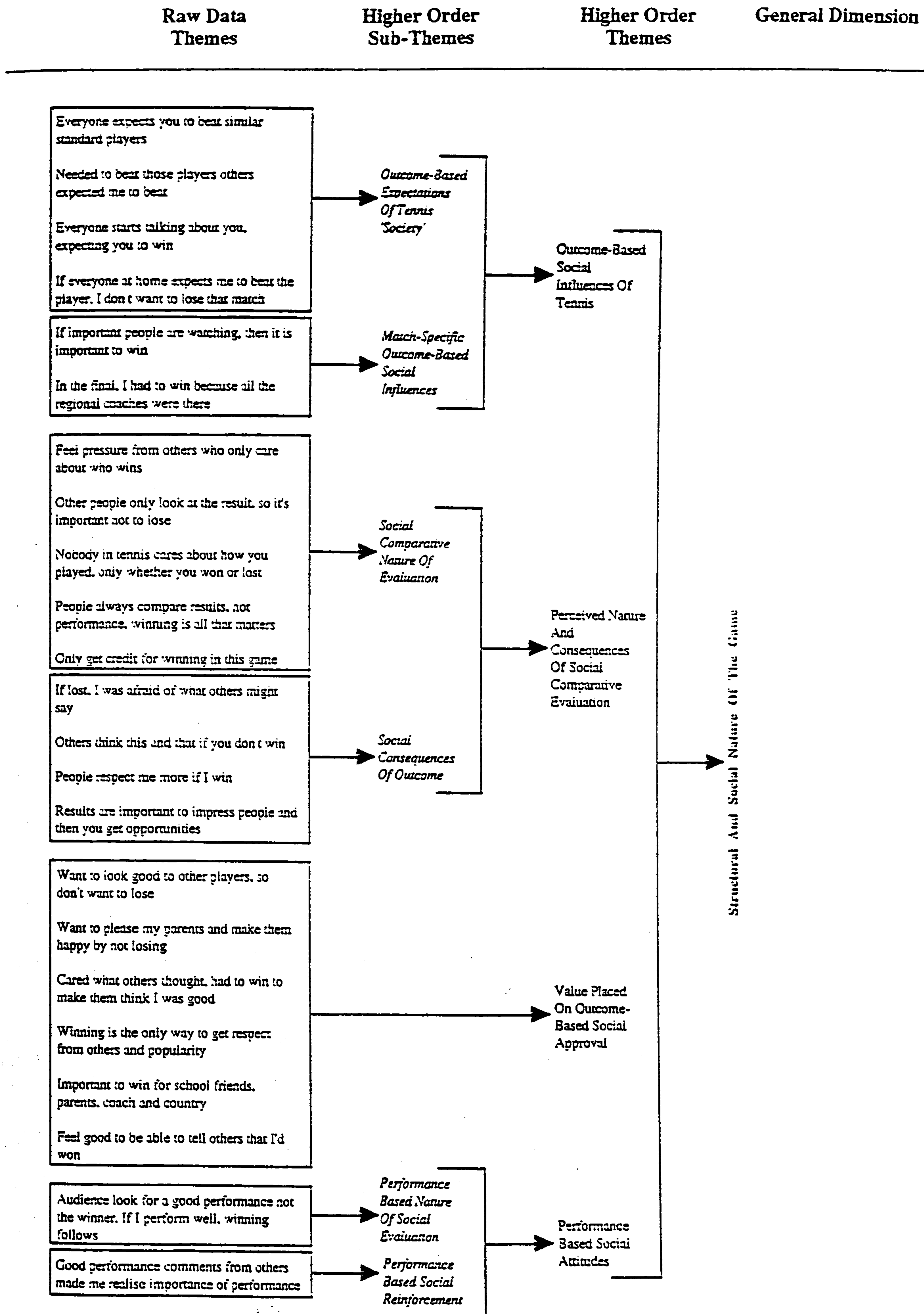
"People, you know, always compare on results, they don't compare who tries the hardest. At the end of the day, nothing else matters as long as you win." (Subject no. 16)

These sentiments fit neatly into the second aspect of this theme which reflects the positive and negative social consequences that players felt resulted from a match having been won or lost. The achievement goal-related consequences of these social aspects are perhaps manifested by the value that 59% of the players placed on proving themselves to others in outcome terms. Several players disclosed a need to prove themselves to others by winning or not losing, including one who said "I feared losing because I wanted to look good to other players and gain respect in their eyes." (Subject no. 3).

Three players, however, representing 18% of the sample expressed how 'Performance-based social attitudes' had influenced them as players. Firstly, it was perceived that an audience evaluates the player on a basis of the quality of his performance:

"When I was younger, I wanted to impress certain people in the audience by winning. But now I realise that it is the performance that they are looking for, so I've got to try harder. Then I'll perform better and that's what they're looking for and what I'm looking for, because I know that if I perform well, there's a better chance of me winning." (Subject no. 15)

In addition, the importance of performance seemed to be reinforced to the player by the positive performance-related comments offered by others.



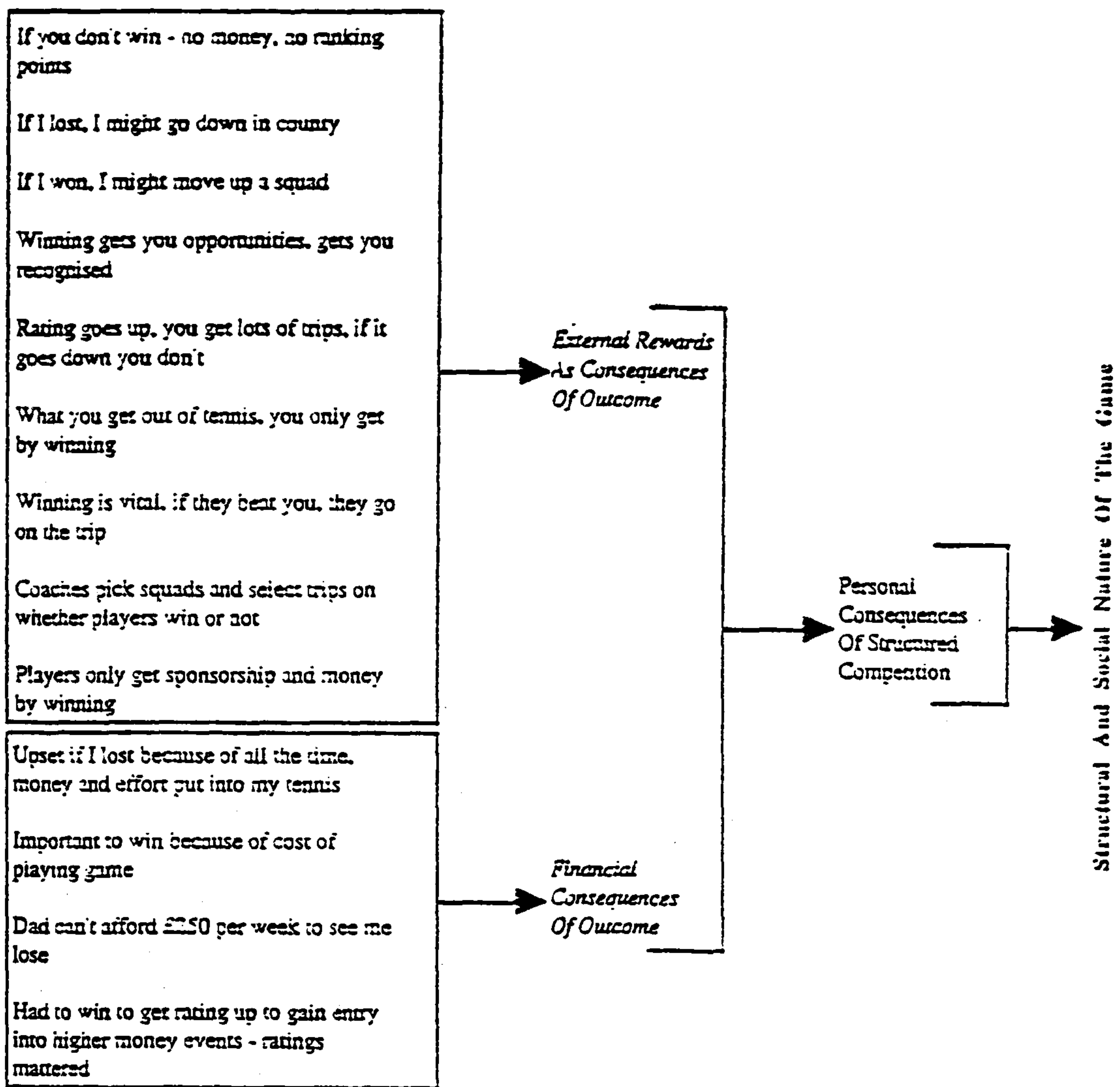


Raw Data Themes

Higher Order Sub-Themes

Higher Order Themes

General Dimension



The final higher order theme under this dimension related to the personal consequences resulting from structured head to head competition under the rules of the game. The external and financial consequences of winning and losing were noted by 76% of players. Firstly, several players cited the important external rewards that come as a result of winning, and the negative return on losing. Rewards in the form of sponsorship, rating points, trips, and promotion were all perceived to be dependent on winning, as one player clarifies,

"I've got more competitive and want to win much more, because of all the things that you get when you win.....you get rating points, a higher ranking, trips abroad.....I don't want to get left out of trips.....so I put more pressure on myself to win than I used to." (Subject no. 11)

Secondly, for a number of players, the cost of playing the game accentuated the importance of winning for financial reasons. To these players, losing matches meant money spent, less money earned, lesser progress made. As one 15 year old pointed out, "You can't be spending £250 and losing all your matches, my dad will start thinking 'what is the point?' " (Subject no. 12). Apart from the personal 'guilt' of losing, another major consequence of a loss was more practically financial in that a higher rating meant automatic entry into higher money events or perhaps a 'wild card' place. Rating points, however, only materialise with winning performances.

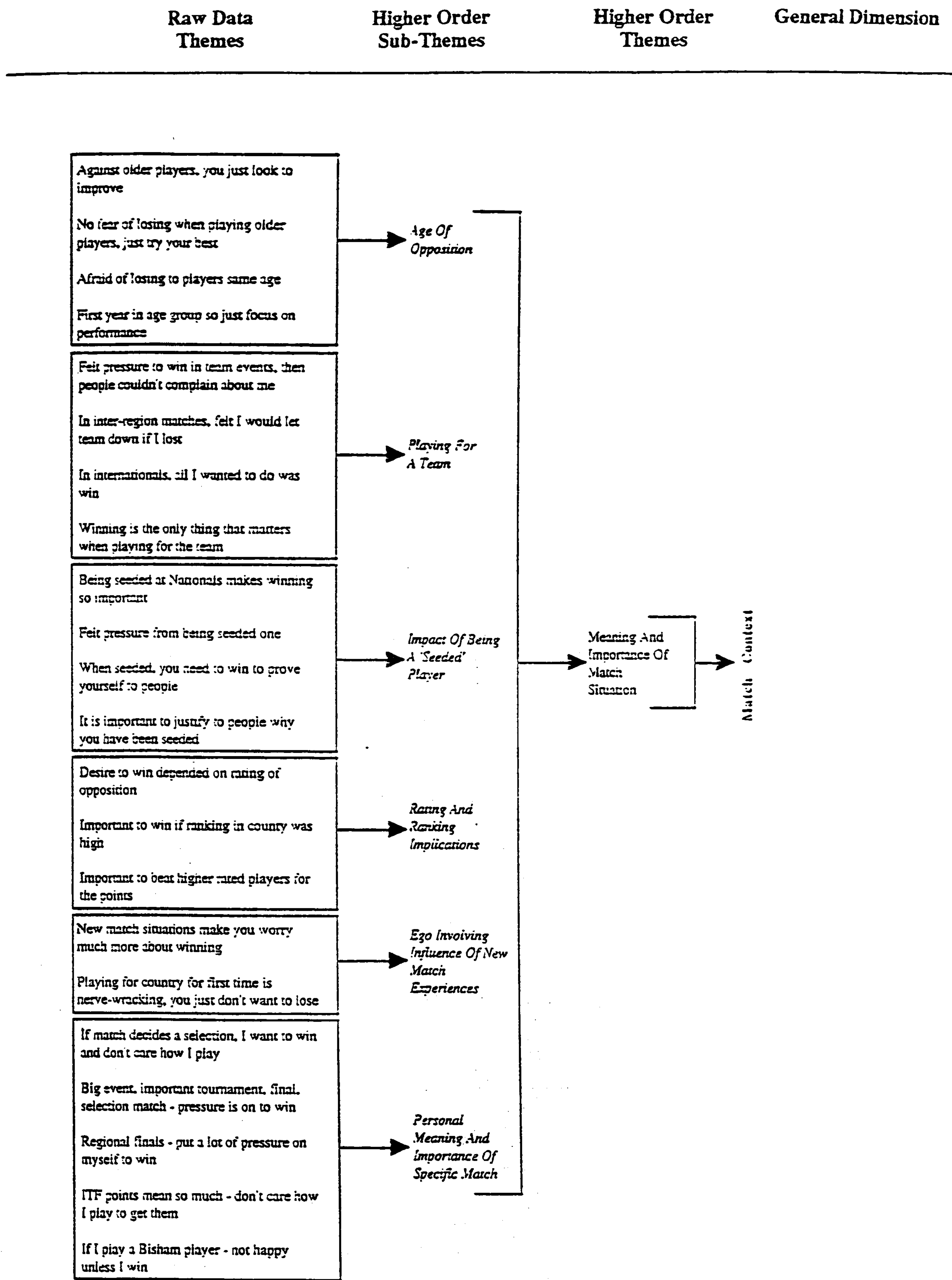
#### **6.54 Match Context- Inductive Content Analysis**

As illustrated in Figures 6.5a and 6.5b, the final general dimension, labelled 'Match Context' was abstracted from a total of 42 raw data themes and subsequently three higher order themes. The substantial role that the context of the match confrontation played, with respect to the pre-competition achievement goals of players, is reflected by its place in 100% of the interview transcripts.

The first higher order theme, 'Meaning and importance of match situation', pertained to the nature of the competitive encounter facing the player and the predominant goal state that the player claimed would transpire as a result. 82% of the players cited the effects on their achievement attitudes of playing older or younger players, playing for a team and being a seeded player. Players within the same group also alluded to the importance of winning when ranking or rating points were available to be won or lost, or more prominently, when players were placed in a certain match situation for the very first time:

"If it comes to a new experience, a new tournament, or the first time you play for your country - I'm more worried about winning.....I feel more pressure. Playing in your first satellite, winning a match distracts you from performance!" (Subject no. 3)





Finally, a number of these players simply confirmed that if the match had a certain personal meaning and importance, then winning was the priority above all others (e.g., "I didn't care how I played in Winchester and Ireland.....in those matches, I just wanted to win those ITF points." Subject no. 16). This latter quote does suggest a connection between the match context and the structural nature of the game.

The second higher order theme, composed from 59% of the players transcripts, reinforced findings from Study 1 when it emerged from the content analysis. It seemed apparent that one of the motivational factors mediating a player's achievement goal state for the specific match was their personal expectation of overcoming the opponent's skills. All of the players citing this theme suggested how their expectations were normative, based upon the rating and standard of the player, previous head to head encounters, and simply on whether they personally expected to win or not. In general terms, the higher the expectancy of winning, the greater the importance of winning:

"My focus depends upon the standard of the player and the expectation that I have of me against him. If I feel that I can beat him, then the winning focus will always be there, because that's how I get my opportunities in tennis." (Subject no. 17)

However, it is worth noting that a number of the players within this theme appeared to talk about their expectation to win in the presence of activated task involvement:

"I expect to win if I've beaten them before, because I have my rituals, I know how I play well and I know how I don't play well and so I know when I'm going to play well. I know I could win, because with my rituals, when I go out on court, I know what I have to do to play my best tennis." (Subject no. 10)

The self-belief that their own personal skills would overcome their opponents' performance skills prompts the reasoning behind labelling this theme 'Personal expectations of overcoming the opponents skills', not simply 'Personal expectations of winning'. Whereas the latter is a *characteristic* more associated with ego-involved performers per se, the former can act as an *antecedent* variable which may activate both task and ego involvement in players. In this respect, players value a focus on self-referent performance because it is the optimal method by which they can exceed the opponent's performance. It is also worth noting the subtle difference between a personal expectation discussed here and the social expectation placed upon the player discussed within the general dimension of 'Social and Structural Nature of the Game'. What a player personally expects to achieve may not necessarily correlate with what a player perceives is socially expected of him. However, in Study 1, the 'Social/Personal Perceptions of ability' factor suggested that there was a relationship.

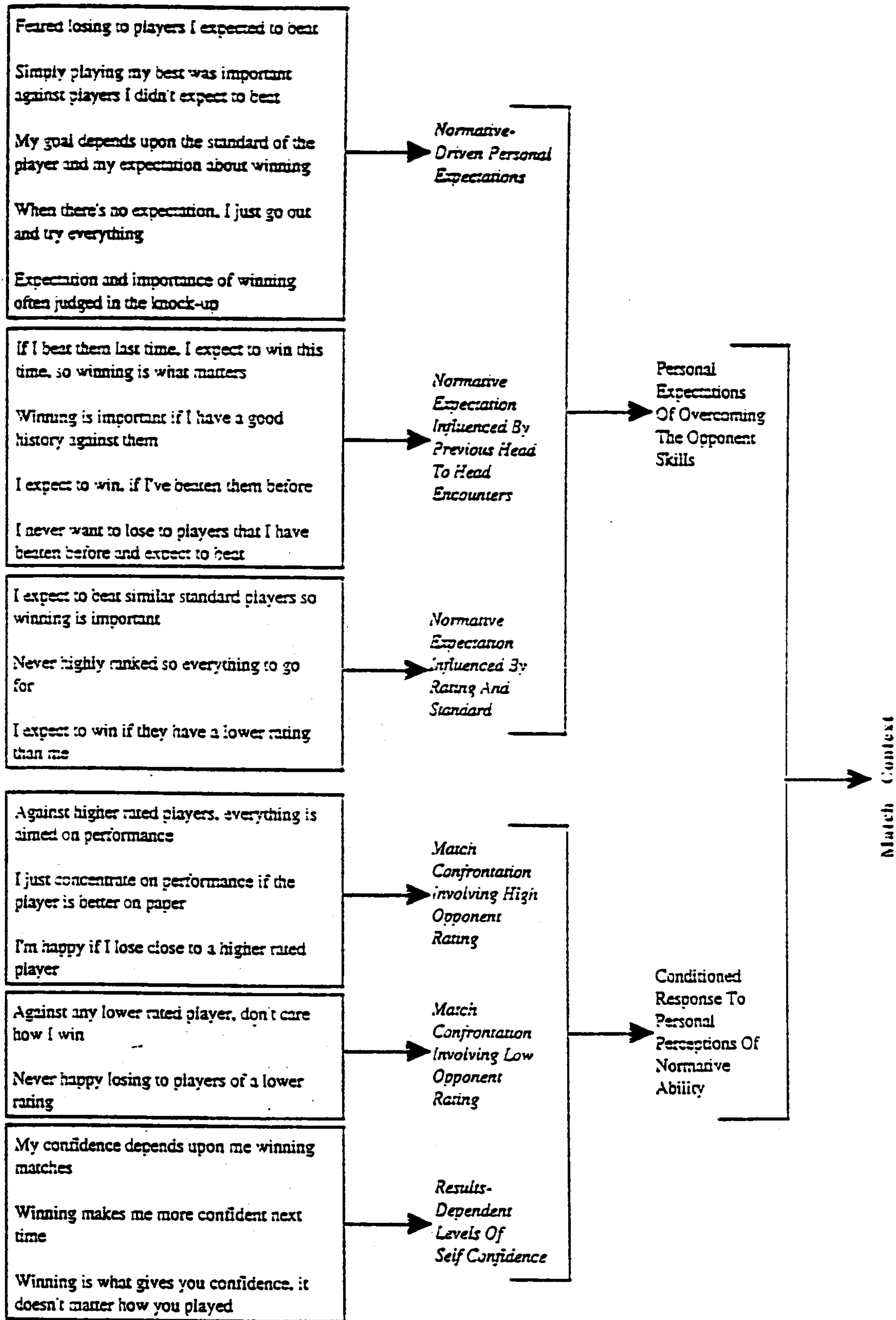


Raw Data Themes

Higher Order Sub-Themes

Higher Order Themes

General Dimension



The richness of information gained in the interviews was further emphasised by the finding that players may well enter matches with an overall goal state determined by a conditioned response to their personal perceptions of normative ability. Eleven players, representing 65% of the sample within this final higher order theme, reported how they typically responded when facing a more able opponent compared to a less able opponent. Ability was construed in a differentiated manner with less pressure to compare well when perceptions of ability were low in comparative terms, but with a greater emphasis on winning when the normative perception of ability was high. In addition, as ability was 'other-referenced', levels of self-confidence were construed in outcome terms and this subsequently appeared to mediate the achievement goal adopted in matches of differing normative expectancies. As one player clarifies,

"If you win it gives you confidence, I lost last week, so I've got no confidence for the next match. If I'd won even if I played crap, I'd be all up for the next match." (Subject no. 12)

In summary on this theme, the player's recent win/loss ratio and the perceived standard of the current opponent were instrumental in cognitively processing levels of perceived ability. This perception subsequently seemed to prompt a conditioned response to the situation which stemmed from a highly differentiated conception of ability. Whether this finding can be classed as an antecedent is debatable considering it already assumes that a fully differentiated conception has been invoked. However, as will be argued in the discussion, perhaps a player cannot fail to activate a differentiated conception of ability within a competitive context. It is perhaps his constant perceptions of other players ability levels in matches and training which cause the conditioning of his achievement goal profile specific to competition. In this manner, one might argue that the conditioned response to an opponent's level is an antecedent in itself.

### **6.55 Advice For Others**

Subsequent to completion of the major sections of the interview, players were given the opportunity to offer any advice that they would give to aspiring young players about the right attitudes to possess to achieve success in tennis. Various pieces of advice were forthcoming ranging from always working hard in training to get the rewards, loving competition to simply listening to the coach because "they've seen the game develop over maybe 15 years and they know what they are talking about" (Subject 8). However, anchored by the experiences that they had endured and from which they had developed, one common piece of advice was very much in evidence. Talented young players were advised to think as early as possible about the development of the performance skills that would be required for the future. Even if this meant losing matches in the short term, improvements in technical and tactical aspects of performance



would lead to results in the longer term when it mattered. Many of the players in the project had come through periods where they had no understanding or appreciation of performance and had focused on winning for the wrong reasons. Their personal theories of achievement were biased towards outcome because the place and meaning of self-referent performance had not been cognitively instilled. Although, they had 'seen the light' and recognised the type of performance attitude that was required to develop skills for an adults game, they regretted the inability to perceive this type of approach earlier. Their suggestions to players focused on ways of seeing the light as early as possible and applying a corresponding attitude which would serve to optimise performance potential over a greater number of years than those with which they had been privileged. Some of the players questioned how good they would be now at fifteen years old if they had been motivated by a more self-referent conception of ability for five or six years, as opposed to only the last two or three. A few also pointed out the dangers of simply being happy by winning matches and thus socially comparing well regardless of task difficulty and the actual level of performance. The message being that levels of satisfaction should be grounded or dictated more by perceptions of personal performance than by outcome.

A second question asked the players to put themselves in the shoes of a parent to a talented tennis player and inquired into the type of environment that the player would construct in the form of praise, support and rewards. Consensual responses focused on not putting pressure on them to win, letting them enjoy the game, reacting positively and constructively after wins and losses, letting them think for themselves, develop independence and encouraging them to take their interest in the game to whatever level they want.

Given the appropriate type of support structures, environment and coaching at an early age onwards, their overall advice proposes a challenging and exciting goal for both players, coaches, parents and power groups as a whole. The discussion of the results of this study should provide some valuable insights into how best to achieve this goal with the consideration it gives to the wide range of achievement-relevant criteria.

## **6.6 DISCUSSION**

The research question for this study had originated from the results of the previous study that performers pre-competition goals were influenced by both dispositional and situational factors. Considering the interactional nature of the cognitive process leading to a performer's overall goal state prior to competition, it was of interest to examine the process in much greater depth. The purpose of the study, therefore, was to execute a detailed investigation into the motivational criteria which have influenced the development and activation of achievement goals within elite young sports performers. Firstly, the study sought to understand more about the factors which affect the cognitive development of achievement beliefs over time at the dispositional level. Secondly, a



further goal was to understand more about those situational variables which were contingent to the activation of pre-competition goal involvement. In order to ensure that the findings pertained to as wider cross-section of players as possible, a sample of players was drawn from the previous study whose reported levels of task and ego involvement were related to a variety of antecedents. The question was explored via the use of structured retrospective interview techniques yielding a wealth of information to be subsequently analysed by inductive content analytical procedures.

An abundance of findings emanated from the players' responses which not only served to reinforce and extend existing knowledge, but which also encouraged alternative views about the nature of achievement goals. Four general factors emerged which together began to illustrate how and why players have come to define what achievement means to them in a competitive situation. Whilst each factor seems to have the ability to interact with the others, each can be discussed as a separate dimension in itself. This discussion will therefore be split into six sub-sections. The first four areas focus on a discussion of each separate general dimension, drawing information from other dimensions where appropriate. The final section serves to conclude the second study by examining its strengths and weaknesses, whilst providing the rationale for Study 3.

#### **6.61 COGNITIVE-DEVELOPMENTAL SKILLS AND EXPERIENCES (GENERAL DIMENSION 1)**

If a player's overall achievement goal state for a specific situation is processed via cognitive interpretations of stored memory and other available sources of experiential information, then the process of cognitive development and maturity would appear to be a salient factor. The findings within this sample of players suggest, firstly, that the nature of achievement goal involvement depends to a large extent on the degree of cognitive maturity and competitive experience held by the player. A large number of players reported being highly outcome-oriented at a young age as a function of not being able to understand the role of personal performance and the importance of skill development. Nicholls' theory suggests how between five to twelve years of age, a gradual differentiation transpires between the concepts of ability, effort, task difficulty and luck with respect to the attributions to outcomes offered by children in achievement tasks. Although, it is not possible to state with total confidence, the results suggest that the differentiation process may have occurred much earlier and quicker within several of the sample. The study did not investigate the precise levels of differentiation as carefully delimited by Nicholls' research. Therefore, it was impossible to establish whether, for example, ability had been differentiated from task difficulty. However, few statements by players consciously declared the role or importance of effort, performance, or luck in this period. Therefore, one might tentatively suggest that ability was a clearly distinguished feature in the players view of achievement. Retrospectively, a majority of



the players reported 'ability-oriented' behaviour as early as 8-9 years old when they began to regularly compete in matches. Responses to the effect that 'tennis' was about winning and showing that you are better than your opponent, with little appreciation of the wider significance of self-referent performance, prompts the serious question of 'how much does a lack of cognitive maturity interact with the social and structural nature of the game?'. At a young age, social comparison appeared to be a highly salient source of information for judging perceptions of competence (Horn & Hasbrook, 1987; Williams, 1994). Internal, self-referent competence information appeared to be applied only at a much later developmental stage.

The issue of cognitive maturity is indeed interesting for it seems that many players, accepting the arguments presented above, take the fast route to differentiation and, when placed in a highly ego-involving climate, are not mature enough to appreciate the role of effort and performance. Nicholls originally argues that at about twelve years old, children complete the differentiation process and have the ability to utilise either the differentiated or undifferentiated conception of ability. Although, he argues that the climate and structure of the context are the major precursors to one conception being favoured, his work does suggest that the child at least has the cognitive maturity to recognise that the other conception does exist. This forms the basis of orthogonality where two conceptions of ability, and hence two achievement goals, are available to be activated to differing degrees. For example, the twelve year old may well adopt a powerful normative conception of ability and weaker self-referent conception of ability when competing at tennis. However, within a recreational swimming context, he may conclude that achievement is about beating himself, rather than others - a dominant self-referent conception and a lesser activated normative conception.

Within this sample of players, an understanding and appreciation of the undifferentiated conception of ability seemed to be lacking to a much greater extent than a differentiated conception at an early age. One explanation could involve the interaction between the degree of cognitive maturity, understanding or intelligence that young players possess and the reward structure of the environment. If young players are repeatedly exposed to more differentiated environments which emphasise interpersonal competition and evaluation, then the differentiation process is speeded up. The result, however, is a player who is younger, more conditioned towards ego involvement and who is less able to invoke an undifferentiated conception of ability - either due to that powerful opposing environment or his level of cognitive maturity. This process might be termed 'forced differentiation'.

If this argument is valid then the seeds for a strong ego orientation are likely to be planted very early within sports comprising a dominant competitive goal structure (Ames, 1984). It was also noted by a number of players how they had been on the receiving end of 'task-oriented' coaches during their early years, but that during this period, they



maintained ego-involved behaviour. Some of these players have cognitively matured to hold a more task-involved attitude which may have been 'subliminally' developed by the strategies and behaviour that the coach showed during their earlier years. Nevertheless, these points reinforce the need to look closely at the cognitive development/motivational climate/social and structural nature of the game interaction. Specifically, are the ego-involving aspects of the environment simply overriding the task-involved influence of the coach at an early age? Is this mediated by the possibility that the player is unable to form a task-involved view of achievement? Finally, is the reason why he cannot access a task-involved conception of ability due to the player being 'institutionalised' within an ego-involved climate and social structure?

At a young age (in this sample), ego-oriented aspects of the environment tended to overpower task-involving aspects. However, in later stages of maturity, task-focused cues held much greater meaning and importance, but perhaps only alongside an already well developed and active ego orientation. Brustad (1992) comments on the important interrelationship between cognitive-developmental characteristics and socialisation influences. He also argues how cognitive-developmental changes influence the nature of a child's self-appraisal of abilities, and their appraisal of the social context of the sport and their role within this context. Weiss and Bredemeier (1983) stress the relevance of cognitive-developmental processes because they "describe and explain psychosocial and/or behavioral variations among individuals differentiated by developmental levels" (p. 217). This series of points support the model proposed by Weiss and Chaumeton (1992) which emphasises the influence of cognitive maturity (as an individual difference variable), and reward structure, coaching style and sport type (as contextual factors) on the development and activation of achievement goals. It is somewhat surprising five years on that research into this model is still very limited.

A second observation to make about this general dimension concerns the number of players who applied pre-match cognitive skills which were performance-based in nature, compared with the much fewer players who actually engaged in post-match cognitive skills such as performance review. One might argue that a player, high in task involvement, who attached importance to self-referent performance may not only use strategies prior to and during the match, but would be particularly interested in reviewing his personal performance following the match. This would make sense after every competitive experience if there was any 'task-involved' element to his achievement profile. The use of these pre- and post-match strategies appeared to provide the players with a mental skill of appreciating the importance of self-referent performance, hence increasing the likelihood of task involvement.

The themes in this dimension highlight factors to consider which have contributed to individual patterns of development, as opposed to one definitive pattern. More importantly, they provide insights into how task involvement can be won or lost within



developing young performers! With these factors in the mind, it is worth summarising some of the major implications for coaches and parents that have arisen directly from the results.

In terms of cognitive maturity, one of the goals for coaches working with young performers is to reinforce the importance and meaning of personal skill development within the wider context of elite athlete/player role models. Players, as a whole, possessed a lack of understanding and knowledge about performance and skill development as well as its link to the outcome. Coaches should be encouraged to develop sessions which convey the important foundation of performance and the link between performance and outcome both on court and off court. Some players did begin to appreciate the role of personal skill development but only when placing themselves alongside older players and watching foreign counterparts. A task for the coach would lie in making sure that the player gets 'vicarious access' to British or foreign professionals (e.g., by organising 'awareness of standards' trips) and ensuring that the player makes the most of each competitive match experience. A number of players remarked how the simple process of competing made them realise that their performance was at least half responsible for the outcome. By teaching young players pre- and post-match performance strategies, the coach, and more practically, the parent would be facilitating the development of more powerful task-involving skills for the player. Preparing and assessing self-referent performance would become an automatic aspect of any conditioned game or drill, developmental practice match, or tournament match. Indeed, a number of players documented how the strategies of performance goal setting, performance segmenting and performance review led to the cognitive skill of performance recall, learning and the development of a personal competence system based on processing internal goal-related information.

According to this general dimension, it is the performers' quality of understanding the game, the nature and degree of their competitive experiences, coupled with the use of habitual cognitive strategies, that will influence their personal theories of achievement in tennis. The points made here, however, may be generally applicable to a wide variety of sports, but particularly those young performers within individual sports characterised by a competitive goal structure. The dimension appears to have implications both for the development of goal orientation profiles and the activation of task and ego involvement in competition. The interesting issue in British terms will be whether a coach can develop and maintain task involvement levels in the player from an early age so that a player develops self-referent potential with few inhibiting factors. Within the sport of tennis, many other countries support world class performance players by fifteen or sixteen years of age, whereas Britain still suffers from a time lag in this respect. It is the motivational climate, as perhaps a further contributory factor to the statement above, to which this discussion now turns.



## **6.62 MOTIVATIONAL CLIMATE CONVEYED BY SIGNIFICANT OTHERS (GENERAL DIMENSION 2)**

Several significant others seemed to constitute the motivational climate by the verbal, visual and tangible 'cues' that they conveyed to players pertaining to either their definition of achievement, to what constitutes achievement or to how success is defined within a specific competition context. The complexity of this dimension only reinforces that, at the applied end, practitioners have to attend to a huge variety of issues if an enduring and adaptive motivational climate is to be created around the young performer. Although it is impossible to extrapolate how the various themes interacted with one another to mediate the development and activation of achievement goals, it is of great interest to sit back and digest the variety of climatic factors which seem to have played an influential role within this sample.

### **6.621 Coaches**

Firstly, the behaviour of the coach is of significance throughout all phases of player development. References are made to the performance and development-related actions and behaviours of the coach which serve to create a sense of task involvement within the coaching climate. Applied goal setting, performance review and feedback, as well as teaching about the performance-outcome link are examples of task-oriented coaching behaviour. However, equally prevalent are verbal and perceived behaviours which emphasised the meaning of demonstrating superior ability and the importance of winning, in the absence of any coaching behaviour which focused on the merit of personal performance processes. The method by which matches were evaluated in an outcome-related manner and the social comparative perceptions 'picked up' by players also support ego-oriented behaviour. One point for discussion relates to how internally consistent and frequent a coach's task-oriented conduct actually is compared with his/her ego-oriented behaviour, particularly during the players early motivational experiences of being coached. Within an ego-involving sport climate, one might argue that the coach only needs to slip momentarily into ego-oriented mode before severely compromising the effects of his task-oriented behaviour towards the player. Discussions with several players showed how they had experienced contrasting climates created by up to four different coaches. The consequences with reference to goal orientation and goal involvement for this occurrence would be interesting to research. However, the implications at an applied level rest with the level and strength to which a new coach's philosophies and behaviour mirror that of his/her predecessor. In sum, new information seems to have been added to the limited body of literature (Chaumeton & Duda, 1988) on the relationship between achievement goals and coaching behaviour.



### **6.622 Parents**

The parental unit has received some attention with reference to its contribution to the psychological/achievement climate from a quantitative viewpoint (Duda & Hom, 1993; White & Duda, 1992). The results here, however, document some of the specific elements from a qualitative perspective. Many players remarked on the task-oriented nature of the climate created by their parents. Of particular applied interest is the evidence of an active player/coach/parent triangle and the constructive role that parents have given themselves in analysing matches and helping the player to review performance. These activities alongside the positive verbal comments and reactions received by players served to signify the meaning of self-referent performance and hence increase task involvement. However, other players reported on the distinctive ego-oriented behaviour of parents characterised by their reactions to matches lost and the outcome-dependent basis for parental rewards (Epstein, 1989). Interestingly, some of these apparently started out in a more task-oriented fashion and changed as a function of the players increasing success. Others took the opposite route having learnt more about the way to be a supportive tennis parent as opposed to a dysfunctional one. Either way has implications for the developing junior, as outcome-dependent parental moods and rewards alongside negative reactions to losing do not facilitate the development and presence of achievement goals based upon personal performance endeavours. Further to this, the role of the father seemed to be of particular significance in this male sample. His verbal reaction to the player losing matches, his visual reaction to the player losing a point and the intensity of his involvement, whilst reinforcing how financial sponsorship comes from winning, combine to form an extremely ego-involving climate.

As Brustad (1992) neatly states "To paraphrase Mark Twain's comments about the weather - everybody talks about parents in sport, but nobody does any research on them!". In this study, whilst some performers have experienced more adaptive home climates than others, the results show in more practical terms the ways and means to be either consistently ego-oriented as a parent or consistently task-oriented. In terms of parents contributing to the motivation of players in a task-involving manner, the prerequisites appear to be: an active and communicative triangle with the coach; a recognition and reward system based firmly on personal performance and effort; a developmental attitude; constructive responses to losing; and a proactive role in feeding back to the performer on his execution of performance skills. These appear to be sound principles that may be translated to the climates of all young sports performers.

### **6.623 Peer Group Influences**

The third collective significant other to emerge as an influence on the player's achievement goal process were fellow players, peers and professionals. The integration of this socialisation influence on the motivational development of young performers has



possibly been the most neglected in research terms (Brustad, 1992). Although the achievement-related attitudes and behaviours of parents and coaches are possibly easier to control via education programmes, controlling the attitudes of other performers is perhaps an insurmountable task. Within the structural and social nature of tennis, peer group pressure is an active phenomenon particularly in earlier phases of development. Between about the ages of nine to twelve, players highlighted the influence of the competitive environment, their perceptions of the ego orientation of other players within the age group, and the subsequent effect of natural and ecological group dynamics. It must be pointed out at this stage that possessing an high ego orientation is of course not necessarily maladaptive. However, there was little evidence in several cases to suggest that this level of ego orientation was supported by an equally powerful level of task orientation (Roberts et al., 1996; Fox et al., 1994). In this study, the predominant attitude perceived at an early age was one reflected by an ego orientation. If players are influenced by the perception that they have of their peers, then it might be argued that this is a problem for the evolution of task involvement.

Linked to the role of cognitive development, however, it is of value to mention how, as players have improved standards, learnt from and appreciated the skills of top players, they began to perceive a much stronger self-referent attitude within their own peers and the professional players whom they role modelled. In practical terms, these findings emphasise the importance of using examples of elite performer role models within coaching language, drills and sessions as early as possible; encouraging more experienced juniors and top class adult performers to train alongside developing juniors; and creating a coaching climate, with task-involving recognition and reward systems, in order to develop squads, groups or pockets of young performers with like-minded attitudes towards achievement. In this respect, other players may facilitate the development of task involvement at an age where they presently appear only to reinforce ego involvement.

A number of players referred to how the unchanging culture of their region had influenced their attitudes to the game. Clearly, a number of significant others must have been responsible for conveying this culture to the player. However, these significant others appear to have acted in tandem, conveying the same messages to the player. One might argue that, within tennis, the culture is non-cohesive in the sense that many conflicting messages from a variety of significant others serve only to create a mele of cultural norms and values. Nevertheless, creating pockets of cooperative and cohesive tennis cultures, in which coaches, parents, and players convey reciprocal values in a task-involving manner, would be a proactive goal. This goal would apply to both individual and team sports, although it may be more challenging for individual sports given that a head-to-head competitive sport structure does not naturally lend itself to cooperative norms and values.



Lastly, a few players also explained how education had changed their attitude towards the game. Sport psychology input had caused a learning effect with respect to positive attitudes to performance and school education had transferred its values across achievement domains and reinforced the personal work ethic. For the coach, working 'at the coal face' on developing performers, adopting the role of teacher, prescribing sport-related homework assignments and tests on their knowledge of the performance skills, could be further methods of grooming and maintaining a task-involved conception of ability.

#### **6.624 The Lawn Tennis Association/Rover Initiative**

Referring back to Study 1, the 'Perceived goal involvement preference of significant others' factor had consisted of perceptions of the coach, parent, and lastly, the Lawn Tennis Association with respect to the achievement goal that they conveyed to the player to achieve. The LTA and its related schemes (i.e., the Rover Initiative and full time national squads) were the final elements of the motivational climate in this sample. The environment that they created seemed to function heavily in the thought processes of the players who were extremely quick to pick up on values, behaviours and other motivation-related cues attributable to the governing body system and its employees. Although a small number perceived the Rover scheme in a more task-involving light, the majority of players clarified a number of behaviours which demonstrate how the LTA structure as a whole is perceived to be very outcome-based. The players' responses indicate how little attention appears to be simultaneously placed on the important process of how to achieve the outcome. The perceived social comparative behaviour of some Rover and national squad coaches, the outcome-based nature of match evaluation, the perceptions that players have of the *consequences* of winning and losing only serve to reinforce high levels of ego orientation. Again, it is worth stating that behaviour which emphasises the importance of winning in tennis is possibly welcomed, only if behaviour which categorically reinforces the importance of performance and process acts as the foundation (Roberts et al., 1996). If players perceived an LTA climate which recognised the importance of winning, but which also educated players about performance development and rewarded players for self-referent performance, then the player might more easily see the link between performance and outcome and focus on personal performance as the foundation to achieving success in match terms. In this sample, these perceptions are not necessarily in evidence, and few players mentioned how the LTA focuses any of its resources on player education and any other activities which present its objectives in a manner conducive to developing a player's task involvement. Indeed, a number of players appeared to be externally controlled by the LTA and wanted to win for entirely extrinsic reasons. Linked to this, value seemed to be placed on winning or not losing, not because players wanted to satisfy this simple rule of the game for themselves,



but because the Rover scheme evaluates players on results. The points made here are highly sport-specific to this study, yet their message applies to the national governing body systems which underpin the development of multidisciplinary youth sport. Their message outlines the importance of performer education, the achievement goal-related values of discrete schemes and the overall system, and finally, the behaviour of 'significant' personnel representing the system.

To summarise, a wide range of climatic constituents have been discussed all of which have a role to play in the development and socialisation of achievement goal perspectives in the longer term. However, any one of these factors might also occupy the thought processes of players in the context of a specific match. This may result in pre-competition states of task and ego involvement which either reflect or oppose the goal orientation profile socialised at a dispositional level. Finally, as the discussion turns to the structural and social nature of the game, it is worth taking time to digest how wide ranging the motivational climate actually is. It makes one realise that there are so many reasons to be high in ego orientation and ego involvement, and so many ways to become it. Nevertheless, within sports of a competitive goal structure such as tennis, can the same be said for the opportunities and possibilities available for developing an equally powerful task orientation and activating a high level of task involvement?

### **6.63 STRUCTURAL AND SOCIAL NATURE OF THE GAME (GENERAL DIMENSION 3)**

The findings of Study 1 alerted to the effects of contextual and sport structural differences on performers' achievement goals. The results of this study serve to reaffirm the influences that the social and structural aspects of competitive tennis can have on the development of players' task and ego orientations and the nature of their goal involvement. Although the contents of this dimension are specifically pertinent to tennis, it is this very content which crystallises how a sport's goal structure (Ames, 1984) would appear to have a significant influence on the goal perspectives of any young sports performer.

In the context of a competitive goal structure, a large proportion of the players referred to how both social expectation and social evaluation were based upon outcomes. This may not be surprising given that the social subculture of tennis is conditioned by interpersonal scorelines and their immediate consequences, factors which stem from the rules of tennis. Clearly, if expectations upon young players are outcome-based and matches are consistently evaluated by the win/loss scoreline only, then the nature of the sport may contribute substantially to the development of an ego orientation within players.

Identifying and measuring achievements in a player's own performance is much more difficult and time consuming than looking at who won or lost and making value



judgements accordingly. Within tennis, the subculture is fairly extensive, covering the general public, media, other players, coaches and parents. For these individuals, many of whom lack the knowledge of how a particular player is performing in personal, self-referent terms, it is simply much easier to expect, evaluate and judge in terms of outcome. The resultant effect is that less attention is paid by players to the process of personal performance, and more attentional space is occupied by thoughts about winning or not losing. With reference to the findings of Studies 1A and 1B, the social and structural nature of swimming possibly encourages task involvement because the sport and its social subculture recognise, value and measure personal times and race processes. Both sports may encourage levels of ego involvement, but one is more likely to nurture a complimentary state of task involvement as well (Duda, 1988). In this study, outcome-based expectations and social comparative evaluations are salient perceptions which motivate players not only to think about the social consequences of not winning, but also to place great incentive value on socially approving themselves to others. Tennis is more than just a match, it is a measure of self-worth (Weinberg, 1988) and external perceptions of others' expectations and evaluations reinforce the personal importance of being superior to the opponent.

Interestingly, the three players who possessed the alternative external perception that social attitudes were performance-based were also participants who perceived the task-involving nature of their regional culture or the Rover scheme. These are three examples where factors within another dimension may have jointly supported each other in nurturing a stronger task orientation within the players. The cross referencing does provide some practical messages. Firstly, the greater the number of key significant others who practice and preach task orientation, the better. Secondly, players might be taught how to control their perceptions of the audience so that they maximise or cope with the audience effect that they experience. It may be difficult for players to focus on the process of playing each point if they perceive an important and highly ego-involving individual in the audience. The coping response to symptoms of ego involvement, such as increased nervousness and negative thoughts, would need to be well rehearsed. However, players could be taught to rationalise that the audience is mainly interested in watching a player perform, and that personal performance is the most valued quality.

Accepting that the social nature of the game has a fundamental role to play in the quality of a player's achievement motivation, the competitive reward structure of the sport has an equally strong influence. Over 75% of players specified the external rewards that were made available as a consequence of winning. Some of these rewards were financial in the form of money and sponsorship, but the majority were more personal, tangible rewards such as rating and ranking points, promotion to higher squads, wild cards into a main draw, and selection for trips abroad. Naturally, many players perceived the reward structure of tennis to be negatively interdependent on the basis that if they did not win,



points would be lost, demotion might occur, and selection for trips would be unlikely. Additionally, a number of players noted the strictly financial consequences of outcome where players had to win to justify the money spent on them and to allow them to enter higher prize money events. The personal consequences of structured competition within the game appears to have some degree of potency in conditioning the player towards the belief that achievement means winning - no more, no less! Isn't this true for the majority of higher profile sports in today's society?

In summary, it is often easy to forget about the cognitive influence that a sport's competitive structure and rules interacting with the social attitudes of significant others can have on the performer who is competing within that structure day in, day out. The primary factor is probably the structure of the game as the game's rewards, rules and regulations are the properties which direct or condition the game's social subculture to behave in a certain manner. The focal demand of tennis is the achievement of an uncontrollable goal and it is from that basic requirement which stem the attitudes, actions, beliefs and values of others which are perceived by the player. The results of this study support the need to perhaps educate players about the structural and social nature of the game, or their interpretations and reactions to it, as part of a player development programme. In the final analysis, the player's thoughts in the pre-match phase, and more crucially, in between points and changeovers should be more process- and performance-focused. This type of task-involved attentional control, however, is not easy when social influences surround the player at tournaments, and the structural nature of the game envelops the player in a competitive match. Training young performers to control their reactions to the perceptions that they have of reward structures and social influences is perhaps one method of redressing the balance between task- and ego-involved goal states. However, there appear to be many other contextual variables which have a considerable effect on a player's achievement-related attentional state.

#### **6.64 MATCH CONTEXT (GENERAL DIMENSION 4)**

The research question for this study had focused on identifying the motivational criteria which both dispositionally develop and/or situationally invoke task and ego achievement goals. The previous subsections have discussed motivational criteria which fall into both categories. For example, a Rover coach suddenly turning up to watch a match where selection might be at stake could energise levels of ego involvement to a level higher than the player's task involvement stemming from his task orientation. This has an obvious effect on the immediate attentional state. Similarly, coaches and parents who consistently behave in a non-task, outcome-oriented manner, within a sport boasting a highly competitive reward structure, might well contribute to the development and socialisation of a particular goal orientation profile in the longer term. These examples relay that many of the motivational factors discussed thus far can have a repeated



conditioning and socialising effect or they can have a powerful situational effect provided that they have been cognitively processed at some stage previously.

Looking carefully at the factors within the match context dimension, the nature of pre-competition goal involvement seems to depend primarily upon three factors: The personal expectations held by players; the social expectations perceived by players; and the external consequences of outcome. The meaning and importance of the match situation influences the achievement goal because of the players personal expectancy against older and younger players; the social expectancy of playing for a team or being a seed; and the important consequences of winning arising from either a new match experience, or merely from the reward structure of the sport where ratings, ranking points and selections are dependent upon outcome. These latter two factors have already been discussed at length with respect to their ability to socialise achievement goal orientations within the dimension 'Structural and Social Nature of the Game'.

With further reference to the first factor, it appears very noticeable how personal expectations of overcoming the opponents skills are central to the levels of ego involvement with which the player will enter the match. These personal expectations seem to be entirely normative-based with respect to the perceived ability that a player possesses relative to the opponent. High and low expectations seem to correspond with weaker or stronger states of ego involvement. As alluded to earlier, although this factor appears to be characteristic of a player who possesses a high ego orientation, it can certainly be viewed as the antecedent which activates the stored potential of ego involvement within a performer. Interestingly, a number of players expected and desired to win because they believed that their personal performance was stronger than that of the opponent's. As conveyed in the results section, this may be the type of player who understands that one of the internal demands of the game is to functionally demonstrate greater ability than the opponent, but that mastery of personal performance is both intrinsically important and pivotal to that particular outcome. Therefore, faced by a match situation where the player feels like his own performance is at such a level that he expects to overcome his opponents performance, importance is placed upon winning because that is the simple and personal challenge placed by the game on the player. By wanting to win, the player is as motivated to demonstrate superior ability, as he is to demonstrate self-referent ability. In a game which challenges the player to beat an opponent, this functional type of task involvement cannot be divorced from the state of ego involvement fuelled by the nature of the game. A more detailed explanation of this high task/high ego-involved perspective (Fox et al., 1994) follows in the next section.

Continuing this theme, a number of the players' responses illustrated how levels of self-confidence and their expectation when confronted by opponents of certain standards produced what can only be described as a conditioned response with respect to levels of ego involvement. For example, if the player was lower rated, winning would be the only



thing that mattered because he believes that winning is the only way to ensure self-confidence. This theme reinforces the inherently ego-involving nature of the competitive structure and context of tennis. The player appears to be unconditionally subjected to experiencing high or low levels of ego involvement as soon as the name and standard of the opponent is known.

The 'Match Context' dimension provided some fresh insights into the nature of situational cues which mediated achievement goal states within this sample. How these factors actually interact with a socialised disposition to mediate states of goal involvement is a different and complex issue. However, what this dimension does contribute is a valid argument to support the need for researchers to consider situational influences on achievement goals more carefully. The view that the situation is the motivational climate and that it can be measured by a non-state questionnaire is exceptionally narrow in the context of these findings. If researchers desire to adequately measure the antecedents of states of goal involvement, then researchers must investigate the variety of factors and perceptions which are personally meaningful to that performer in that specific situation. Performers will develop typical achievement goal responses to typical situations, as supported by the conditioning effects mentioned earlier. An event context questionnaire needs to tap those situational factors. General questions from an instrument such as the PMCSQ (Seifriz et al., 1992) may not contribute adequately to an understanding, for example, of how the situation influences pre-competition state goals within a performer who is playing a lower rated player in his first National final. The general climate might come out as task-involving, but the match situation may be entirely the opposite. If valid predictions at an individual level are going to be made about a player's pre-competition goal state and their possible behavioural responses, then the practitioner/coach requires knowledge of all possible antecedents. Applying very general questionnaires which yield a vague and sometimes invalid behavioural profile would not do justice to the complexity of this area.

In making observations about this dimension, it is sometimes difficult to exclude links with the social and structural nature of the game. Indeed, the higher order theme - 'meaning and importance of match situation' contains factors which are relevant only because of the structure of the game. Consequently, players whose achievement goals are influenced by their perceptions of the structure of tennis are the same players whose achievement goals are going to be influenced by a specific match context that the game presents. They are presented as separate dimensions because one can be viewed on a more 'macro' scale, whereas the other depicts the 'micro' context of particular match. However, it remains to be said that those performers who cannot control their reactions to the goal structure of their sport will be those performers who find difficulty in controlling their perceptions of a competitive situation in which they find themselves. Specifically, they are the ones whose ego involvement will perhaps increase when they play for a



team, or compete against a lower standard, seeded or rated opponent in an important match.

Further to these latter observations, not a single player in the study reported that their goal state was unequivocally task involvement in a match situation. Virtually every player addressed match situations that would induce high ego involvement, whatever the level of task involvement. The only contexts in which ego involvement may be lower, were those of low normative expectancy. However, by being a normative expectancy-driven player, one is owning up to possessing a highly active ego-involved conception of ability. This finding in itself suggests that competitive tennis contexts breed consistently high levels of ego involvement. Taking this aspect for granted, the focus should shift to how levels of task involvement are to be activated alongside. Whether this statement applies to other sports of a similar goal structure is a topic for debate. However, given that the basic properties are similar, one would imagine the effect and subsequent course of action to be similar too.

These points raise some salient issues regarding the domain of competitive sport and the principles of achievement goal theory. Nicholls (1989) refers liberally to how contexts characterised by interpersonal competition and public evaluation are likely to invoke a state of ego involvement. Despite a large majority of achievement goal research which has subtly exalted the benefits of task orientation and task involvement, whilst downplaying or cautioning the effects of ego involvement, there are some possible premises within a competitive tennis context which perhaps need stating. Competitive sport by nature is ego-involving. Factors within the event context have been shown to consistently generate an ego-involving effect on the performer. The results of this study encourage researchers to accept that in transferring a theory from an academic context to a sport performance context, the theory has to adjust to the probability that most competitive performers recognise and give the highest respect to a differentiated conception of ability. They may equally respect a self-referent conception, but the point to make is that the societal fabric of youth academia is probably *not* the same as the fabric of the competitive sport subculture from which this sample was drawn. These arguments may or may not transfer to other sports, societies and cultures, but they do urge researchers to accept that unless you change society, you will never eradicate ego involvement.....and if you cannot change society, what research can be done within ego-involving contexts to maximise the achievement-related motivation of young players?

Like the other three dimensions, 'Match Context' has implications for developing goal orientation as well as mediating goal involvement within competitive individual sports such as tennis. Coaches should be encouraged to provide a balanced competition programme for young performers where opportunities to compete against lower standard opposition are matched by those against performers that would be tough to beat. Within tennis, the LTA generally advocate a programme where the young player is likely to



experience 3 wins to 1 loss. There is a strong theoretical argument for this, given that the coach spends time reviewing self-referent performance after each match. Players consistently competing in matches against lower standard players may experience a great deal of normative success. This factor alone may contribute to the development of a high ego orientation over time. Achievement becomes synonymous with and only satisfied by winning. The danger of this process lies in the inadequate attention paid to self-referent performance reviews and the stable, ability-oriented attributions for winning. Young performers need to appraise or analyse their own performance after wins, so that whilst developing a higher level of task orientation, they appreciate that controllable personal performance and effort are responsible for feelings of achievement. When these individuals do lose matches/competitions, they have an attributional response which focuses in on the internal, unstable quality of their personal skills and areas for improvement. Without these self-referent skills, the once successful performer, who gets caught up and begins to lose, has no other cognitive response apart from 'I have failed to achieve therefore I have no ability'. If young performers can be taught to review both winning and losing performances in different competition contexts on a regular basis, then the pathway to an adaptive achievement profile may be formed.

#### **6.65 MULTIPLE FORMS OF ACHIEVEMENT GOAL PERSPECTIVE**

One of the interesting features of this sample, despite being representative of differing achievement profiles, was that all players clearly conveyed high levels of ego orientation or involvement through some or all stages of their competitive experience. For some, this was accompanied by a strong task orientation, particularly in adolescence where a greater number of task-involving activities were introduced to the maturing mind. At about twelve years of age, children can utilise either conception of ability (Nicholls, 1984). Furthermore, in adopting either or both conceptions of ability, from the perspective of orthogonality, performers may be high or low in either task or ego orientation collectively. The findings here support the theoretical model and suggest, firstly, that players arrive at a position in their tennis where both conceptions of ability and consequently, achievement goal orientations, matter to them as competitive players. Secondly, these interviews have provided us with insights into the motivational factors which appear to have (or have had) a significant role in fostering both task- and ego-involved conceptions of ability.

One of the observations that has been made about elite performers is that they possess high levels of both task and ego orientation (Fox et al., 1994). Typically, elite performers desire to win and are highly competitive, but they attach great value to self-referent performance, not only for its own intrinsic sake, but also as a means to achieve the valued outcome. This appeared to be a characteristic of a number of the older players



in this sample. However, what was more noticeable about the sample was the different functions that ego orientation seemed to possess in different periods.

The term 'ego orientation' reflects an achievement goal of maintaining favourable perceptions of ability to oneself as compared to others. However, there appears to be a fundamental difference between, on the one hand, a player who wants to demonstrate superior ability in order to maximise perceptions of himself to other people; and, on the other hand, a player who wants to demonstrate superior ability simply because that is the personal challenge facing him as a result of the sport? If motivational constructs possess both intensity and direction sub-components, there appears to be a major directional discrepancy between wanting to win for very internal reasons, regardless of what others think, and wanting to win for external reasons, because of what others will think. Within this sample of tennis players, many at a young age conveyed a high 'external' ego orientation where demonstrating superior ability mattered on the principle of what others thought. This ego orientation was associated with fear of losing and losses in self-esteem and self-confidence when the player could not reinforce his superiority to significant others. This orientation was less prevalent in later years and a number of players spoke in terms of winning because that was the demand placed upon them by the game of tennis. In this respect, these players might be viewed as being high in 'internal' ego orientation where demonstrating superior ability derived its meaning, direction and importance from overcoming the personal challenge/test set by the rules of tennis.

Maehr and Nicholls' (1980) original conceptualisation of achievement goal theory comprised a 'social approval' element which was disregarded in Nicholls' (1984) approach perhaps due to its lack of applicability and theoretical basis in an academic context. Nonetheless, the domain of competitive sport is much more public than educational achievement contexts and this study has already established the important role played by significant others and the social context of tennis. It would be remiss to discount 'social approval' as a directional element to the achievement goals held by these players.

Tying these points together, it may be worthwhile for researchers to explore the simple *reasons* why performers want to win competitions. Some may want to win only because that is the sports way of deciding who gets the rewards. This reflects the more 'internal' ego goal where performers are motivated simply to challenge the game. In association with a high task orientation, the presence of this trait may constitute a positive achievement mentality. In contrast, players may want to win (or not lose) for external or social approval reasons. They fear the social consequences connected with outcome and their involvement in competition is more externally as opposed to internally controlled. This might be referred to as a 'social approval' ego goal perspective which, on the face of it, is perhaps less adaptive from an achievement standpoint. In this study, one detects that several players have started off highly social approval ego-oriented and, assisted by



cognitive maturity, developments in their task orientation or changes in climate, have increased the level of their internal ego orientation.

The possibility that players also develop a social approval element to their task orientation could not be inferred from the results as clearly as social approval ego. Nevertheless, a few players highlighted how the audience valued a good performance and it may well be that some players derive a personal sense of achievement from demonstrating effortful behaviours on court to people who value such behaviours. This is certainly more in line with the social approval orientation originally conceptualised by Maehr and Nicholls (1980).

## **6.66 STRENGTHS AND WEAKNESSES**

Study 2 has been extensive and, given that both the research approach and question are relatively new, it is important to reflect on some of the investigation's strengths and weaknesses.

### **6.661 Study Strengths**

Firstly, the results demonstrate a healthy convergence in findings from quantitative and qualitative methodologies (Steckler et al., 1992). This corroboration is important not only to emphasise the working relationship between the two paradigms of research, but also to reinforce the external validity of the findings. The nature of factors and processes in this study bear characteristic resemblance to the antecedents empirically documented by Study 1 and indeed other antecedent research which has been quantitative in method. The perceptions that young performers have of significant others were key aspects of the motivational climate. This has been established in Study 1 and also by previous research which has noted perceptions of parents (Duda & Hom, 1993; Ebbeck & Becker, 1995), coaches (Chaumeton & Duda, 1988), and the peers/coach climate (Seifriz et al., 1992; Walling et al., 1994). In addition, the other antecedent factors described in Study 1B seem to be represented in the dimensions. The 'social/personal perceptions of ability' factor corresponded to elements within the Social and Structural Nature of the Game and Match Context. Finally, the 'match value' factor appeared to be grounded within Match Context and, in particular, the higher order theme labelled 'meaning and importance of match situation'. The only dimension which has been less empirically quantified by previous research was Cognitive-Developmental Skills and Experiences. However, evidence from the discrete goal setting literature (e.g., Locke & Latham, 1984) and the nature of performance routines (e.g., Crews, 1993) provides support for the task-involving nature of process and performance skills and strategies which are elements of this dimension. Furthermore, Weiss and Chaumeton (1992), Brustad (1992) and Weiss and Bredemeier (1983) have reported cognitive maturity to be a key individual difference variable mediating the achievement motivation process. These observations support the



case for generalising back to a specifically defined population (i.e. elite junior tennis players) with greater levels of validity.

A further strength of the study was the amount of information that it made available on which to improve upon existing measures of dispositional goal orientation, goal involvement and perceptions of the context. Indeed, rather than measuring perceptions of the motivational climate to represent the antecedents of goal involvement, one should perhaps be measuring perceptions of the event context which accounts for properties of discrete situations not considered by motivational climate questionnaires.

From a methodological angle, the qualitative manner of inquiry yielded extremely detailed and personal accounts of the players' motivational process and the factors within that process which dictated the development and activation of their achievement goals. The reduction of the task to circling numbers on a Likert scale would neither have allowed the player to expand upon his thoughts, nor the investigator to probe them further.

The composition of the sample was as practical as possible both in applied and theoretical terms. In applied terms, it provided information on the National elite junior under the umbrella of the most supportive scheme in British tennis. The emergent information should prove useful to coaches working in this environment. Additionally, the major principles would appear to be applicable to coaches and parents responsible for the development of young performers in a variety of sports. In theoretical terms, the sample was representative of players who had varying goal profiles, so that information about the antecedents of a task orientation would be as forthcoming as the motivational criteria of an ego-involving origin.

Adopting a grounded theory approach to the analysis of data allowed an elaborate, traceable and logical structure to develop from completely unstructured material. The inductive content analysis allowed theme after theme to emerge and then categories of theme to emerge until the answer to the question was contained in four interacting dimensions. The triangular consensus validation also added credibility to the entire inductive process.

Care was taken not to lead the players responses in anyway and no players reported that this had been the case. The majority of players remarked afterwards how they had found the interview to be a stimulating and enjoyable experience that had allowed them to get 'certain things off their chest' and talk about their approach to the game and people within the game. However, possibly the greatest strength of the study lied in its applied implications for researchers, practitioners, coaches and parents.

Motivation itself is argued to be at the root of all human behaviour and when a player scratches at a set and 3-1 down, or practices his serve for thirty minutes after finishing his match, these behaviours can signal the nature of achievement motivation that the player possesses. Increasing research is being ploughed into examining the



behaviour associated with task and ego goal perspectives as the major qualitative representatives of achievement motivation. This study exposed factors which influence those types of achievement goals to be developed and activated. If one knows the dependent variable and its behavioural effects, then knowledge of the cause will allow the coach to work on producing the effects. It is important to note, however, that this study should perhaps be replicated within different sport samples, as the nature of a sport's goal structure appears to be a key motivational factor. Research employing female competitors may shed some light on additional motivational criteria pertinent and personally meaningful to that gender.

### 6.662 Study Weaknesses

Methodologically, it could be argued that a limitation of the study was the retrospective nature of the interviews which challenged players to remember details of important past experiences and relationships. However, recall concerns and memory decay did not appear to be a problem in this study. Facilitated by efficient bounding techniques, the players seemed to have little problem recalling experiences when they were a little younger. Lincoln and Guba (1985) point out that retrospection is a legitimate vehicle for obtaining information, particularly when remembering important life events. It must also be noted that the sample were aged between thirteen and seventeen years and competing regularly in the sport, therefore loss of recall would probably not be as significant as if performers were older and had retired from the sport (e.g., Scanlan et al., 1989).

The major weakness of the study, however, was its inability to show more comprehensively how the motivational criteria interact to influence a players achievement-related thought processes. Trends have been conveyed and particular examples of (clusters of) subjects within the study have been presented because of their notable patterns or individuality. However, the findings still only correspond to a list of major antecedents of pre-competition goal involvement within a developmental-interactionist framework. Despite providing the ingredients for the development and activation of a quality motivational attitude, the directions and amounts within the recipe are somewhat lacking. The relative strengths of each antecedent dimension or theme are unknown. Consequently, one is only left to predict the amount, level or strength of task and ego orientation and involvement that is developed and/or activated as a result of certain antecedent factors. It is important to reiterate that, from an orthogonal perspective, performers will possess certain levels of both achievement goals. The analysis adopted in this study, however, has not allowed us to examine the complex manner in which these factors interact to influence the relative levels of task and ego involvement. Given a potential list, though, future quantitative research is invited to explore this question through a study which is path-analytical in nature. It would also be



useful to perhaps question an older, more experienced sample of performers on their perceptions of the contribution of differing motivational criteria to the development and activation of their achievement goals. This might be done in a more objective manner to gain a greater feel for the severity (e.g., Campbell, 1996) of a particular motivational criterion.

Lastly, although the sample was sizeable in number and extensive in cross-sectional terms, it would have been useful to compare the findings of individuals who possessed differing goal orientation and goal involvement responses. It was not feasible in this study because such small numbers would have represented each particular profile. However, future qualitative studies of this nature should aim to target a specific population (e.g., high task/low ego orientation) and compare findings with another specific population (e.g., high task/high ego orientation). In this respect, the developmental trends that have emerged in this study may be built upon with more accurate population-specific information.

## 6.7 CONCLUSIONS

In the present study, four dimensions have emerged which are thought to influence pre-competition achievement goals. These dimensions represent factors which both appear to mediate the socialisation and development of goal orientations, and which contextually influence conceptions of ability. The dimensions seem to contain motivational criteria which fit into three categories. These categories, represented in Table 6.3, may be referred to when attempting to create a programme targeted at reinforcing or modifying a performer's achievement goal profile.

The first category represents *internal-experiential* influences where the adoption of an achievement goal depends upon something to do with the person. For example, cognitive development, sport experience, and the use or knowledge of cognitive skills and strategies. The second category represents *externally perceived* influences where individuals' conceptions of ability are swayed by their perceptions of others' achievement beliefs, attitudes and values. For example, the motivational climate of significant others and the social influences within the nature of the game. Finally, the third category represents *externally imposed* influences where conceptions of ability are induced as a result of the context in which the player is repeatedly placed. For example, the competitive nature of tennis, the rules of the game and its reward structure and the types of opponent or situation that tennis presents the player.

**Table 6.3 Categories of Motivational Criteria Influencing the Development and Activation of Achievement Goal Perspectives**

<i>Category:</i>	<b>Internal-Experiential</b>	<b>Externally-Perceived</b>	<b>Externally-Imposed</b>
<i>Representative Dimensions:</i>	<b>Cognitive-Developmental Skills and Experiences; Match Context</b>	<b>Motivational Climate; Nature of the Game</b>	<b>Nature of the Game; Match Context Motivational Climate</b>
<i>Specific Factors:</i>	<b>Cognitive Maturity/ Development</b>  <b>Understanding of Performance/Outcome link</b>  <b>Nature and degree of Competitive experiences within sport</b>  <b>Use of pre- and post-performance skills &amp; strategies</b>  <b>Development of conditioned response to perceptions of the relative ability levels of other players?</b>	<b>Perceptions of Parents attitudes, belief &amp; value systems</b>  <b>Value structures of early coaching climates</b>  <b>Perceptions of Coaches attitudes, belief &amp; value systems</b>  <b>Peer group values &amp; perceptions of role models</b>  <b>Perceptions of power structures within competitive tennis</b>  <b>Subcultural expectations &amp; nature of social evaluation</b>	<b>Goal structure of tennis and scoring systems</b>  <b>Tangible consequences of competition</b>  <b>Social consequences of competition</b>  <b>Nature of tournament, event or match</b>  <b>Rating /Standard of opposition</b>  <b>Nature of coaching strategies and tasks imposed by coach</b>

If a social cognitive intervention was to attempt to positively reinforce, modify or alter a young performers achievement goal profile and goal-related cognitive responses, then the psychologist or coach should be cognisant of these three categories. With the extensive range of factors that can develop and invoke different types and levels of goal orientation and goal involvement, the effectiveness of the intervention package might be proportional to the practical consideration given to these categories.

It would therefore seem a logical step, having generated this valuable information, to apply the knowledge gained and determine whether positive changes might be facilitated in pre-competition achievement goals. Hence, the final study in this thesis investigates whether it is possible to influence the nature and level of achievement motivation within young sports performers by using the template of factors produced in this study.



# CHAPTER VII

## *STUDY 3*

### **THE COGNITIVE EFFECTS OF A MULTI-DIMENSIONAL INTERVENTION PROGRAMME ON THE ACHIEVEMENT GOALS OF YOUNG SPORTS PERFORMERS**

#### **7.1 INTRODUCTION**

The previous study employed a qualitative approach in order to examine the motivational criteria which appeared to influence the development and activation of an elite young performer's achievement goal perspectives. It possessed a dual purpose in that it focused on increasing our understanding not only of antecedents which may contribute to the socialisation of achievement goal orientations over a period of time, but also factors which mediated the nature of a player's pre-competition goal state within the actual match environment. The post-interview inductive content analyses were extensive, culminating in the development of four general dimensions which, together, fostered a wealth of highly informative themes to be utilised and investigated by practitioners and researchers. It appeared that the development and adoption of players' goal perspectives were influenced by both properties of the individual, properties of an overall environment and the properties of a discrete context. Individual properties included their cognitive maturity, their range of competitive experience and their use of self-referent strategies and skills. The environmental properties included the behaviour of significant others, the opportunities given to develop certain cognitive skills and the social and structural climate imposed on the player by the nature of the game. The contextual factors were represented by properties of the match such as opponent status and event consequences which influenced cognitive perceptions such as expectancy and value. As noted in the previous chapter, however, it may be argued that many of these perceptions indirectly reflected the impact that the nature of the game had on the players goal perspectives. The ability of these internal-experiential, externally-imposed and externally-perceived factors to interact functionally or dysfunctionally, with respect to their influence on conceptions of ability, elucidates the complexity of optimising goal-related motivation.

With this information at hand, one logical progression would be to determine whether a programme could be developed which sought to effect cognitive changes in a young performer's conceptions of ability with regard to the performance of an achievement task. Therein lies the purpose of the final study in this thesis. Study 3

attempts to determine whether the tennis-specific achievement goal perspectives of three competitive junior tennis players can be influenced by a 3-month environmental and task-based intervention programme over competitive and training periods. Of specific interest was whether an adaptive profile of pre-competition task and ego involvement could be activated as a result of the applied work employed. The intervention is multi-modal as it fully utilises the findings and follows the antecedent 'guidelines' generated by Study 2. Consequently, a quadrangular approach is followed whereby an outside educator (the author) interacts within an education and activity-based intervention package for the players, their parents and their individual coach. The research question was investigated via a single subject multiple-baseline across subjects design in light of their ability to detect individual, experimental differences, however small, following the intervention treatment.

The chapter is reported in the following way. Firstly, the applied implications from Study 2 are highlighted by depicting the key findings from each dimension as goals to be achieved by the content of the intervention. Although this section will highlight aspects of the intervention methodology, it is included here to emphasise how Study 3 was driven by the research findings of Study 2. Section two provides a review of relevant literature which is divided into several subsections. The literature on social cognitive interventions is discussed with reference to studies in educational and sport psychology which have attempted to influence achievement goal perspectives in young people. Secondly, attention is given to literature in social and child psychology which has emphasised the use of significant others in effecting cognitive-behavioural change. The focus of the review then turns to the types of cognitive-motivational strategies and tasks that are employed in the study with a rationale for their use and relevant research findings. The final part of this section is devoted to single-subject design methodology, to the advantages of this research method over group designs, and to previous studies which have adopted such an approach within the sport domain. This review is followed by the purpose of the study and hypotheses.

A detailed method section is then presented which firstly introduces the subjects and the instrumentation utilised in the study. The design and procedure of the study is encapsulated in six stages: the provision of general information to players, parents and coaches; the baseline measurements of each player's goal involvement responses to three competitive situations; the intervention programme with specific attention paid to the roles of player, parent, coach and outside educator; the re-assessment of players' achievement goal responses; the collection of social validation data; and the follow-up assessment of players achievement goals. The data analysis and results are then presented for each subject in turn, to be followed by a section which elaborates on the social validation responses of the players, parents and coaches. The final element to this



chapter is a segmented discussion of the findings, incorporating the study's strengths and weaknesses, prior to some concluding remarks.

## **7.2 APPLIED RESEARCH IMPLICATIONS FROM STUDY 2**

One of the most important qualities of Study 2 was the ability of its findings to provide a clear and operational template for applied research. Despite arguments over the external validity of research that investigates from an insider's perspective, the greater the number of perspectives investigated within a certain sub-culture, the greater the understanding of that sub-culture (Steckler et al., 1992). The results of Study 2 appear to have provided information that can be utilised for applied purposes (e.g., Hanton, 1996) within the sub-culture of junior tennis as an example of a sport with a competitive goal structure.

Each of the general dimensions contained themes which purported to influence (either directly or indirectly) the development and usage of task and/or ego-involved conceptions of ability. Some themes represented criteria which would tend to socialise a young performer's subjective interpretations of achievement and thus contribute to the development of their goal orientation profile. For example, some of these criteria may repeatedly invoke a normative conception of ability, and hence nurture a solid tendency to be high in ego involvement in achievement situations where these criteria are salient. Conversely, other themes reflected more discrete and temporary criteria which, in the process of being (sub-consciously) perceived and judged by the performer, influenced the salience of particular conceptions of ability. These criteria may influence the states of task and ego involvement when they have meaning to the performer in a particular achievement activity or context. However, their effect upon goal orientation profiles would probably be minor as their frequency of occurrence has less a socialising than a situation-specific effect on performers.

This final study has two primary goals. Firstly, to establish whether levels of task and ego involvement, prior to a variety of important, stressful match situations, can be optimised by a process of conditioning, desensitisation and learning. Secondly, to examine whether dispositional goal orientation may be influenced by socialising and conditioning the activation of task- and ego-involved conceptions of ability in an adaptive manner. Each of the dimensions in Study 2 provides us with applied insights into how one might go about achieving these goals.

### **7.21 COGNITIVE-DEVELOPMENTAL SKILLS AND EXPERIENCES**

The themes within this dimension suggest to coaches and practitioners that attention be paid to levels of cognitive maturity, the nature of competitive matches that they play and the types of competitive experience that they have. Furthermore, the application of habitual pre-match performance strategies and post-match evaluation techniques is encouraged in order for the player to develop an internalised set of



performance standards (Horn & Hasbrook, 1987) and thus encourage use of a task-involved conception of ability. However, within the context of Study 3, the more specific goals to be operationalised in the intervention which have been translated from this dimension are depicted in Table 7.1. In terms of influencing achievement goal perspectives, the required action firstly revolves around educational sessions with players and the careful organisation of a player's match programme during a competitive season. Integrated into this programme, however, is the use of pre- and post-match strategies designed to condition the young player to follow an habitual routine whatever the nature of the match. This allows the player to recall past performances for planning purposes, set controllable but challenging performance and process goals and review personal performance, as a form of self-referent evaluation, whatever the result of the match. The consistent monitoring of attributions to outcome as the process of the intervention takes its course is also facilitated.

**Table 7.1 Intervention Goals and Examples of Action Required Translated from 'Cognitive-Developmental Skills and Experiences'**

<b>GOAL</b>	<b>EXAMPLES OF REQUIRED ACTION</b>
To facilitate understanding of performance and outcome. To appreciate the link between the two achievement criteria.	Educational sessions; comprehension test; goal setting and match evaluation techniques.
To maximise competitive experiences against a variety of opposition.	Balanced match programming in a season of competition; high and low level events.
To intensify the importance of individual personal performance as a process of tasks within a framework for self-regulation	Development of pre-performance routine including segments such as personal preparation, game planning and goal setting.
To enhance learning, skill development and task orientation by consistent self-referent reviews of performance.	Development of post-performance routine including segments such as performance review, match evaluation and match report.
To encourage the use of internal 'effort' and 'current performance' attributions, thus keeping performance and outcome in perspective	Teaching players to identify the reasons for a result, and questioning players after matches. Monitoring attributional progress.
To develop the ability to judge the quality of performance routines and thereby aid self-referentness.	Performance segmenting checklist (see section 7.534)

## **7.22 MOTIVATIONAL CLIMATE CONVEYED BY SIGNIFICANT OTHERS**

The findings from this general dimension are possibly the most significant in applied terms because of the extensive strength with which the social psychology of the themes envelop the performer. The beliefs, values, practices and behaviour of mother and father, other junior players, tour professionals, coaches and the LTA system appeared to have a powerful share in the socialisation of achievement goals. It is the player's external perceptions of these significant others and his/her goal-related belief and value systems which will ultimately dictate the development and activation of the more and/or



less differentiated conceptions of ability. It is, however, a two-way process in that the significant other must *transmit* cues for the young performer to *receive*. An intervention therefore might be focused on attacking from several angles. Firstly, significant others must be taught how to send optimally motivating cues. Secondly, young performers must be taught how to control their reaction to received cues and maintain a positive motivational focus on the achievement task. The achievement of these two goals is greatly facilitated by the information provided by this general dimension. Table 7.2 explains the goals and required actions that form aspects of the intervention from insights provided by 'Motivational climate conveyed by significant others'.

**Table 7.2 Intervention Goals and Examples of Action Required Translated from 'Motivational Climate Conveyed by Significant Others'.**

GOAL	EXAMPLES OF REQUIRED ACTION
To teach coaches about the basic components of developmental, task-involving coaching behaviour including: i) goal setting and performance review ii) non-outcome only-based evaluations iii) performance-contingent reinforcement and feedback iv) developmental and progress-focused on-court language.	Educational sessions with coach; Use of TARGET (Epstein, 1989) within coaching philosophy. Execution of task-involving 'Motivational lesson' plans (see section 7.534)
To allow players to recognise the attitude and influence of other players on their achievement beliefs.	Educational session with player; use of desensitisation techniques such as RESISTANCE (see section 7.534)
To encourage the use of elite player role models as examples of the personal performance standards required in the modern game.	Covert modeling within Motivational lessons with coach; association of role models in performance and process goal setting.
To align meanings of achievement held in school and tennis by synthesising the process of player development with pupil-academic development.	Educational sessions; Tennis education personal file; match-related homework tasks.
To educate parents about the inappropriate and appropriate behaviours which will influence the motivational attitude of the player, including: i) reactions to winning and losing matches ii) during performance body language iii) performance-based match evaluation and feedback iv) match analysis and charting	Educational sessions with parents on achievement goal theory and its implications. Example statements of appropriate verbal behaviour in tennis. Verbal behaviour log books. Teaching of match analysis and performance charting techniques.
To develop an active player, parent and coach triangle characterised by a united focus on the development of the tennis performance factors	Triangular meetings; triangular contracts of agreement; open communication between lessons and tournaments; access to documentation of tasks
To help players rationalise and control their reactions to the achievement-related beliefs and values of the LTA and its associated schemes/coaches	Educational sessions with player. Player log-book of outcome-oriented LTA coaches. Desensitisation techniques.



Of particular note is the importance of educational sessions with the players, parents and coaches. It appears vital that coaches and parents be educated about achievement goal theory and some of the practical implications of their behaviour. This means not only admonishing maladaptive behaviours, but reinforcing the appropriate responses and actions that are often lacking. Beyond education, however, is the practical implementation and actioning of tasks which are designed not only to encourage a self-referent achievement focus within coaches and parents, but also to facilitate the transmission and reception of task-involving stimuli/cues of parental and coach behaviour to the player. Finally, in view of the inherent difficulty of controlling the social behaviour of others beyond this triangle, techniques designed to maintain the integrity of a player's conceptions of ability, uninfluenced by the value structures of other players and the LTA, would be recommended. Rationalisation and desensitisation strategies (i.e., RESISTANCE - section 7.534) may be appropriate in attempting to control for the dysfunctional socialising and situational effect that these elements could have on a player's subjective interpretations of achievement.

### **7.23 STRUCTURAL AND SOCIAL NATURE OF THE GAME**

The information provided by players on their beliefs about the expectations imposed upon them by being a performer in a socially evaluative sport presents a taxing problem for practitioners. Expectations of others, as perceived by the player, within such a directly competitive goal structure have a constantly normative ring to them. Likewise, so does the criteria enlisted for evaluating whether the player has achieved or not. The social consequences of outcome become important to self-esteem and this correlates with the value that the player places on socially approving him/herself to others by winning or not losing. The competitive structure of tennis, however, provides personal as well as social consequences connected with normative success. The tangible and material benefits and costs of head to head competition are entirely dependent on which player has demonstrated the greater versus lesser personal ability to perform technically, tactically, physically and mentally on the day. Despite attempting to develop the perception that tennis-related, but non-significant others (e.g., audience, unknown coaches, players, officials etc.) evaluate the player in terms of personal performance and displayed effort, what action might be taken to combat these ego-involving criteria, and at least raise the profile of task involvement?

Table 7.3 elaborates on some of the goals that could be important to achieve when attempting to develop an adaptive achievement attitude. Many of these goals are educational in nature requiring educational action, but there are several practical action tasks and techniques which might be initiated within competitive tennis in order to effect cognitive change. Strategies such as systematic rational restructuring, conditioning and desensitisation tasks, and imaginal recall appear to be pertinent to this general dimension.



The themes within 'structural and social nature of the game' promoted highly ego-involved responses in general. It is difficult to change the nature of tennis, but it is possible to change perceptions about the game via these strategies. Simultaneously, techniques can be implemented which are designed to facilitate task involvement. This amounts to a double-pronged attack where players develop the skill of controlling their perceptions of the social and structural aspects of tennis, whilst maximising and maintaining the focus on personal performance expectation, execution and evaluation.

**Table 7.3 Intervention Goals and Examples of Action Required Translated from 'Structural and Social Nature of the Game'.**

<b>GOAL</b>	<b>EXAMPLES OF REQUIRED ACTION</b>
To teach players how to own their own expectations about performance.	Educational session with player; Use of personal ratings system; goal setting and performance review.
To help players understand that social expectations stem from the structure of tennis and that they are often irrational, poorly conceived and unrealistic.	Education of player about the social and structural nature of tennis; systematic rational restructuring in that others cannot accurately judge levels of performance.
To teach players to accept that social evaluation is a natural part of the game's structure, but to emphasise the importance of self-evaluation of performance.	Education of player about the social and structural nature of tennis; goal setting, performance review, match evaluation and match reports.
To help players rationalise that the audience value and gain pleasure from good, effortful performances from players.	Educational session involving imaginal recall of best performances and the reaction of the audience.
To reinforce to coaches and parents the importance of evaluating in performance terms.	Educational sessions with parents and coaches; match analysis and performance-related feedback.
To emphasise to players that a match is not a measure of self-esteem and that winning/losing is an experience which simply provides information about the development of skills and areas for improvement.	Education of player about the social and structural nature of tennis; pre- and post match conditioning techniques (e.g., performance review; RESISTANCE)
To teach players to value the process of performance and challenging one's skills.	Educational session with player; application of performance and process goal setting.
To teach players to value outcome, less for the purpose of social approval, more for the competitive challenge presented by the game.	Education of players about the philosophy of wanting to win for internal as opposed to external reasons (see Competitive Performance Mentality - section 7.534).
To help players understand that the game's rewards ultimately rest on the attention given to the personal performance factors that are at least half responsible win/loss outcomes.	Education of players about how process, performance and outcome link together; match evaluation techniques involving the calculation of a competitive performance score for that match.

## 7.24 MATCH CONTEXT

The insights gained from this dimension reinforced the view that, unless tennis players have undergone intense forms of cognitive training, it is very difficult to prevent



the activation of ego involvement for a competitive event where success is measured by the interpersonal interaction of individual abilities. Given the nature of any competitive match which a player faces, the player cannot avoid possessing a personal expectation of whether his abilities are going to overcome the opponents abilities. Previous head to head encounters and the opponents national rating appear to be salient criteria in determining whether ego involvement will be lower (due to low expectancy) or high (due to high expectancy). This process may also lead to a conditioned goal state entirely dependent on perceptions of normative ability and levels of normative self-confidence. Other properties of the match context including match novelty, importance or meaning, age of opposition, seeded position, team match and ranking of opponent appear to engage mechanisms of normative expectation, and thereby immediately activate the ego-involved conception of ability.

The themes in this dimension are not conducive to the activation of pure task involvement where perceptions of ability and normative expectations are not elements for subjective interpretation. This is essentially why players who value performance only when expectancy is low cannot be called 'task-involved'. They are 'expectancy-driven' players, whose dominant conception of ability is differentiated, and who differentiate between the players they feel that they should beat and those that they should not! Likewise, a state of task involvement should not depend upon contextual factors such as an opponent five years older, or a match against a world ranked player. Indeed, self-referent performance goals in the context of maximising personal achievement in a task should be independent.

As discussed in Chapter 6, however, there were players who appeared to find a compromise by accepting that they had normative expectations, but who had generated those expectations based upon previous personal performances and an approach which contained a higher level of task involvement. In other words, when presented with an opponent in a certain match situation, they could not avoid expectation, but they were able to focus attention on their self-referent performance and the processes that were required to get the best out of themselves. Bearing these points in mind, Table 7.4 presents the goals that can be extracted from this dimension, and the required action to facilitate their achievement. In essence, a similar pattern of goals and action tasks emerges as the previous dimension. The only difference is perhaps a temporal one in that perceptions about the nature of the game may have more long term socialisation effects on the players achievement goal orientations. In contrast, perceptions about the match context may have more immediate effects on goal involvement. However, as speculated in the previous chapter, these differences may only be semantic as the player whose perceptions are controlled by the nature of the game are the ones most likely to be controlled by the nature of the context. Whichever view is taken, the similarity between the two dimensions emphasises that even if the match context cannot be altered, the



player's perceptions of the match context can be changed. Therein lies the root of all goals formulated and action points suggested. Education about expectations, an emphasis on the merits of personal performance as the foundation of achievement, and desensitisation of the ego-involving properties of a match context - these techniques all form part of an action package that might actuate task involvement and restrain ego involvement from engulfing the available attentional space of the performer.

**Table 7.4 Intervention Goals and Examples of Action Required Translated from 'Match Context'.**

GOAL	REQUIRED ACTION
To discuss the expectations that players have about different kinds of matches and how they develop those expectations	Educational discussion session with player; presentation of different match scenarios.
To introduce and condition players to the concept of holding expectations about personal performance as opposed to outcome only.	Education about how performance facilitates outcome, thus expectations begin at the performance level; introduction of personal performance files documenting achievement histories and evaluations of the 4 performance factors.
To emphasise to players how self-confidence about winning matches is derived mainly from self-confidence about personal performance	Imaginal recall of the times when the player was most self-confident of winning a difficult match and why; performance files documenting previous performance accomplishments and conditioning player to activate task involvement.
To teach players the philosophy that any match presents only two challenges - a challenge to beat the self; and a challenge to beat the obstacle presented through challenging the self.	Educational session on the Competitive Performance Mentality; process and performance match goal setting applied to the achievement of these two challenges before every match; performance review and evaluation of these challenges post match.
To reinforce the importance of goal setting, performance review and match evaluation for any match, whatever the social psychological circumstances	As achieved above
To provide players with a desensitisation technique designed to de-emphasise the ego-involving properties of the match context and channel thoughts about self-referent performance.	Educational session on RESISTANCE; use of RESISTANCE: (i) as a method of self-talk to direct attention to self-referent performance; (ii) as a method of identifying those players/coaches who have NO RESISTANCE within tennis.

## 7.25 SUMMARY

This section has attempted to comprehensively raise issues regarding intervention content which have been fuelled by the results of Study 2. The statements of goals and action tasks indicate the complexity of this area and, more importantly, the need to be thorough when attempting to devise a programme which attempts to effect cognitive change in the motivational goals of young performers.

## 7.3 REVIEW OF RELEVANT LITERATURE

### 7.31 SOCIAL COGNITIVE INTERVENTIONS IN THE ACADEMIC DOMAIN

Over the past twenty years, a plethora of research in educational psychology has advanced our understanding of the social cognitive approach to motivation. Even before the early achievement goal approaches (Maehr & Nicholls, 1980; Nicholls, 1984) had been published, Ames' work (e.g., Ames, 1978; Ames & Felker, 1979; Ames, Ames & Felker, 1977) on the effects of goal/reward structures on cognitive variables was opening the doors for classroom interventions dictated by social cognitive principles. Surprisingly, the amount of published research on interventions designed to effect change in achievement goal perspectives and associated cognitions has been sparse.

**Table 7.5 Description of TARGET Areas and Motivational Strategies (Adapted by Ames, 1992)**

TARGET area descriptions	Strategies
<b>Task</b> Class activities, assignments and homework; design of tasks	Design activities for variety, individual challenge, and active involvement. Help children set realistic, short term goals.
<b>Authority</b> Student participation in the instructional process	Involve children in decision making and leadership roles. Help students develop self-management and self-monitoring skills
<b>Recognition</b> Reasons for recognition; distribution of rewards; opportunities for rewards	Recognise individual progress and improvement. Assure equal opportunities for rewards. Focus on each child's self-worth
<b>Grouping</b> Manner and frequency of students working together	Use flexible and heterogeneous grouping arrangements. Provide for multiple-grouping arrangements
<b>Evaluation</b> Standards for performance; monitoring of performance; evaluative feedback	Use criteria of individual progress, improvement and mastery. Involve children in self-evaluation. Make evaluation private and meaningful.
<b>Time</b> Schedule flexibility; pace of learning; management of classwork	Provide opportunities and time for improvement. Help children establish work and practice schedules.



Most recently, a series of comprehensive classroom-based interventions was employed by Ames (1992) which involved the creation of mastery oriented classroom experiences, particularly focused on 'at risk' children. Development of a mastery motivational climate was teacher-driven, with the teachers themselves being given specific techniques and instructional practices designed to transmit task-involving messages to pupils in the classroom. For this purpose, Ames adopted the acronym TARGET from the work of Joyce Epstein (1989). Epstein used TARGET to refer to the *task, authority, recognition, grouping, evaluation* and *time* dimensions or structures of a learning environment (see Table 7.5).

In line with the principles underlying the development of a mastery achievement goal orientation, teaching strategies were developed which coherently fitted into Epstein's six TARGET areas. These strategies were then operationalised into a wide range of actual instructional practices to be utilised by teachers in the classroom setting. A record keeping system was then established in order to monitor the treatment implementation of strategies and TARGET areas. Teachers were encouraged to use a variety of strategies, but to focus on at least one TARGET area per week. They were also encouraged to give special attention to the 'at risk' children of the classroom. Preliminary findings of the project showed how children, at risk academically, view a mastery climate in the classroom, use adaptive achievement strategies and often perform better than their control counterparts in normal classroom environments.

Ames (1992) clarifies how this intervention model is easily extended to sport settings where ego-involving climates are extant and normative environments can contribute to feelings of helplessness in 'at risk' children. It is a review of studies which have utilised interventions of a social cognitive nature in the sport domain to which I now turn.

### **7.32 SOCIAL COGNITIVE INTERVENTIONS IN THE SPORT DOMAIN**

Recent reviews of achievement goal theory (Duda, 1993; Roberts & Treasure, 1995) encourage researchers towards empirical and theoretically-based intervention programmes aimed at fostering task involvement amongst sports participants. Very few studies to date, however, have been published in this area. Most recently, Theeboom, DeKnop & Weiss (1995) conducted a field-based intervention study aimed at comparing the effectiveness of an ego- versus task-oriented teaching program. Children (n=119) at a summer camp were assigned to either 3 weeks of traditional (ego-oriented) wushu (martial arts) teaching or 3 weeks of mastery (task) oriented teaching. Each of the programs' effects on enjoyment, perceived competence, intrinsic motivation and motor skill development were then measured. Although, there were no significant differences on perceived competence and intrinsic motivation, the task-oriented teaching group reported higher levels of enjoyment and demonstrated better motor skills than the ego-



oriented teaching group. One of the strengths of this study was the use of TARGET principles (Ames, 1992; Epstein, 1989) and the compiling of specific techniques and instructional practices to operationalise these principles (Ames, 1992c) for both types of program. However, possible weaknesses of the study were the length of the intervention (3 weeks) and the individual differences in goal perspective (age range= 8-12) that may have existed within and between the two groups which remained unmeasured prior to the intervention.

Another recent study by Goudas et al. (1995) investigated the motivational effects of teaching style in series of track and field lessons. A class of 24 girls were taught the various disciplines of track and field over a 10 week period in both a direct (practice) and differentiated (inclusion) teaching style based on Mosston's framework (Mosston & Ashworth, 1986). Following each lesson, each pupil completed self-report measures of intrinsic motivation and goal involvement. Of specific relevance to this review was the finding that a differentiated teaching style was associated with higher levels of intrinsic motivation and task involvement. The differentiated teaching style was characterised by choice, independence and self-discovery, elements which might certainly contribute to the fostering of a task-involved conception of ability. Despite this study being limited to the motivational effects of teacher behaviour on a weekly basis, the major insight that it provides is the effect of a social cognitive strategy on the goal state of young sports participants. Goal involvement was measured following the lesson where the immediate effects of the teaching style could be reported.

A further illustration of the longer term effects of instructional style on goal perspectives was provided in a study by Lloyd and Fox (1992). Adolescent girls who were either high or low in ego orientation participated in either an ego-involving or task-involving class condition over a six week aerobic exercise program. Results showed firstly how the task-involving exercise condition reduced ego orientation in high ego-oriented girls. Secondly, the ego-involving class increased ego scores amongst girls who were initially low in ego orientation.

To date, however, one of the more comprehensive intervention studies designed around the principles of contemporary motivation theory was executed by Burton (1989) in his investigation of the effects of a 5 month goal setting program on intercollegiate swimmers (n=30). Burton's study evaluated firstly, whether a goal setting training program (GST) could teach athletes to set appropriate and accurate performance goals as opposed to outcome goals; and secondly, to assess the impact of the GST program on perceived ability, competitive cognitions and performance. The design of the study had many strengths in that it employed a multi-method approach in a field-based context which maximised both ecological and external validity. Firstly, swimmers received the GST program over a season long training and competition period which maximised the possibility for change of critical cognitions and performance. Secondly, the GST



program educated coaches about performance goal (PG) principles and practices so that PG's would be incorporated into their coaching philosophy and techniques. In this way, the direct intervention was accompanied by supportive environmental change. Furthermore, swimmers in the GST program (as opposed to a control group of non-GST swimmers) were trained and educated extensively in the value and use of performance rather than outcome goals. This training involved an orientation session, 5 follow-up group sessions and a goal setting training manual designed to reinforce goal setting principles and the use of (i) specific rather than general goals, (ii) short term rather than long term goals, and (iii) individual as opposed to team goals. The educational training then extended to weekly individual sessions with the swimmers designed to fine tune their abilities to set, program and record goals in a daily log. Burton, himself, became an active participant observer in order to develop a strong rapport with the swimmers and maximise changes in goal structure. The general findings of the project were that GST swimmers exhibited higher performance and more optimal cognitions (e.g., higher perceived ability, lower cognitive anxiety) than non-GST swimmers. A similar picture emerged when comparisons were made between those swimmers who set accurate personal mastery goals and those with less goal setting accuracy, suggesting that goal setting skill mediated the effectiveness of the training programme. However, no differences emerged on the key cognitive appraisal variables, namely cognitive anxiety, self-confidence, concentration and effort.

Despite the general success of this 'real world' intervention, Burton (1989) pointed out several weaknesses to the project, one of which purported to the absence of true baseline measures taken prior to the project. With specific reference to achievement goal theory, the male and female GST swimmers reported high performance-related task orientations and lower ability orientations (outcome) on Ewing's (1981) Achievement Orientation Questionnaire at the end of the season. However, this questionnaire was not administered prior to the intervention, making any assessment of change in goal orientation impossible to calculate.

In summary, research which has specifically examined the effects of a multi-dimensional intervention programme on achievement goal perspectives remains limited. In the context of competitive youth sport, few research studies, if any, have assessed goal orientation and pre-competition levels of goal involvement and have subsequently re-assessed these social cognitive variables following an extended social psychological intervention over competitive and training periods. In the absence of previous studies which have researched this specific question, it was important to learn as much as one could from intervention techniques that had been applied in this area. However, it was also necessary to devise new strategies and techniques and draw theoretical support for these strategies from literature in sport and mainstream psychology disciplines.



### 7.33 RESEARCH INTO REPROGRAMMING THE SOCIAL ENVIRONMENT

One of the key features of achievement goal research has been the attention placed upon perceptions of the motivational climate and its cognitive and behavioural correlates. The major social components of the climate have been coaches and teammates (Seifriz et al., 1992) and parents (White et al., 1992). Ames (1992) contends that it is significant others such as these, that influence the meaning of achievement to the achiever by the behavioural cues, values, reward systems, expectations and beliefs that they convey to the individual. How coaches and parental goal preferences shape the achievement climate and ignite different conceptions of ability has definite implications for patterns of cognition and affect associated with certain goals. In a paper which called for the integration of socialisation influences into the study of motivation in youth sport, Brustad (1992) outlines the importance of studying the effects of parental and coach behaviours on the self-perceptions and social cognitions of young sports performers. Studies by Weitzer (1989), Duda & Hom (1993) and previous studies in this thesis document the link between a young performers goal perspectives and their perceptions of parents' and/or coaches goal perspectives.

Despite the anecdotal acceptance and empirical support of social influences on achievement cognitions in achievement contexts (Phillips, 1987; Parsons, Adler & Kaczala, 1982), there are few studies in sport which have actively attempted to reprogramme the social environment and examine its effect on the achievement goals of young performers. Of greatest applied interest is perhaps the second phase of a research study conducted by Smith, Smoll and Curtis (1978, 1979). Little league baseball coaches (n=18) received a pre-season intervention programme designed to help them communicate more effectively with children. The program itself was designed to encourage coaches to increase the frequency of technical instruction, provide more reinforcement feedback and reduce punishment. Results showed how youngsters who played for trained coaches displayed significant increases in self-esteem from the previous year (particularly low self-esteem children) and higher intrateam attraction. These coaches were also evaluated more favourably by players than the control group (n=13) of untrained coaches. This study represented an attempt to conduct youth sport research that counts (Gould, 1982). Nevertheless, there is a dearth of applied research which has adopted specific cognitive-behavioural training programmes for parents and coaches in order to facilitate cognitive change in children's motivational perspectives.

Hellstedt (1987), Martens, Christina, Harvey and Sharkey (1981), and Taylor (1996) confirm the degree of information available on parent or coach 'training' and coach/player/parent triangulation which has relevance to the creation of adaptive motivational climates and social environments. Nevertheless, one has to look to the child psychology, family therapy and psychotherapy literature to cite examples where specific



environmental engineering has taken place. The following subsection takes a closer look at the research which has employed parent behaviour training techniques.

### **7.331 Parent Behavioural Training**

The most prominent use of parent behaviour training is to be found in the child and adolescent behaviour therapy literature (Gambrill, 1977; Ollendick, 1986). In the late 70's and early 80's operant-based treatment procedures for adolescent conduct problems became popular with attempts towards reprogramming the social environment as part of a wider cognitive-behaviour modification package. Such efforts included parent behaviour training which led to several successful techniques and strategies to be adopted by the parents of mainly aggressive or socially deviant adolescents (Károlyy & Rosenthal, 1977; Peed, Roberts & Forehand, 1977; Patterson, 1977; Patterson & Gullion, 1976; Sanders & Glynn, 1981). Despite being out of context with compliant young sports performers, valuable insights can be gained from the techniques employed which essentially sought to modify deviant cognitions and social behaviour. The three techniques of greatest relevance and transferability to the sport domain were positive reinforcement (Becker, 1971), contingency contracting (Homme, Csanyi, Gonzales & Rechs, 1969) and token economic programs (Ayllon & Azrin, 1968).

Becker (1971) lists in great detail how parents can become effective reinforcers by the way they present information, react to desirable and undesirable behaviours, and through the careful selectivity of spoken words in general. A good example of the way that this might be employed in a social cognitive intervention within youth sport is the simple ways in which parents verbally act and react pre- and post-competition towards the performer. A sub-technique which is referred to as 'reinforcing alternative behaviours' translates to the example of parents focusing their attention on the positive qualities of personal performance when reacting after a match in which the player has been beaten.

Contingency contracts (Homme et al., 1968) are written agreements between two or more people that specify relationships between behaviours and consequences. They are used as a tool for making explicit the everyday expectations that family members have of each other and serve to provide positive reinforcement or incentives for carrying out responsibilities. The use of contracts has similar guidelines to that of goal setting, in terms of specificity and measurability, and often forms of negotiation take place between parties in the devising of individual contracts. As Weathers and Liberman (1975) point out,

"Family roles and behaviours become clearly defined through negotiation rather than vaguely expected through demands. In developing a contract, family members learn to establish specific goals for each other, respond to each others desirable behaviour with positive feelings, and learn to negotiate, bargain and compromise with each other." (p. 209)



The transfer of this technique to the domain of competitive youth sport, for the use of creating a social environment with task-involving values, behaviours and sport-related responses, is plain to see. A triangular set of written contracts between player, coach and parent might serve as a powerful strategy for cognitive-behavioural change. Within each individual contract, specific behaviours would be listed which, in dynamic collaboration with each other, might contribute to the optimal activation and development of task- and ego-involved conceptions of ability.

Token economic or point programs (Ayllon & Azrin, 1968) represent a motivational incentive system for systematically arranging an increase in desired behaviour and the decrease in inappropriate behaviours. It works on a very similar principle to the collection of 'air miles' or bonus card points at major petrol stations. Points or tokens are awarded for behaviours to be increased and a loss of tokens/points may be agreed for inappropriate behaviours (Gambrill, 1977). The token program can function as a distinct technique or as part of a contingency contract. With reference to its transferability to a sport context, individual points or an overall self-referent performance score might be assigned for achieving pre-match goals, for quality of preparation, for behaviour on the court and for performance in the sub-components of the game.

In summary, although many of these techniques are common sense, their use in research has only been documented in the context of psychotherapy and behaviour modification for non-compliant adolescents. It would be interesting to see if these techniques can be translated for use in engineering the social environment of youth sport.

### **7.34 COGNITIVE-MOTIVATIONAL STRATEGIES LINKED WITH THE DEVELOPMENT AND ACTIVATION OF TASK INVOLVEMENT**

The results from Study 2 and the subsequent template of goals and action tasks from 'cognitive-developmental skills and experiences' emphasise how more self-referent attitudes to competition appeared to be facilitated by forms of goal setting and self-regulatory performance routines. Although an extensive review of literature on goal setting and self-regulation is beyond the scope of this present study, it is important to understand the major principles as they relate to enhancing task involvement and learn from research which has adopted these strategies to facilitate cognitive change in naturalistic settings.

#### **7.341 Goal Setting**

Locke and his colleagues defined a goal as simply "what an individual is trying to accomplish; it is an object or an aim of action" (Locke, Shaw, Saari & Latham, 1981, p.126). In the context of their empirical work in organisational settings (Locke, 1966, 1968; Locke et al., 1981), goals are a direct motivational strategy which function like a psychological state. Goals provide a specific standard that serves to motivate individuals



to take direct action by focussing attention, increasing effort and encouraging problem-solving behaviour (Burton, 1992). A vast majority of research in sport psychology has been focused on testing out Locke's predictions from his goal directed model of motivation (see Weinberg, 1992 for a review and critique). Firstly, difficult goals, if accepted should lead to higher levels of performance than easy goals. Secondly, difficult goals which are specific should lead to higher performance than general goals, "do your best goals" or no goals at all. However, research which has tested predictions about goal difficulty, goal specificity, goal acceptance (Erez & Zidon, 1984) and goal proximity (Locke & Latham, 1985) in sport have found inconsistencies and equivocal findings (Barnett, 1977; Weinberg, Bruya & Jackson, 1985; Weinberg, Bruya, Garland & Jackson, 1990). One of the major arguments for these inconsistent findings has been the experimental designs adopted which have been characterised by the rigorous control of key variables using tasks of relatively low ecological validity (Hardy et al., 1996).

In the context of this present study, there is relatively little research which has investigated the impact of goal setting on cognitions in contexts of high ecological validity. A number of studies have examined the impact of goal setting on performance variables in naturalistic settings (Anderson, Crowell, Doman & Howard, 1988; Burton, 1989; Sticher, 1989; Swain & Jones, 1995; Weinberg, Sticher & Richardson, 1994). For example, Anderson et al. (1988) studied the effects of goal setting, praise and publicly posted performance feedback as part of a behavioural management intervention package designed at increasing the percentage of legal body checking in ice hockey players. Their results showed how goal setting was associated with improvement with feedback as a moderator of goal setting effects.

In his 1989 study, Burton refers to the scant attention given to goal setting in the sport psychology intervention literature. This has been addressed to a certain extent but society's pervasive pre-occupation with winning still leads athletes to become pre-occupied with outcome goals. An outcome goal is defined as a goal which involves exceeding the performance of others and where success is evaluated by social comparison processes. Having noted some of the problems that may be associated with setting outcome goals (e.g., uncontrollability of success, inflexibility of challenge level), he then refers to the advantages of performance goals in a way which highlights the potential for using this technique to groove a task-involved conception of ability. A performance goal is defined as a goal which involves meeting or surpassing personal performance standards, irrespective of the performance of others. According to Burton (1989), structuring performance goals:

- i) ensures that success is evaluated on an aspect of competition that athletes completely control - their performance.
- ii) allows for flexibility in raising or lowering goals based upon current self-referent performance levels.



- iii) maximises motivation, maintains high perceptions of ability and allows athletes to take internal credit for their own success.

In recognising that many athletes do not spontaneously evaluate their competence based upon performance goals, it was deemed necessary to set up a goal setting training programme (GST). This served a dual purpose. Firstly, so that athletes could be educated about the value of basing their competence on performance goals; and secondly, so that they could be taught how to implement performance goal setting skills. The results of the project are documented earlier in this section, but it is worth reinforcing that GST swimmers recorded high performance-related task orientations. They also reported significantly higher perceived ability, concentration, self-confidence, effort and lower cognitive anxiety than non-GST swimmers.

Cognitive strategies, which, by their very execution, actively change or condition subjective interpretations of achievement or other related cognitions, would appear to have tremendous appeal to achievement goal intervention research. Furthermore, the technique of giving young performers 'hands on' experience of setting and evaluating performance goals in competition is mirrored by some research which has documented functional cognitive changes as a result of process-oriented goal setting (Kingston & Hardy, 1994). Process goals specify the processes in which the performer will engage during the performance (Hardy et al., 1996). For example, a solid push off the wall following a turn in swimming or a particular sequential pattern of cognitive and behavioural events between points in tennis (e.g., pre-serve imagery; fixed frequency of ball bounces, followed by a self-instructional statement). Little research has been conducted on the effects of process-oriented goals, but Hardy and Nelson (1988) suggest that they may exert their influence on performance via the allocation of attentional resources. In other words, process goals maximise the quality of task-relevant attention (Orlick & Partington, 1988) and prevent attentional control from being negatively disrupted by factors such as cognitive anxiety (Wine, 1980). The study by Kingston and Hardy (1994) reported that golfers who trained in the use of process goals demonstrated better concentration, increased self-efficacy and were more able to control negative expectancies. Although this study did not measure effects on goal involvement, it would be interesting to explore the possibility that process goals invoke higher levels of task involvement. Pragmatically, in being task-relevant to performance, process goals are highly controllable and emphasise the self-referent attention that is being given to performance. In this regard, their motivational property lies in the notion that whenever they are employed, they highlight the value that is shown to the components of personal performance skills, and subsequently reinforce intra-personal beliefs about achievement.

In summary, few research studies have actively employed different types of goal setting for the purpose of modifying or reinforcing achievement goal perspectives. The



use of goal setting interventions in sport contexts boasting high levels of ecological validity remains limited. This is despite evidence to suggest that goal setting is a powerful cognitive modification strategy. The inclusion of goal setting techniques within a multi-method approach to modifying personal theories of achievement would therefore seem to be logical.

### **7.342 Self-Regulation Strategies as Facilitators of Task involvement**

Taken directly from the findings of Study 2, there was some evidence to suggest that an important antecedent of levels of task orientation or task involvement was the degree to which players invested in pre- and post-match strategies designed to sustain a task-relevant attention on personal performance. A psychological explanation for this is similar to that provided for the motivational properties of process goals recently articulated. The repetitive execution of task-relevant pre-, during- and post-performance routines (Boutcher & Crews, 1987), containing processes and activities at a conscious or semi-conscious level, is more likely to stimulate the conception that achievement is about executing performance processes and performance itself to the best of one's current ability. In theoretical terms, the employment of pre-match, mid-performance and post-match cognitive and behavioural techniques, comes under the conceptual umbrella of 'self-regulation' (SR; Schwartz, 1979; Kirschenbaum, 1984). Whilst there appears to be little or no research which has linked the theoretical principles of SR (Schwartz, 1979; Von Bertalanffy, 1968) to changes in motivational goals in sport, the typical self-regulation strategies adopted in sport (Crews, 1993) do have a logic to the purpose of the present study.

Crews (1993) splits the major self-regulation strategies into three levels of self-regulation - behavioural, cognitive/affective and psychophysiological. The behavioural and cognitive/affective strategies are relevant to the context of the present study. Pre-performance behavioural strategies include contracts, planned routines and self-monitoring; mid-performance strategies may include routine modification and self-monitoring; and finally, post-performance routines may include assessment of routines, self-evaluation and self-reinforcement. In terms of cognitive and affective strategies, pre-performance techniques may include goal setting, self-talk and imagery; mid-performance techniques include association/dissociation, self-talk and imagery; and finally, post-performance techniques may once again include self-instructional statements and imagery, along with goal adjustment.

Although these strategies have been variously applied within investigations with reports of improvements in performance (e.g., Crews & Boutcher, 1986; Kirschenbaum & Bale, 1984), they have not been systematically applied for the supportive purpose of influencing achievement goal perspectives. Considering the observations made by the players in Study 2, it would be interesting to investigate whether self-regulation strategies



specific to tennis might contribute to social cognitive change in a player's approach to competition.

## **7.35 SINGLE SUBJECT DESIGNS**

### **7.351 Design Rationale**

In their opening chapter on single case experimental designs, Hersen and Barlow (1976) state,

"The individual is of paramount importance in the clinical science of human behaviour change. Until recently, however, this science has lacked an adequate methodology for studying behaviour change in individuals. " (p.1)

They then proceed to note some of the limitations of nomothetic, group comparison-based approaches in clinical settings which have also been typical of research in sport psychology, particularly interventions (Hrycaiko & Martin, 1996). Indeed, researchers have tended to examine relationships across large numbers of subjects where the settings and tasks have been low in ecological validity. Methodological problems such as the averaging of results, generality of findings to the individual, and intersubject variability (Hersen & Barlow, 1976) are not conducive to determining whether an intervention has really worked for an individual. Prapavessis, Grove, McNair and Gable (1992) call for more research which looks at individual differences when working with high level performers, rather than working on a basis of group comparisons.

Martens (1987) has argued that sport psychologists need to remain open to different scientific strategies, including idiographic (individual-oriented) approaches to progress knowledge in the field. Similarly, Landers (1989) has warned sport psychologists to "beware of the man of one method" and adopt different research approaches to answering questions. Smith (1988) has recommended the use of single subject designs which may provide important insights into the processes underlying sporting behaviour by serving as a source of observations concerning intervention techniques. Wollman (1986) also advocates a 'return to the individual' where there is a premium on monitoring more closely the internal experience of subjects in the research process.

Single subject designs monitor an individual's behaviour or social cognitions prior to and after the intervention treatment is implemented (Hanton, 1996). Differences in social cognitions can then be observed between the pre-intervention baseline phase and post-intervention. Kazdin (1982) clarifies that the rationale behind single subject designs and group-comparison designs is essentially the same. Both seek to explore differences in behaviour under different conditions, but nomothetic designs expose groups of individuals to different conditions.



The research question for this study has emerged from qualitative research which explored the subjective experiences of individuals with regard to the antecedents of particular goal perspectives. The method for investigating this question requires the subject to comprehensively 'experience' the appropriate antecedents in order to allow for individual changes in social cognition to then be explored. Given the nature and origin of the question, it seems to be most appropriately examined via a single subject design approach.

### **7.352 Design Variations**

Single subject designs come in many forms, however, the most commonly employed types are the ABAB or replication-reversal design and the multiple-baseline design (Bryan, 1987; Hrycaiko & Martin, 1996). The ABAB design involves establishing baseline measures in the first A phase and then implementing the treatment in the B phase. Subsequent withdrawal of the treatment then occurs as the subject returns to a second A phase before the treatment is then re-introduced in a second B phase. If behaviour in the treatment phases (B) differs from behaviour in the baseline phases (A), then the change can be attributed to the treatment (Allison & Ayllon, 1980). The power of a replication-reversal design was demonstrated by Hume, Martin, Gonzalez, Cracklen & Genthon (1985) in their study of a self-management intervention for improving practice performance of young figure skaters. In the first treatment phase, the number of elements attempted per session increased from baseline levels, with performance decreasing when the treatment was removed. Treatment was then reintroduced and once again performance improved in all three subjects, only to deteriorate when the treatment was withdrawn for a second time. As Hrycaiko and Martin (1996) point out, "there can be no more convincing demonstration of the internal validity of a treatment than its ability to 'turn on' or 'turn off' behaviour each time it is introduced or withdrawn." (p.188)

Two potential problems, however, commonly exist with withdrawal or reversal designs. Firstly, performers are reluctant to reverse the gains made in the first B phase when the treatment is withdrawn in the second A phase (Hanton, 1996). Secondly, and of greater pertinence to this study, if the intervention is successful in effecting cognitive-behavioural change, then cognitive responses will 'carryover' (Hersen & Barlow, 1976) and may not reverse to pre-treatment levels when the intervention is withdrawn. In other words, relatively permanent changes may have occurred and retention effects may be examined by subsequent follow-up assessments.

When replication-reversal designs are not feasible or practical for examining the research question, multiple-baseline designs are a commonly used alternative method. In the multiple-baseline technique, a number of responses are identified and measured over time to provide baselines against which changes can be evaluated (Baer, Wolf & Risley, 1968). As Bryan (1987) then points out, "evidence that a particular intervention has



produced a change in behaviour is obtained by demonstrating that behaviour change occurs if, and only if, the intervention is applied" (p.286). Multiple baselines are generally created in three different ways dependent on the research question. Data may be collected across multiple baselines of behaviours for one individual (across behaviour); one specific behaviour of one individual in different settings (across settings); or, as is most commonly applied in sport psychology (Shambrook & Bull, 1996; Swain & Jones, 1995), one behaviour of several individuals (across subjects). This effectively means that each subject represents a completely separate baseline of behaviour or a target behaviour. Subsequent treatment interventions for each subject or targeted behaviour can essentially be conceptualised as separate AB designs (Hersen & Barlow, 1976). However, the power of the multiple baseline means that separate individuals, possibly matched on a certain target behaviour/area for improvement, can receive separate, but identical interventions individually. If each of the subjects' targeted behaviours change between the pre-intervention baseline period (A) and the post-intervention period (B), then the change might be attributed to the intervention, thus maximising its internal validity.

An important variation of traditional multiple-baseline research is the staggered or non-concurrent baseline design. Dependent on whether it is practical to the research in question, its application can add a degree of robustness to the internal validity of the intervention. Specifically, the intervention phase is not initiated until baseline behaviours have stabilised and the researcher is reassured that a particular response or behaviour is not susceptible to positive or negative change. The stable baseline is a fundamental aspect of importance to all multiple baseline research, and the staggered design means that the subjects start the intervention treatment only when their baseline is stable. Consequently, this design is much more subject-dependent and powerful because each subject receives the treatment in set time periods which differ from other baselines (i.e., subjects). This design was successfully applied to sport by Cohn, Rotella and Lloyd (1990) who examined the effects of a cognitive-behavioural intervention on three male intercollegiate golfers. The treatment was introduced at different times to the three players and improvements in the players adherence to mental and behavioural pre-shot routines were reported.

The staggered baseline approach assumes greater power when the length of time between each subject starting the intervention increases. Research studies, however, may incorporate interventions of substantial length where a particular seasonal time period is of crucial importance to the researcher, subject and study. In this respect, a wide differential in the starting times of subjects who have simultaneously stable baselines may be outweighed by the importance of the context/time period in which a comprehensive intervention is to take place.



### 7.353 Design Guidelines, Strengths and Weaknesses

In view of this study adopting a completely different methodological approach (i.e., working closely with a small number of performers, their families and their coaches with the aim of modifying social cognitions), it is appropriate to note some of the important guidelines surrounding single subject designs and their strengths and weaknesses when compared to group designs. Firstly, from an experimental perspective, repeated measurements taken pre- and post-intervention phases must be done under exacting, standardised conditions. This must include measurement devices used, personnel involved, times of measurement, instructions to the subject and the specific environmental conditions (e.g., location) where the measurement sessions occur (Hersen & Barlow, 1976). Deviations from any of these conditions could lead to spurious effects in the data. Secondly, as noted earlier, researchers should ensure that baseline stability exists prior to intervention. Barlow and Hersen (1973) recommend that a minimum of three separate observation points are required to set a trend in the data during the baseline phase. Furthermore, it is noted that if the baseline is not stable then there should at least be an opposite trend to that which is expected as a result of the intervention (Hrycaiko & Martin, 1996).

One of the major strengths of a single subject design is the detection of successful effects for certain individual performers which may have been obscured or masked by group averages which suggested non-significant results. As Wollman (1986) contended, "small but consistent changes may be seen in a single subject design but not emerge significantly in a group design" (p.136). This statement may be of particular relevance to studies involving elite performers who may not improve substantially from the pre-training baseline level, but whose improvement is highly significant in personal and performance terms.

A further strength of single subject designs is the lesser need for a no-treatment control group which increases the acceptability of these designs to coaches and athletes. Each subject acts as his/her own control and changes in behaviour due to the intervention provide the measure of an individual's improvement in comparison to his/her baseline performance (Hrycaiko & Martin, 1996). It is important to note, however, that inclusion of a control subject, who maintains consistent baseline behaviour before and after the active subjects receive a successful intervention, does offer an added degree of internal validity (Hanton, 1996).

Despite these strengths, however, single subject designs are thought to fall short on external validity where researchers cannot generalise to how others might respond to the treatment (Borg & Gall, 1989; Zaichowsky, 1980). This problem, however, can be limited by replication of results in further studies (Seidentop, 1981). Nevertheless, Hrycaiko and Martin (1996) are critical of those who believe that single subject designs

lack external validity. They argue in more philosophical terms that the degree to which an experiment is externally valid is a matter of degree and that few studies in psychology possess external validity across behaviours, individuals, settings or treatments. This is particularly the case for group-based research which often presumes that the sample is normally distributed. They contend that multiple-baseline designs across subjects deliberately incorporate aspects of external validity into the design by the number of multiple cases investigated.

### **7.354 Scientific Assessment of Treatment Effects**

The changes in behaviour, or cognition as in the present study, can be assessed both by a scientific assessment of treatment effects or a clinical (practical) assessment of treatment effects based on social validity evaluation (Hrycaiko & Martin, 1996). The most common scientific method usually involves visual inspection and appraisal of the data when it is represented graphically by plotting the behavioural observations over time. According to Hrycaiko and Martin (1996), during visual inspection, the researcher can be more confident that an intervention has worked:

- a) when the baseline performance is stable or in a direction opposite to that predicted for the effects of the treatment;
- b) the greater the number of times that an effect is replicated both within and across subjects;
- c) the fewer the number of overlapping data points between baseline and treatment phases;
- d) the sooner the effect occurs following the introduction of the treatment; and
- e) the larger the size of the effect in comparison to the baseline.

Jones, Vaught and Weinrott (1975) criticise single subject designs on their method of subjective interpretation. However, there is defined criteria and some clear guidelines involved in making what is not a totally subjective judgement about the treatment effect. It is also worth noting that the purpose of applied research is to effect *meaningful* clinical or socially relevant change. Applied researchers in sport psychology are generally more concerned with practical (clinical) significance than statistical significance (Bryan, 1987). Statistical significance can underestimate the practical effectiveness of an intervention as well as overestimate it (Hersen & Barlow, 1976). The latter is particular true for elite performers where the percentage difference between baseline and treatment phases may be as minimal as the difference between setting a national or world record. The 'fractions' would be minor but the meaning would be major.



### **7.355 Social Validation - Practical Assessment of Treatment Effects**

With the last statement in mind, judging whether there is a scientific effect is one issue, but evaluating whether the intervention has been of practical importance and significance to the subject and other significant individuals is another matter. Social validation refers to the collection of subjective evaluations of performance and behaviour from those individuals who were involved in the investigation. In this manner, it is possible to generate additional individual verification of the results from the actual subjects who participated (Kazdin, 1982; Kendall et al., 1990; Wolf, 1978). The researcher can conduct a manipulation check by assessing how subjects internally experienced the intervention. This permits a more accurate assessment of the internal validity of the treatment condition (Hanton, 1996).

Several component questions may comprise an assessment of social validation (Kendall et al., 1990; Swain & Jones, 1995). Firstly, questions related to the subject's interpretations of the central aims of the study; secondly, if the subject reported any significant behaviour/performance changes; thirdly, if the procedures proved acceptable to the subject; and finally, whether the project was useful to the subject. These questions may be responded to on either a Likert scale basis or a combination of open ended questions with Likert scale responses.

### **7.356 Research Findings**

Although several advantages of single subject designs have been discussed, few research studies adopting such designs have been published over the past 15 years (Hrycaiko & Martin, 1996). Of four recent studies (Hanton, 1996; Kendall et al., 1990; Shambrook & Bull, 1996; Swain & Jones, 1995), only one contains a motivational element to it (Swain & Jones, 1995). Kendall et al., (1990) reported performance improvements in the defensive skills of four female basketball players via the implementation of a cognitive-behavioural intervention package. This type of intervention has characterised most of the earlier single subject design studies (Hamilton & Fremouw, 1985; Meyers, Schleser & Okwumabua, 1982) reviewed by Greenspan and Feltz (1989).

Shambrook and Bull's (1996) study examined the impact of an imagery training routine on the free-throw performance of four female basketball players. Results suggested that only one subject demonstrated a consistent improvement after beginning the imagery training. In the motivation-related study, Swain and Jones (1995) examined the effects of a goal setting intervention on sub-components of basketball performance of four elite university basketball players. The intervention was based upon Smith's (1988) goal attainment scaling recommendations, where the players generated numerical targets for their sub-component performance goal (e.g., turnovers, steals, rebounds, shot percentage or assists). Baseline sub-component performance scores were generated in the 1st eight games of the season after which the intervention was implemented. The players



then competed against the same opposition in the eight remaining return matches, ensuring that repeated measurements were standardised pre- and post-intervention in situational terms. Three out of the four subjects showed marked improvement in their respective targeted areas, and the internal validity of the intervention was enhanced by the finding that no outcome changes occurred in the other non-targeted sub-components of performance.

Lastly, Hanton's (1996) study examined the effects of a multi-modal intervention programme on three university swimmers who interpreted anxiety in a debilitating manner. Following the intervention, results showed that although intensity levels of anxiety remained stable, the swimmers reported more facilitative interpretations of both cognitive and somatic anxiety. This multiple-baseline across subjects design was strengthened by the fact that it was non-concurrent (staggered), employed a no-treatment control subject, and provided valuable follow-up data which assessed the retention effects of the intervention.

#### **7.4 STUDY 3: PURPOSE OF THE STUDY**

The major purpose of the study was to examine the effects of a social environmental and task-based intervention programme on the achievement goal perspectives of national junior tennis players. However, given the extensive nature of the findings and observations made by national junior players in Study 2, this overall purpose was represented by several important sub-purposes:

The most important sub-purpose was to investigate whether an intervention programme could increase levels of task involvement within the motivational responses of players prior to competition. A second sub-purpose became the examination of whether the intervention could influence players to adopt a more internal as opposed to social approval/external-directed focus to their state of ego involvement prior to competition. In concert with the insights of Study 2, the view was taken that ego involvement can be both necessary and positive if it is internally-directed and accompanied by high levels of task involvement. In this respect, the intervention sought to facilitate the activation of an adaptive profile of goal involvement responses in players before competing.

A third sub-purpose was to explore a range of pre-competition cognitions that may be influenced as a function of the intervention. In line with Burton's (1989) study, the investigation examined whether pre-competition perceptions of ability would be increased given that players might improve the focus on the quality of their performance. Further to this, the study assessed pre-competition perceptions of threat and challenge (Lazarus & Folkman, 1984) linked to particular match circumstances. The rationale for exploring changes in threat and challenge was the link that has been made between goal perspectives and the stress process (Duda et al., 1990a; Nicholls, 1989; Vealey &



Campbell, 1988). A final sub-purpose of Study 3 was to examine whether the intervention would facilitate changes in the dispositional goal orientations of players over its three month period.

Four competitive junior tennis players agreed to participate in the study. Of these players, three received the intervention treatment, with the remaining player acting as a control subject during the competitive and training periods. As the intervention involved social environmental restructuring, the mother, father, and individual coach of each of the three players actively agreed to participate in the study.

#### **7.41 HYPOTHESES**

Due to the exploratory nature of this study, only general hypotheses were formulated. However, based on findings from the two previous studies in this thesis and the baseline responses of the selected subjects (see section 7.533), it was expected that:

- (1) The three players receiving the intervention would report higher levels of pre-competition task involvement following the intervention treatment;
- (2) The three players taking part in the intervention would report more prominent levels of internally-directed pre-competition ego involvement relative to social approval-directed ego involvement following the intervention;
- (3) The three players would demonstrate more functional and positive cognitions with regard to levels of pre-competition perceptions of ability, threat and challenge following the intervention;
- (4) The control subject would remain stable on all of the above variables throughout the study.

No general hypotheses were proposed for changes in goal orientation due to the length of the study, the nature of assessment, and the fact that the goal orientation profiles of the three players were diverse at the start of the intervention (see Table 7.5). The hypotheses are presented here alongside the purposes of the study. However, the reader will be able to put them into context more clearly when the pre-intervention baseline responses have been presented and a summary has been given in section 7.5335.

## **7.5 METHOD**

### **7.51 SUBJECT SELECTION CRITERIA**

In order to address the research question, it was necessary to identify those players whose tennis-related goal orientation profiles and pre-competition achievement goal states would most benefit from social cognitive change, given the predicted relationships between goal perspectives and achievement behaviour (Duda, 1992, 1993). However, the identification of subjects with severely debilitating goal perspectives was constrained for several reasons.

Firstly, the study required adolescent players who were competing in a season long series of summer tournaments, followed by a non-competitive training phase with the coach. In line with the sample from Study 2, this effectively meant national standard players as they would be most active in this respect. Secondly, valued participation was required from the parents and coaches of the players, therefore it was important to increase the probability that these would actively sanction the study. Finally, from the perspective of the outside educator (the author), for resource reasons, it was practical to select players from within the county and surrounding districts. These practical issues reduced the available sample of male and female junior players in Leicestershire county to eleven. The study, however, benefitted from the fact that the author was also a senior county coach with whom all of the players and parents had come into contact at some stage. These eleven players, their coaches and parents satisfied the practical criteria for inclusion into the study.

The selection of four players (three subjects; one control subject) for the study proper was carried out on a basis of their dispositional goal orientation scores and their predicted pre-competition goal involvement responses having been asked to imagine an important match against a rival opponent in the junior county championships. This selection process is detailed in the following few pages.

#### **7.511 Dispositional Goal Orientation**

The achievement goal orientations of the potential subject players were measured using the TEOSQ (Duda & Nicholls, 1989) modified for the purposes of Study 1B. Although, arguments pertaining to its utility in predicting competition-specific goal states have been noted in Studies 1A and 1B, the present study sought to examine changes in goal orientation towards tennis as a sport in general. The TEOSQ was thought to be a valid measure of goal orientation in this respect. Subjects completed the TEOSQ at the start of an individual session with the investigator in which they also reported their pre-competition goal involvement responses (discussed forthwith).



### **7.512 Pre-Competition Goal Involvement**

The results of the first two full studies had espoused the importance of situational factors and perceptions of the competition context on the level and nature of goal involvement. Due to these findings, the researcher was presented with a delicate problem which extended to the full study itself. One might argue that the most valid, competition-relevant and strongest indication of the quality of a player's pre-competition goal profile comes from assessing the player in an important and evaluative match context which has both meaning and value to the player. From Study 2's findings, contexts associated with active levels of social evaluation, normative expectation and social comparison reflect the nature of competitive tennis and are highly ego-involving. In ecological terms, these are the match situations that elite tennis players face on a daily basis. Therefore, in maximising the ecological validity of this study, it was important to ensure that players faced these situations. Consequently, the validity of the study would be enhanced if the player's pre-competition motivational responses could be tested in these types of competition contexts.

Waiting for match situations of this sort to arise for all eleven players in the subject selection phase was a problem. However, achievement goal responses to specific match situations across the eleven subjects were necessary. The researcher was also aware of the problem that he would face in the full study given the need for a relatively stable baseline of responses, but the potential variability in the nature of match contexts. The researcher therefore decided to adopt covert procedures for assessing pre-competition goal involvement. The more comprehensive method employed in the full study for covert simulation and modeling of match contexts (Kazdin, 1973) is discussed in section 7.532. In the subject selection phase, due to the numbers, players were simply asked to read a match scenario and reply to a set of single item questions with consideration given to the specific situation they were in. Previous research in achievement goal theory has employed this method (e.g., Duda et al., 1991) for generating specific responses to certain situations. The pre-competition questionnaire employed is shown in Figure 7.1. The first question acted as a manipulation check to ensure that the match was viewed as important for achievement purposes. Questions two, three and four measured levels of pre-competition ego involvement, task involvement and the dominant goal state of involvement respectively. The results for the eleven players are shown in Table 7.6.

**Figure 7.1 Subject Selection Phase - Pre-Competition Questionnaire**

Name: \_\_\_\_\_

**Instructions:**

Tennis players may want to achieve many different things when they play a tennis match. However, two things that may make them feel successful or unsuccessful are whether they win or lose the match, or whether they personally perform well or badly in the match. However, the degree to which you feel successful from winning or from your personal performance may depend on the nature of the match that you are playing and the nature of your opponent. I would like you to read the following scenario in which you are the player about to play an opponent in a certain match. Having read the scenario and imagined what it would be like to be in that situation, I want you to answer the questions at the bottom as if you were about to play that opponent in that match.

**Scenario:**

It is the first round of the Leicestershire County Closed Championships at the Leicestershire Lawn Tennis Club in July. You are seeded 7 in the tournament, but you have been drawn against a close rival whom you have beaten once before in a very tight match. S/he has just missed out on being seeded because s/he is one rating below you. It is fifteen minutes before you go on court and you are sitting in the clubhouse.

Please answer the following questions as if you were in that situation:

(1) How important is it for you to achieve in this next match?

Not at all Important							Extremely Important
1	2	3	4	5	6	7	

(2) To what extent is winning this match and beating this opponent, regardless of how well you perform, important to you in this match?

Not at all Important							Extremely Important
1	2	3	4	5	6	7	

(3) To what extent is putting in a good personal performance relative to yourself, even though you might lose, important to you in this match?

Not at all Important							Extremely Important
1	2	3	4	5	6	7	

(4) What is more important to you in this match - beating the opponent (regardless of personal performance) or personally performing well (regardless of result)?

Beating Opponent Most Important				Of equal Importance			Personal Performance Most Important
3	2	1	0	1	2	3	



**Table 7.6 Dispositional Goal Orientation Scores and Pre-Competition Goal Involvement Responses to an Imagined Competitive Situation**

Subject	TEOSQ Task	TEOSQ Ego	Match Task goal involvement	Match Ego goal involvement	State goal preference	Match importance
M1	32	18	6	5	+2 (task)	6
F2*	29	19	5	7	+2 (ego)	6
F3	30	17	6	6	+1 (task)	7
M4	33	20	5	5	0	6
M5*	31	25	5	7	+3 (ego)	7
F6*	31	20	4	6	+2 (ego)	6
M7	34	22	6	6	0	7
F8	31	16	7	5	+1 (task)	6
F9*	27	20	5	5	+1 (ego)	7
M10	33	23	7	6	0	7
M11	30	18	6	6	+1 (task)	6

M/F = Male/Female ; \* denotes players selected for the study

### **7.513 Final Subject Selection**

Visual inspection of the data allowed the researcher to select four players whom he felt would be most likely to benefit from an intervention. These judgements were based primarily upon goal involvement scores with the dominant goal state reported, and secondarily on dispositional task and ego orientation. As can be seen from Table 7.6, subjects 2, 5, 6 and 9 were all players whose dominant goal state was ego-focused; all players scored 5 or lower on task involvement, with 3 of the 4 subjects possessing higher levels of independent ego involvement. All subjects had reported high task orientations, but this was not surprising considering the nature of the sample. The item averages for task orientation were between 3.85 and 4.42 which reflect the means for Studies 1A, 1B, and other goal perspective research studies (e.g., Duda & Hom, 1993; Ebbeck & Becker, 1994). Of greater interest were the ego orientation scores which averaged between 3.17 and 4.17 per item. These did reflect the mean value reported in Study 1B, but are relatively high when compared to the ego orientations of young sports performers in goal perspective research which has published group means (e.g., Duda & Hom, 1993; Ebbeck & Becker, 1994; Newton & Duda, 1993a).

Subject 9 was selected as the control subject in the full study. She was the only player whose orthogonal levels of pre-competition task and ego involvement were similar, but who still had a relatively low task orientation, high ego orientation and dominant ego-involved goal state. It was thought that her profile would act as a satisfactory 'marker' with which to compare the efficacy of the intervention treatment.

### **7.514 Subjects**

The subjects selected for the study comprised one male and three female national standard junior tennis players who were all part of the Leicestershire county tennis programme. The three 15 year old players and one 16 year old player were all preparing to compete in a series of tournaments throughout July and August, 1996. Each possessed an individual coach whom they would see twice a week in a training phase and on a 10-day or fortnightly basis during tournament weeks in which parents played the more active role as supporters and observers.

## **7.52 INSTRUMENTATION**

### **7.521 Dispositional Assessments of Achievement Goal Orientation**

In addition to the TEOSQ (Duda & Nicholls, 1989) scores which had been generated in the pre-study selection, all four subjects completed the Perceptions of Success Questionnaire (POSQ; Roberts & Balague, 1989). The POSQ was developed as a sport-specific questionnaire to measure goal orientations. It is a 12-item scale consisting of two subscales measuring task and ego goals in sport and has demonstrated acceptable validity and reliability in previous research (Roberts & Treasure, 1995



Roberts et al., 1996; Treasure & Roberts, 1994a). Subjects respond to a 5-point Likert scale ranging from (1) strongly disagree to (5) strongly agree. The stem for each item, specific to 'tennis' in this case, is "I feel most successful in tennis when.....". Examples of items constituting the ego subscale include: "I beat other people"; "I show others people I am the best." Examples of items on the task subscale include: "I show clear personal improvement"; "I reach personal goals." The scores for each subscale are added together in the same way as the TEOSQ and the two subscales have been found to be internally reliable with alpha coefficients of 0.80 and 0.86 (Roberts et al., 1996) for the task and ego subscales, respectively (Cronbach, 1951).

The POSQ is considered to be an alternative instrument to the TEOSQ which has been developed from a similar conceptual basis and its inclusion in this study was merely to gain the benefit of multiple, concurrent measures of achievement goal orientation. Its application meant that comparisons could be made about the effects of the intervention on goal orientation profiles. Consistent and corroboratory findings would serve to increase the conviction that the intervention had produced a dispositional effect. The POSQ is presented in Appendix 10.

#### **7.522 Pre-Competition Questionnaire (PCQ)**

The measurement of pre-competition goal involvement and other cognitive responses took the form of a battery of different instruments and single item questions referred to collectively as the Pre-Competition Questionnaire (PCQ). The first item within the battery was a single measure of match importance which asked players on a scale of 1 to 10 "How important is it for you to achieve in this next match?". This acted as a manipulation check to ensure that players viewed the match, about which they were to respond, to have achievement value.

The remainder of the PCQ consisted firstly of three study-specific instruments. These were termed the 'Sub-Components of Self-Referent Tennis Performance Questionnaire' (SSTPQ), the 'Locus of Goal Involvement Questionnaire' (LGIQ) and the 'Proportional Focus on Performance Factors and Outcome'. Secondly, located within the battery was a two-item measure of perceptions of ability and two single item questions which assessed perceptions of threat and challenge respectively. Each of the 3 instruments and study-specific questions comprising the PCQ package were presented in three different orders for each match situation to guard against order effects, these were:

##### **Order No. 1:**

Match Importance - **single item introductory question**

Perceptions of Ability (1) - **first item measuring perceptions of ability**

SSTPQ - **study-specific instrument**

Proportional Focus on Performance Factors and Outcome - **study-specific instrument**

Locus of Goal Involvement (LGIQ) - **study-specific instrument**

Perceptions of Threat and Challenge - **single item measures**

Perceptions of Ability (2) - **second item measuring perceptions of ability**

**Order No. 2:**

Match Importance

Perceptions of Ability (1)

Locus of Goal Involvement (LGIQ)

SSTPQ

Proportional Focus on Performance Factors and Outcome

Perceptions of Ability (2)

Perceptions of Threat and Challenge

**Order No. 3:**

Match Importance

Perceptions of Ability (2)

Perceptions of Threat and Challenge

SSTPQ

Proportional Focus on Performance Factors and Outcome

Perceptions of Ability (1)

Locus of Goal Involvement (LGIQ)

A more detailed presentation of this instrumentation now follows.

**7.523 The Sub-Components of Self-Referent Tennis Performance Questionnaire (SSTPQ): Conception and Reasoning.**

The SSTPQ was an instrument devised specifically for the purpose of this study. This was firstly in response to the weaknesses and criticisms levelled by fellow researchers at the use of single item measures of pre-competition goal involvement. However, a second reason was the inappropriate attention afforded to finding out more precisely how task-involved and self-referent an individual performer actually is with relevance to the achievement of skills that constitute performance in competition. As a professional tennis coach, a continual argument which arises amongst national and county coaches is how little adolescent players review and assess their performances, and bias attention to technical skills at the expense of tactical, physical and mental skills. From a pragmatic viewpoint, it is generally accepted amongst coaches that performance in a tennis match is composed of technical, tactical, physical and mental performance factors. The qualities displayed by these four factors in a match will determine the result to a large extent, but they can also determine the degrees of self-referent achievement or satisfaction that the player experiences from a particular aspect of their game.

A task-involved conception of ability as conceptualised by Nicholls (1984, 1989) reflects the belief system that achievement or ability stems from improvements, progress or maintenance of personal performance skills assessed in self-referent terms. Logically, therefore, a performer who is high in task involvement should value self-referent performance, and more importantly, value and assess the skills that constitute that performance. Within sport, it may be easy for performers to report high levels of task orientation and task involvement if the assessment criteria are variables such as effort, hard work, overcoming difficulties, playing one's best or reaching a goal. However, if one takes a step back and views more precisely what a performer actually is when they



are high in task involvement, then one might argue that our assessment techniques do not get to the root of that goal state as effectively as they might.

### 7.5231 Construction of the SSTPQ

With these latter points in mind, a questionnaire was constructed with the assistance of two National LTA coaches and a highly qualified Performance coach responsible for Leicestershire junior tennis. Each of the four performance factors in the questionnaire was reflected by three skills which were deemed to be key sub-components of performance in any tennis match. These sub-component skills were presented to nine players in the U-18 Leicestershire County Performance squad (including the four players in this study) for their thoughts on 'whether these skills are what you think most clearly make up that performance factor'. This step was taken to maximise the content validity of the categories. Having considered this question between weekly sessions, players then reported on their thoughts. All players agreed with the 12 sub-components, although several players noted that 'positive self-talk' should be 'positive thoughts' because many players do not overtly talk to themselves in matches, but they 'can think positively to themselves'. The sub-component skills of each performance factor (i.e., 3 x 4 = 12 sub-components) are depicted in Table 7.7.

**Table 7.7 Sub-Components of Tennis Performance Factors**

TECHNICAL	TACTICAL	PHYSICAL	MENTAL
Groundstrokes	Attacking short balls	Speed/Agility	Concentration during and between points
Volleys	Defensive play	Stamina	Positive thoughts about performance
Serve	Counterattacking play	Power	Goal setting before points

With these sub-components identified, three key questions were then asked for each sub-component skill which endeavoured to provide an overall measure of the player's task involvement for that particular skill. These questions revolved around the **Importance, Assessment, and Meaning** of that sub-component skill to the player. Firstly, with regard to what the player wanted to achieve from the next match, how *important* was it for the player to feel satisfied with and successful in that particular sub-component. Secondly, to what extent would the player personally *assess* the quality of that sub-component in the next match. Assessment in this context meant how much the

player would actually monitor the quality of that sub-component between points/changeovers and/or after the match. This question did not apply to the mental factor sub-components which the author felt could not be monitored during the flow of the match, nor could they be easily appraised in terms of their consistency after the match. Finally, balancing up exactly what the player wanted to achieve in the next match, how much did success and satisfaction in that particular sub-component actually *mean* to the player.

By asking these questions for each sub-component of each performance factor, the author felt that a more accurate reflection of a player's actual task involvement would emerge. Study 1 had proposed the argument of 'level' vs 'strength' in relation to the true intensity of task orientation. This study adopted this argument as a rationale for the method of assessing the task involvement associated with each match skill. The 'importance' item reported the *level* of perceived skill importance; the 'assessment' item measured the degree of *self-referencing*; and the 'meaning' item disclosed the *strength* of importance with regard to overall personal achievement.

The responses to each of these three questions for each sub-component were conveyed via a 10-point Likert scale format. For the 'importance' item, the scale ranged from (1) "not at all important" to (10) "extremely important", with increasing degrees of importance labelled along the scale. For the 'assessment' item, the scale ranged from (1) "not at all" to (10) "very much so", with increasing amounts labelled along the scale. Finally, for the 'meaning' item, the scale ranged from (1) "no meaning whatsoever" to (10) "of great meaning to me", with increasing degrees of meaning labelled along the scale.

As a pilot study, the full questionnaire presented in Appendix 11, was administered to four fifteen year old National 'Rover' players with whom the author worked, one hour prior to their matches at a regional tournament. These pilot questionnaires took between eight and eleven minutes to complete, and each player reported that they clearly understood the questions. Two of these players also mentioned how completing the questionnaire had made them realise how little attention and thought they had given to performance for that particular match, because they just wanted to win. As a result of this no changes were made to the final questionnaire.

### **7.5232 Scoring and Presentation of Scores for the SSTPQ**

The scores from responses to the questionnaire are treated as absolute units on the scale. However, these scores may be presented in a number of different fashions dependent on the depth in which one wishes to investigate the data. For the purposes of this study, an overall task involvement score was computed for each individual performance factor, and subsequently a composite score was derived to represent overall



task involvement. This was achieved by comprising responses to all questions within each sub-component of each of the four factors in the following manner:

- i)      Average of three TECHNICAL Sub-components on **IMPORTANCE**  
Average of three TECHNICAL Sub-components on **ASSESSMENT**  
Average of three TECHNICAL Sub-components on **MEANING**
- Average of the three resulting scores =      **Technical Task Involvement**
- ii)     Average of three TACTICAL Sub-components on **IMPORTANCE**  
Average of three TACTICAL Sub-components on **ASSESSMENT**  
Average of three TACTICAL Sub-components on **MEANING**
- Average of the three resulting scores =      **Tactical Task Involvement**
- iii)    Average of three PHYSICAL Sub-components on **IMPORTANCE**  
Average of three PHYSICAL Sub-components on **ASSESSMENT**  
Average of three PHYSICAL Sub-components on **MEANING**
- Average of the three resulting scores =      **Physical Task Involvement**
- iv)     Average of three MENTAL Sub-components on **IMPORTANCE**  
Average of three MENTAL Sub-components on **MEANING**
- Average of the two resulting scores =      **Mental Task Involvement**

The overall score for each performance factor can then be tabulated or depicted graphically to reveal the degree to which players are task-involved in each factor. However, to provide a composite performance measure of overall pre-match task involvement, the simple calculation is:

$$\begin{aligned} & \text{Technical Task Involvement} \\ & \quad + \\ & \text{Tactical Task Involvement} \\ & \quad + \\ & \text{Physical Task Involvement} \\ & \quad + \\ & \text{Mental Task Involvement} \\ & \text{divided by four} \\ & \quad = \\ & \text{Overall Task Involvement} \end{aligned}$$

Although the Importance, Assessment and Meaning (IAM) items can average out to provide a composite measure of IAM for each performance factor, each sub-component skill has its overall IAM score which is a measure of sub-component task involvement (e.g., groundstroke task involvement). Furthermore, it is possible to check which of the IAM items, either within sub-components or performance factors, are weak

or strong. For example, technical task involvement might be low, not because of the *importance* or *meaning* attached to the value of groundstrokes, serve and volley, but because the player does not self-referently *assess* these areas. These further insights could be of great use to coaches and practitioners and, where relevant, this study will look further into the data to support points of interest.

#### **7.524 Locus of Goal Involvement Questionnaire (LGIQ): Conception and Reasoning.**

In discussing the findings of Study 2, the issue was brought up pertaining to the orientation or direction of goal perspectives within players. Players' responses suggested that their reasons for wanting to win/not lose a tennis match was to reinforce favourable perceptions of ability, not only to themselves, but more importantly to others. In adopting the position taken by Urdan and Maehr (1995), the goal of social approval was investigated in this study but included within the dimensions of task and ego involvement. It might be fair to say, given the responses of players in Study 2, that their ego-involved conception of ability was directed as much to the goal of proving themselves to others as it was to reinforcing their own capability. This has been supported by Nicholls, Patashnick & Nolen (1985) who employed an "ego and social orientation" dimension to their scale which combined social approval and ability goals into the same factor. Furthermore, the statements made by Urdan and Maehr (1995) suggest the utility of measuring a social approval orientation within task involvement. In this respect, one is measuring the goal of approving one's self to others via demonstrations of personal effort, progress and mastery of skills. All of these points are made with important consideration given to the finding in Study 2 that the social nature of tennis, in terms of expectancy and evaluation, has a powerful influence on the nature of achievement goals. In addition, whilst measuring social approval-directed goal perspectives, it was of value to simultaneously assess the importance that young performers placed on personal or internal-directed forms of task and ego involvement.

#### **7.5241 Construction of the LGIQ**

Due to the lack of any appropriate instrument to measure what might be termed 'locus of goal involvement' prior to a match, a tool was constructed for the purposes of this study. With assistance from a research colleague, a pool of items were developed which represented four categories/loci of goal involvement. These were labelled: "Personal task involvement" (PT); "Personal ego involvement" (PE); "Social approval task involvement" (SAT); and "Social approval ego involvement" (SAE). The items were generated to a degree by looking concurrently at the content of statements which constituted the task and ego scales of the TEOSQ (Duda & Nicholls, 1989), the POSQ (Roberts & Balague, 1989) and the "ego and social orientation" dimension of the scale



employed by Nicholls et al., (1985). Each item was phrased in such a way that it was conducive for the player to respond to the statement in pre-match circumstances.

In view of the time scale, it was not possible at that point to carry out a separate validity and reliability study on the questionnaire with large groups of players. However, in order to provide some measure of content validity, the items themselves were presented to the three coaches previously mentioned, the four fifteen year old national juniors with whom the author worked, and a further research colleague in the department. These individuals were asked to try to assign each statement to the correct category (of goal involvement) from which it came and also to provide any relevant comments on the phrasing of the items and the ease of the task. The task sheet is shown in Figure 7.2.

Each of the participants in this task were able to correctly categorise the statements within four to eight minutes, and some interesting and supportive points were made. Firstly, one of the national coaches remarked that even though the players had taken longer than him to categorise the statements, the fact that they had been categorised correctly may reflect good content validity and adequate item dis-similarity. One of the players remarked how "all the statements make sense for each goal after you've finished, but it was not an easy task." Furthermore, all the players confirmed that although some of the statements were long, the phrasing of the items reflected terminology that tennis players could easily understand. These observations encouraged the researcher that he had gone at least some way to demonstrating that the locus categories had face and content validity, and that the items were representative but sufficiently different. Further research needs to be done on this measure. However, it must be pointed out that, in view of the idiographic nature of the study, this device along with the SSTPQ functioned merely as pre- and post-intervention tests of direct pertinence to the four subject players in the study proper.

#### **7.5242 Presentation and Scoring of the LGIQ**

One of the features of instruments used to measure goal perspectives (e.g., TEOSQ; POSQ) is the Likert scale format for responses which allow scores for each item response to be added together within the subscale. In this respect, subjects are free to attach an independent level of importance to each item where, on a five point scale, "working hard" might be a goal reported with equal importance as "being the best". This method of measurement does correspond with the orthogonal features of achievement goal theory where both goals are somewhat independent of each other. However, orthogonality does not mean complete independence, it suggests that the two goals are separate constructs whose properties interact with each other to a degree (Nicholls, 1989). A similar argument was articulated for use of the 'state goal preference' item as a measure of the dominant goal state of involvement in Study 1B.

## Figure 7.2 Content Validity Task for LGIQ

The following statements represent different kinds of goals that tennis players may have when they enter a match. There are four categories of goal and your task is to see if you can place each of the statements into the correct category that the statement represents. There are three statements per category.

The statements are as follows:

1. Proving to yourself that you can beat the opponent
2. Mastering a shot/stroke that you have been working on
3. Reinforcing to other people that your game skills are superior to your opponent's
4. Showing others how you get the best out of yourself
5. Playing to a level which reflects personal improvements in your game
6. Showing other people your ability to win the match
7. Putting in a performance that is better than your opponent's
8. Proving to other people how well you solve problems in the match
9. Making progress in the execution of your skills
10. Proving to others that you are better than your opponent
11. Showing a higher level of skill than your opponent
12. Proving to others how hard you work to play well

The categories are as follows:

Goal No. 1) Performance/Improvement in your skills from a strictly personal point of view where no other performance comparisons are made.

Statement no's: \_\_\_\_\_ (i.e., Personal Task)

Goal No. 2) Winning the match and being better than the opponent for your own personal reasons.

Statement no's: \_\_\_\_\_ (i.e., Personal Ego)

Goal No. 3) Showing other people how good you are by winning the match and being better than the opponent .

Statement no's: \_\_\_\_\_ (i.e., Social Approval Ego)

Goal No. 4) Showing other people how good you are by your personal effort, performance, and resourcefulness.

Statement no's: \_\_\_\_\_ (i.e., Social Approval Task)



In the context of the LGIQ, the researcher wished to engage a stronger test of the multiple goals that were most or least important to achieve by employing a ranking system (Kazdin, 1976). In this way, players are forced to consider the actual importance of certain goals relative to other goals. This serves to attenuate response data which may reflect *level* but cannot distinguish *strength* of importance. The ranking process reflects a criticism of the TEOSQ whose task subscale yields consistently negatively skewed data and high mean scores (Duda & Hom, 1993; Li et al., 1996a; Li et al., 1996b). A ranking system would provide for distinct *intervals* of importance which are less distinguishable on Likert scales. Furthermore, the orthogonality of goals may be more accurately assessed in that the importance of all goals must be weighed up, but there were three goal items which represented each loci of goal involvement. From a practical, as opposed to statistical perspective, it was of interest to ascertain which goals were considered to be the highest and lowest of importance to players, in terms of *strength*, when all goals were placed into the equation. The questionnaire is presented in Appendix 12, with the orienting instructions being as follows:

"Each of the following statements reflect something that might be achieved in a match which would make players feel successful and satisfied. However, different players feel successful and satisfied by achieving different things. Therefore, a factor that might be important to achieve for one player might not be important to another. I would like you to rank each of these following statements from (1) being the most important.... to (12) being the least important..... goal to achieve for this **next match**.

To help you do this, you may first of all label your three most important statements to achieve as Category 1; your next 3 most important as Category 2; your next 3 most important as Category 3; and finally, your 3 least important statements of the group as Category 4.

Having done this you can then rank each statement from 1 to 3 within each category to produce ranks from 1-12. This means that Category 1 will contain ranks 1-3; Category 2 - ranks 4-6; Category 3 - ranks 7-9; and Category 4 - ranks 10-12."

When scoring the LGIQ, points are attributed to each rank in an inverse manner so that the goal item ranked No. 1 receives twelve points and the goal item ranked No. 12 receives one point. The points for each of locus of goal involvement are then added up to determine the relative importance of each multiple goal perspective to the player for that match. Although each multiple goal state may be referred to as a separate locus, the orthogonal features of goal involvement make it feasible to suggest that an overall locus (or location) of goal involvement is represented by the ranking and salience of each multiple goal for that match.

As a pilot test, the LGIQ was administered to the three U-16 county juniors prior to a local match. Each of the players individually sat down with the investigator and delimited the ranks with instructional assistance on the process. The procedure lasted

between five and seven minutes per player and yielded results which supported its use as an idiographic tool for comparing intra-individual responses.

### 7.525 Proportional Focus on Performance Factors and Outcome

A major sub-purpose of the study, linked to the LGIQ, was to demonstrate whether players receiving the intervention could foster an adaptive, internal form of ego involvement whilst increasing their degrees of task involvement for a particular match. Fox et al. (1994) point out that the addition of ego involvement to task involvement may enhance sport enjoyment and seems to be the most successful formula. Roberts et al. (1996) support the notion of enhancing task orientation and 'bringing it up to speed' whilst keeping ego orientation as opposed to replacing it. In anecdotal terms, these insights are possibly not that new as most practitioners, coaches, and players might argue that success in sport rests on both maximising and treating personal performance with respect, but having the competitive desire to overcome the abilities of others. This statement can be no less pertinent with respect to tennis where one has to value personal skills but ultimately use them to vanquish an opponent by beating their skills on the other side of the net. The measurement of ego involvement was facilitated by the Locus of Goal Involvement Questionnaire (LGIQ). However, in line with the concept of performance factors in the SSTPQ, a further method of practically, but indirectly assessing both task and ego involvement was to ask players to proportion out the importance that they placed on winning and personal performance in each of the factors. Having completed the SSTPQ, players were asked the following question:

"For this **next match**, both **winning the match** and the quality of your **own personal performance**, technically, tactically, physically and mentally, might have different levels of importance to you. If you were given 100 points and asked to divide up those points in order of importance amongst the following categories, how would you show what was least or most important."

Winning the match:	_____ points
Technical Performance:	_____ points
Tactical Performance:	_____ points
Physical Performance:	_____ points
Mental Performance:	_____ points

Total:            100 points

Although, arguments have been articulated about the concepts of task involvement and performance (Duda, 1992), the self-referent nature of **personal performance** was emphasised and this question did follow directly on from the SSTPQ. For practical purposes, the values given for each match could then be compared between



the baseline phase and the post-intervention phase to determine whether changes had occurred and whether appropriate levels of importance were given to each specific goal.

### **7.526 Perceptions of Ability**

The findings of Study 2 indicated that perceptions of normative ability may in some cases rest on the expectancy of successful self-referent performance. In other words, the greater the self-confidence about personal performance from a task-involved perspective, the greater the self-confidence about the outcome. It was of interest, therefore, to investigate whether pre-competition perceptions of normative ability would differ as a function of the intervention. A two-item measure of perceptions of ability for that particular match was devised for the purposes of the study.

Measured on a 10-point Likert scale ranging from (1) "not at all" to (10) "very much so", the first item question read:

"To what extent do you expect to beat the opponent and win the match?"

The second question, measured on a 10-point Likert scale ranging from 10% to 100%, read:

"From 10-100%, how much confidence do you possess in your performance abilities to win this match and beat this opponent?"

The percentage indicated from this second question was converted to numerical points (i.e., 1-10) and the two responses were subsequently added together to give a two-item score of Perceptions of Ability.

### **7.527 Perceptions of Threat and Challenge**

Two final cognitive variables which were assessed in the pre- and post-intervention phases revolved around the player's cognitive appraisal of the match situation (Lazarus & Folkman, 1984). There was the intuitive belief that changes in goal involvement could facilitate changes in the cognitive appraisal of an important and potentially stressful match situation. Specifically, some research in achievement goal theory has made the appealing link between anxiety and achievement goal perspectives in sport (Duda et al., 1990a; Vealey & Campbell, 1988). In the former study, performers high in ego orientation tended to experience higher pre-competition cognitive and somatic anxiety. Despite being an area badly in need of research, there are certainly grounds to suggest that a differentiated conception of ability is more conducive to stress because it represents a goal where the environmental demand is often greater than the response capability (McGrath, 1970). This imbalance represents stress, with anxiety being the cognitive manifestation of stress. Lazarus and Folkman (1984) in their model

of stress and coping suggested that situations appraised as stressful could be categorised as being challenging, threatening or harm/loss. With the former two categories in mind, a situation appraised as challenging would suggest that there is potential for benefit or the opportunity for growth and mastery (Campbell, 1996). However, a threatening appraisal involves anticipation of harm to personal well-being or self-esteem. Considering that task involvement corresponds with growth and mastery, whilst ego involvement makes personal harm more accessible, it was of interest to investigate whether perceptions of threat and challenge would be mediated by the intervention. Two items were therefore included in the PCQ battery which assessed the player's perceptions of the match and the opponent about to be played. One item focused on the degree of challenge appraisal by asking:

"In being completely honest, how much do you view this match and the opponent as an enjoyable and exciting **challenge**?"

The second item focused on the extent of threat appraisal by asking:

"In being completely honest, how much do you view the match and the opponent as a **threat** to your self-esteem?"

The amounts of challenge and threat perceived by the player were assessed via a 10-point Likert scale ranging from (1) "not at all" to (10) "very much so".

### **7.528 Social Validation Questionnaires**

The social validation element of this study involved generating comprehensive views and information about the study and its procedure from subjects, their parents and their coach. For the subjects themselves, social validation was divided into two parts incorporating open-ended and Likert scale type response questions. Part one asked subjects whether they knew the purpose of the study and why they had been selected and asked to participate; whether they understood what was expected of them and had remained committed to the tasks; whether they felt that their performance had improved, the tasks had been acceptable and useful to them; whether they would continue with the tasks; and, if they had really benefitted from the project, could they explain why. The focus of the questions then moved to three different sections on the subject's thoughts and feelings about the contribution, effects and role played by parents, individual coach, and lastly, the outside educator in the study.

The second part of the social validation questionnaire for players was sealed in a separate envelope, only to be opened when the initial series of social validation questions had been completed. This questionnaire initially explained the purpose of the study and then proceeded to ask the player whether and how the meaning and value of personal performance had changed; whether the importance or meaning of winning had changed,



and if so, how; whether the player felt more performance-focused during matches of high expectation to win; and how they felt their approach or attitude to the three opponents and matches, upon which they had been questioned, had changed as a result of the study. Three questions were also asked about the validity of covert simulation procedure in which the players imagined the match situations which they were about to face. The first question asked the extent to which they could imagine the situations which were described; the second question asked if the situations they responded to were typical of "pressure" situations that they faced in competitive tennis; and the final question asked how realistic it was to answer the questions in relation to actually being involved in the situation. The final few open ended questions asked players to tick which of the intervention techniques and tasks had been most beneficial to them and why; whether any aspects of the project were irrelevant, and if there was any other comments that they wanted to make.

Due to the social environmental nature of the intervention, separate questionnaires were also given to parents and coach. Similar questions were asked of the two parties in relation to whether they had benefitted from being part of the project and if any elements were irrelevant and what aspects could be improved. However, coaches were asked more specifically about the quality of lessons with the player and whether the players attitude, understanding of the game and performance had improved over the three months. Specific questions to parents included whether they felt they had made a valuable contribution to the project; what they had learnt from the project; whether the relationship with their son and daughter had changed with respect to their tennis; and finally which aspects and tasks of the study did they feel were most relevant to the positive role of being a tennis parent. Social validation was an important component of this study and the full questionnaires are presented in Appendices 13a, 13b and 13c.

### **7.53 STUDY DESIGN AND PROCEDURE**

A single subject multiple-baseline across subjects design was adopted in this study. One female subject (Subject No. 4) acted as the control subject and did not receive the intervention programme, leaving one male player and two female players to receive the post-baseline treatment. The design had some unique qualities in the way that it established baseline behaviour (cognitions) and measured post-intervention behaviour (cognitions). Specifically, baseline observations were derived from pre-competition cognitive responses to three distinct match situations which could be viewed as important, stressful and ego-involving in the context of findings from Study 2 . In order to ensure that repeated measurements of the subject's pre-competition cognitive responses were generated from identical situations, a covert simulation of each match context was operationalised in the baseline and post-intervention phases. Following the establishment of a stable baseline, where responses across the three situations showed little variation,

the social environmental and task-based intervention programme was initiated over a three month period. This was followed by a reassessment of their pre-competition cognitions towards exactly the same three potentially stressful and ego-involving match situations and opponents which they had covertly faced in the baseline phase. Social validation data was then collected, and finally a follow-up assessment was carried out on one match situation six months after the completion of the study. Figure 7.3 depicts the single subject multiple baseline across subjects design adopted in Study 3, and Figure 7.4 presents a flow diagram of the stages proceeding through the study which are discussed forthwith.

### **7.531 Stage 1: Provision of General Information about the Project**

Each of the subjects had been involved in the subject selection phase, and knew only that the researcher was interested in finding out more about mental skills in tennis over the summer period of competition. Each of the subjects selected from this first process were approached separately to ask for their participation in the project and to inform them about the initial sessions that would constitute the baseline phase. Parents to all of these subjects gave their consent for participation. Additionally, subjects 1, 2 and 3 were informed that they would be completing some mental skills training tasks over the summer period. They were told that they would need to be committed to these throughout the tournament season. The parents and coach of each player receiving the intervention were also individually asked for their active participation in the study. They were not informed of the precise purposes of the project until after its completion, but were told that the programme was designed to allow players to achieve more from their tennis. It was emphasised that the project would require them to maintain an active role in the subject's tennis, commit to educational sessions and meetings with the researcher and engage in tasks which were designed to help the player with their tennis. All parents and coaches appeared to be enthused by project and individual dates for the opening educational sessions were organised with the each set of parents and coaches.



Figure 7.3 Single Subject Multiple Baseline Design Adopted in Study 3

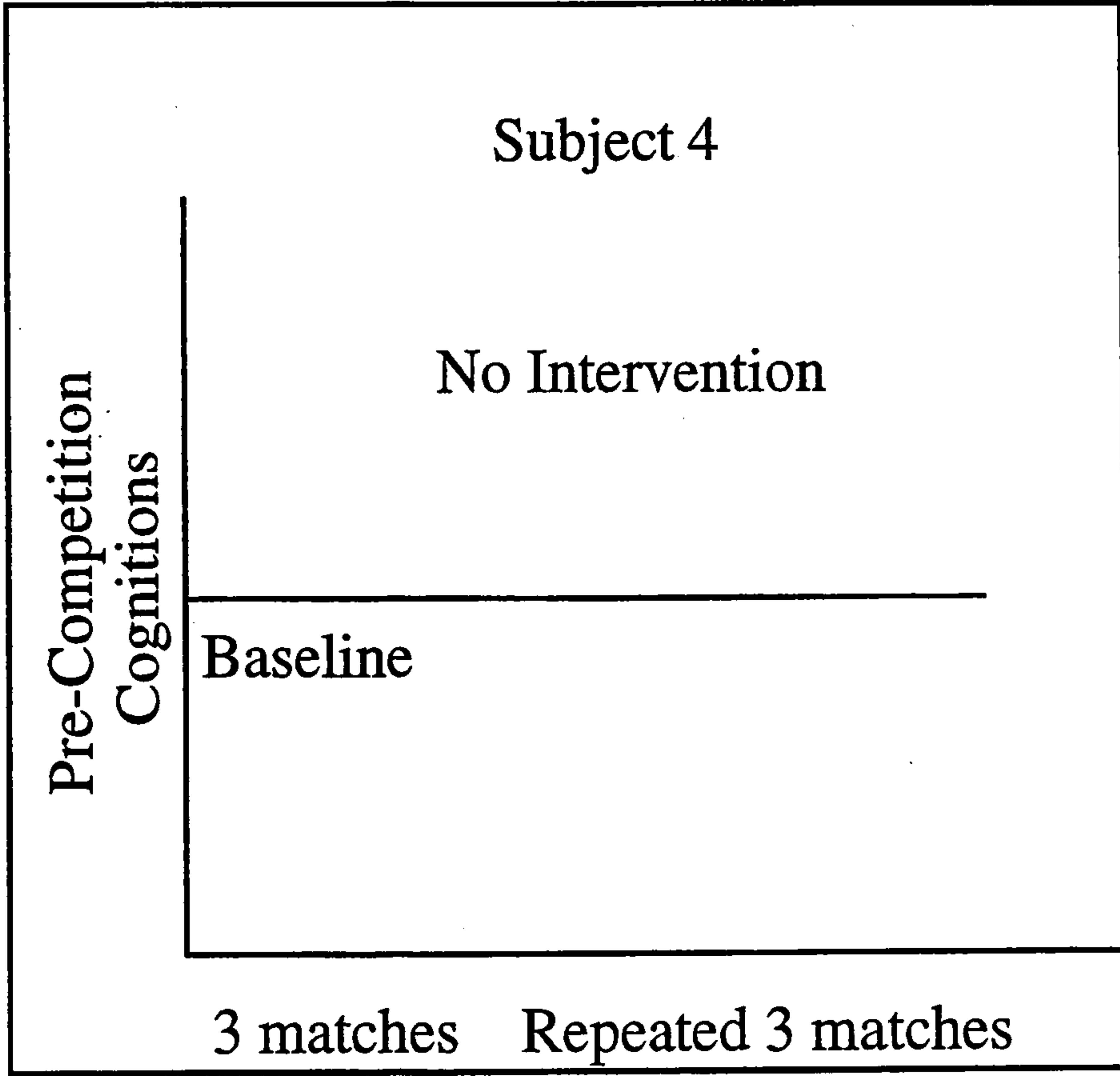
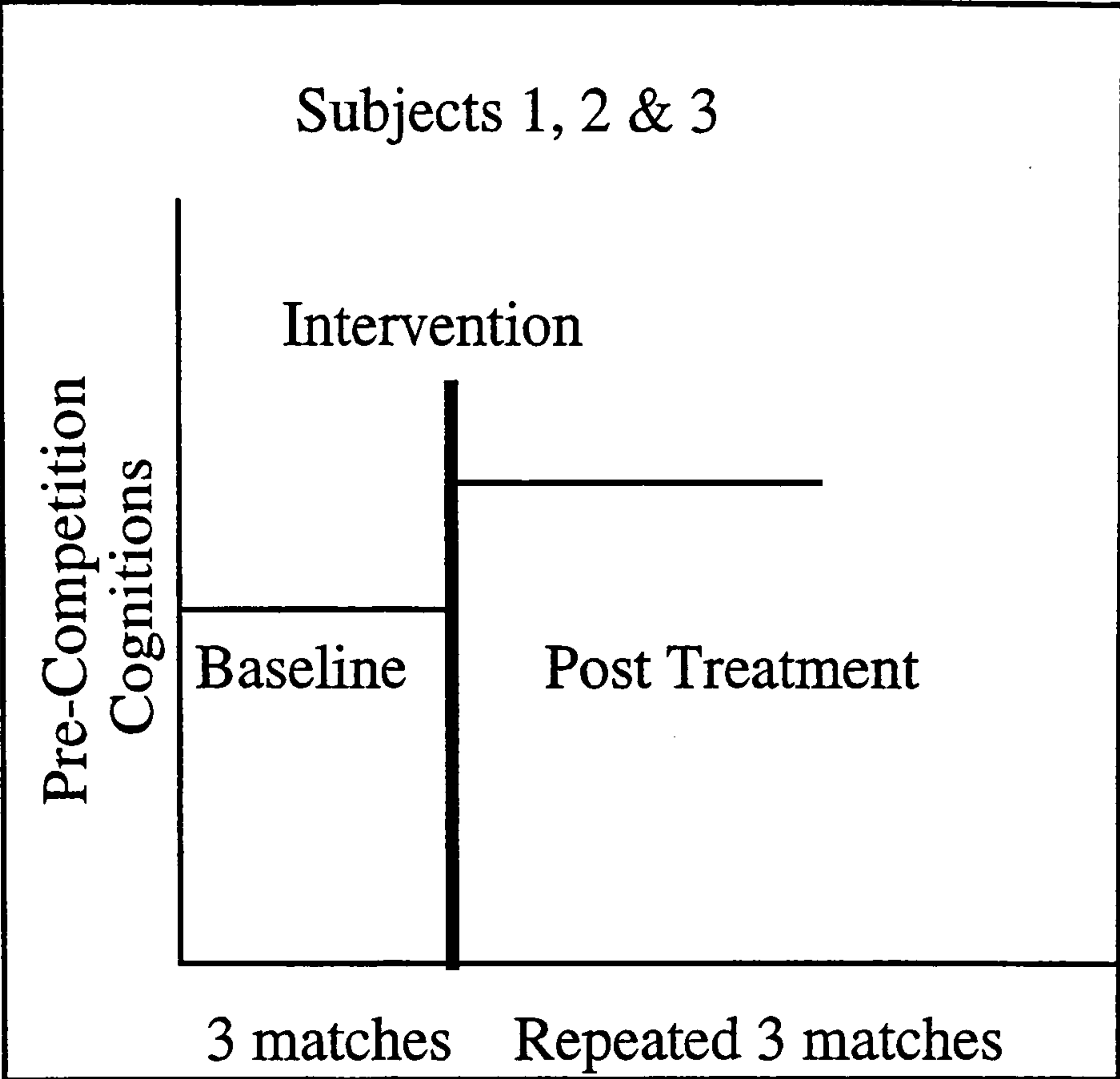
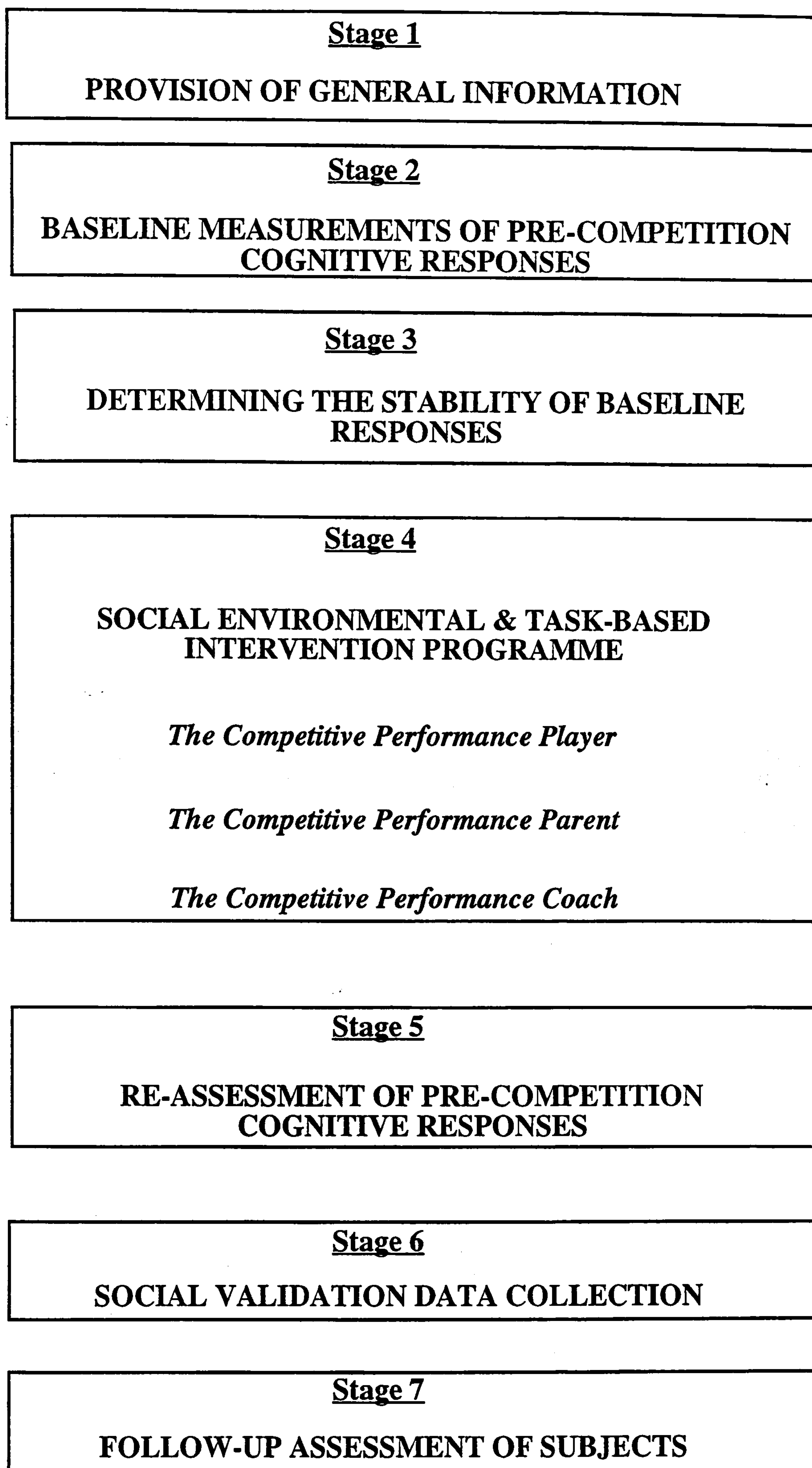


Figure 7.4 Flow Diagram of the Procedural Stages Adopted for Intervention





### **7.532 Stage 2: Baseline Measurements of Pre-Competition Cognitive Responses**

A task of fundamental importance to the study was establishing that the nature of each subject's pre-competition goal involvement and competitive cognitions did not fluctuate significantly for match contexts with similar situational properties. Given that situational factors are powerful antecedents to goal involvement, it was necessary to both account and control for these when trying to establish stability in social cognitive responses. Despite the allure of the assessing players before a series of specific matches 'in the field', it was disheartening to realise that this was neither practical nor experimentally sound. Players were not competing on a regular tournament basis in early June, and their goal involvement responses could well be abused by matches which had different importance, meaning, and context. This would almost certainly produce a variable baseline. Furthermore, for the purpose of repeated measures following the intervention, a replica of the match situations would have to be facilitated. From a practical point of view, outside the use of staged tournaments which were considered as an option, it was impossible to replicate these in the field.

To remediate these problems, the covert simulation of a match context was adopted as the procedure for inducing the player into a pre-competition state. Although this procedure did not claim to be hypnotic or as powerful as inducing affect (Siprelle, 1967; Smith & Ascough, 1985), it did allow the player, through the use of verbalised imagery and prompts, to create a state of mind which actively registered the environmental context, significant others and the opponent in a pre-match period. The Pre-Competition Questionnaire battery could then be administered by the researcher to players whilst they were in that state. It was felt that this method of detailed simulation would approximate actual situational responses much more accurately and effectively than simply reading and imagining a scenario.

Each of the players came to a separate 15 minute induction session prior to a county training session in order to familiarise them with covert simulation or modeling (Kazdin, 1973). The procedure involved the following stages:

- (1) An explanation of the purpose of the session in terms of allowing the player to imagine him/herself in a particular match situation.
- (2) General conversation and questions related to the importance, value and nature of different competitive matches that the player may face;
- (3) Identification of a close rival in the same age group which intensifies the importance of achievement in that situation;
- (4) Identification of a specific tournament location where the subject has played this rival previously in an important match;
- (5) Instructions in the procedure for imagining him/herself at this specific tournament about to play this opponent;



- (6) Covert modeling begins with the player verbalising arrival at the tournament site, signing in and acknowledging the environment and people around him.
- (7) Specific prompts are provided by the investigator as to how the player feels; which court s/he will play on; the specific coaches and players that are present; what the draw looks like; who s/he may play next; what warm-up the player does.
- (8) Covert modeling proceeds to when the player gets called to court and walks on court with his/her opponent.

The researcher then asked each subject whether imagining the situation in that way would allow them to answer questions about that match as if they were in that situation. Each subject confirmed that the situation was much more real than imagining a written scenario. Two subjects pointed out that talking about the match situation as you create it makes the match more meaningful, and would make answering questions about the match easier. The researcher pointed out to each player that they would be doing a similar task in the sessions over the next three weeks, but answering questions following the task.

To collect baseline observations from a total of three match situations, three sessions were then organised on a one-week apart basis with each of the individual players during early June, 1996. All sessions took place in a private room in the Dan Maskell Tennis Centre at Loughborough University at about the same time where possible.

### **7.5321 Covert Simulation of Match Situation No. 1**

It was the aim of covert simulation to allow players to imagine three match contexts containing the properties of opponent standard, expectancy, value and stage of event which would render the situation as ego-involving in the context of Study 2's findings. In the first session, the 'individual ownership' aspect of the match situation was continued where players were asked to personally select three close rivals whom they had beaten before but with very tight scorelines. They were also asked to name any 'Ratings' tournament in which they had competed recently. The covert simulation for the first session then began in a similar way to the procedures described in the familiarisation session. Each subject chose one of the rivals, which was noted by the researcher, and was then asked to imagine the scene of a ratings tournament (at the location chosen previously) where the subject was playing that rival in the semi-final. It was noted that the opponent was one rating level below, which had implications for the loss of personal ratings points, but that the player had beaten this opponent before in close circumstances. It was also noted that prize money was at stake for the winner. Each player was asked to close their eyes if they wished and verbalise the images that they saw. As the player described the situation, the researcher logged any key phrases and observations that the



player made which would be used to rebuild the same context (Hindley, 1979) in sixteen weeks time. The researcher also employed the standardised set of prompts which he used where necessary.

When the player reached the imaginal stage of covertly walking onto court against the opponent, the investigator asked the subject to open their eyes and then proceeded to run through one order of the Pre-Competition Questionnaire. This first session was the longest of the three lasting between 35-40 minutes because rivals had to be established and players also completed the POSQ (Roberts & Balague, 1989) at the start of the session.

### **7.5322 Covert Simulation of Match Situation No. 2 and No.3**

The second and third sessions for the purposes of baseline data collection involved covert simulation of two more match situations. One session involved the player choosing one of his/her two remaining rivals and imagining the match situation of a County Championships singles quarter final against the opponent who the player was 'seeded' to beat. It was noted that prize money was available only at the semi-final stage. This situation was believed to replicate the importance of situation No.1 in the sense that value, rating/seeding, reward and expectancy were situational variables activated to similar degrees. The other remaining session involved the player choosing the last rival and imagining the match context of the last round of qualifying for the main draw of U-18 junior nationals at Nottingham. Once again the player had knowledge that s/he had beaten the opponent previously in tight matches. Despite rating or seeding not being declared variables, it was believed that meaning and expectancy were present along with the clear reward of winning. In sum, these three match situations were different in locational/event terms, but closely matched in terms of the typical ego-involving contextual properties that may or may not influence players' motivational responses prior to competition.

In order to account for order effects, the match situations simulated were presented in different orders to the subjects. Specifically, subjects 1 and 2 simulated the junior nationals context in session 2 and the county championships context in session 3, whereas subjects 3 and the control subject, No. 4, experienced the reverse. All of these sessions lasted about thirty minutes with approximately ten minutes given over to covert simulation and twenty minutes to Pre-Competition Questionnaire (PCQ) completion. In order to minimise investigator bias with subjects now more familiar with the PCQ, the investigator left the room and each subject completed the questionnaire of their own accord.

### **7.533 Stage 3: Determining the Stability of Baseline Responses**

Having collected the baseline data, it was important to determine whether or not the covert simulation had worked with reference to the nature of the match situations induced. This would be determined by the degree to which each subject's pre-competition cognitive responses were stable across the three situations. If the baseline of pre-competition goal involvement was relatively stable, then the researcher had three valid match situations with which to compare goal involvement and other cognitions post-intervention. The results for the baseline phase are now presented for each subject.

#### **7.5331 Subject 1**

Subject 1 was a fifteen year old female player ranked No. 3 in the county (U-18) Her baseline results with a brief discussion were as follows:

##### **7.53311 Sub-Components of Self-Referent Tennis Performance Questionnaire**

The results of this questionnaire are shown in Table 7.8. By visual inspection of the data, several characteristics come to light. Firstly, that the scores are fairly high on a scale of 1 to 10, but there is certainly room for improvement overall. Although the importance and meaning categories score the highest, self-referent assessment of performance is an area of modest quality in all factors. Secondly, this player appears to be higher in technical task involvement relative to other areas. This may not be surprising given that technical aspects are generally the most focused upon areas by coaches and players until about sixteen years of age. Thirdly, and most importantly, the mean differences between each situation, in terms of each performance factor and overall task involvement, are less than or equal to one likert scale unit. Situation No. 2 (junior nationals) appears to be a slightly stronger task-involving situation overall, but the pre-competition responses as a whole appear to satisfy the stability guideline.

##### **7.53312 Locus of Goal Involvement Questionnaire**

The results from this questionnaire are represented in Table 7.9. Her responses to the situations demanded some extremely interesting interpretations. Across all three situations, personal ego involvement was a dominant pre-competition state, whilst social approval task involvement was the least important achievement goal. In the nationals and the county championships context, social approval ego involvement was a more prevailing state than task involvement. This is of great interest given the fairly high scores that this subject has given to aspects of her sub-components of performance 'task involvement', particularly in the nationals and county championship context. It may not seem that surprising that a national qualifying and county championship context sparked off slightly greater social approval ego involvement given the prestige and social nature of the events. However, the results do suggest that even though prestigious matches



engage the value of self-referent performance, they engage the value of winning and social approval to a greater level as measured by the LGIQ. This was interesting from a goal profile perspective. Nevertheless, apart from situation no. 1 where the ranks of Personal Task (3) and Social Approval Ego (2) were reversed, the LGIQ showed fairly stable responses across situations.

**Table 7.8 Performance Factor Means and Overall Task Involvement Means for the SSTPQ - Subject 1**

Performance Factor	SITUATION NO. 1			SITUATION NO. 2			SITUATION NO.3		
	Imp.	Ass. (IAM)	Mean	Imp.	Ass. (IAM)	Mean	Imp.	Ass. (IAM)	Mean
Technical	8.00	7.66	7.66	8.66	8.66	9.00	8.30	9.00	7.66
Average		7.77			8.77			8.32	
Tactical	7.66	7.00	7.33	7.00	6.33	7.33	7.33	5.66	6.33
Average		7.33			6.88			6.44	
Physical	7.66	5.00	6.66	7.66	5.00	8.00	8.00	5.00	7.33
Average		6.44			6.88			6.77	
Mental	7.66	-	7.33	8.66	-	8.33	8.00	-	8.33
Average		7.50			8.50			8.16	
IAM AVERAGES	7.74	6.55	7.25	8.00	6.66	8.16	7.91	6.55	7.41
OVERALL TASK INV.		7.18			7.61			7.29	

Imp. = Importance of achievement; Ass. = Self-referent Assessment of achievement; Mean = Meaning.

Task Inv. = Task Involvement score based on the averages of IAM of all the sub-components in all of the performance factors.

**Table 7.9**      **Ranked Responses and Scores for the LGIQ - Subject 1**

Rank assigned	Situation 1		Situation 2		Situation 3	
	Goal	Points	Goal	Points	Goal	Points
1	PE	12	PE	12	PE	12
2	PT	11	SAE	11	SAE	11
3	PE	10	SAE	10	PT	10
4	SAE	9	PE	9	PE	9
5	PT	8	PE	8	SAE	8
6	PE	7	SAE	7	SAE	7
7	SAE	6	PT	6	PE	6
8	PT	5	PT	5	PT	5
9	SAE	4	PT	4	PT	4
10	SAT	3	SAT	3	SAT	3
11	SAT	2	SAT	2	SAT	2
12	SAT	1	SAT	1	SAT	1

	Situation 1	Situation 2	Situation 3
PE	29 (1)	29 (1)	27 (1)
PT	24 (2)	15 (3)	19 (3)
SAE	19 (3)	28 (2)	26 (2)
SAT	6 (4)	6 (4)	6 (4)

Ranks of importance within situation within ()

Overall mean scores for post-intervention comparison with rank of importance in ():

**Personal Ego** = 28.3 (1)                      **Personal Task** = 19.3 (3)

**Social Approval Ego** = 24.3 (2)              **Social Approval Task** = 6 (4)

### 7.53313      **Proportional Focus on Performance Factors and Outcome**

The proportions that the player assigned in each match situation to the importance of winning and performance technically, tactically, physically and mentally are shown in Table 7.10. There appears to be a dominant proportion given to the importance of winning as a single factor in all three situations, suggesting high levels of ego involvement. The differences in proportions given to performance factors across each situation showed a discrepancy of only 10 or less, supporting the stability of her cognitions. It is worth noting, however, that firstly the nationals context appeared to be slightly more ego-involving, and secondly, that task involvement could be viewed as high if one totals the proportions given to each performance factor. Notice also the importance that is given to technical performance in view of the comparable results from the SSTEPQ for this player.



**Table 7.10 Proportional Focus on Performance Factors and Outcome Across Situations - Subject 1**

	Situation 1	Situation 2	Situation 3	Average
Winning	40	60	50	50
Technical Performance	20	10	20	16.7
Tactical Performance	15	10	10	11.7
Physical Performance	10	10	10	10
Mental Performance	15	10	10	11.7
Totals =	100	100	100	

**7.53314 Perceptions of Ability, Threat, Challenge and Match Importance**

The results for these pre-competition cognitive responses are shown in Table 7.11. Visual inspection of the data shows how the importance of achievement was viewed as high in all three situations supporting the similarity of the contexts chosen. Perceptions of normative ability were also highly consistent across the three match contexts. Finally, this subject appraised each match as moderate in enjoyable challenge, but consistently high in threat to self-esteem. Apart from situation no. 2, where the nationals match was interpreted as a slightly more enjoyable challenge, stability was shown in all of these responses, with perceptions of threat always higher than challenge. This may be a function of the nature and level of this player's ego involvement.

**Table 7.11 Pre-Competition Cognitions Across Match Situations - Subject 1**

	Situation 1	Situation 2	Situation 3
Match Importance	9	10	10
Perceptions of Ability	7/6 = 13	7/6 = 13	8/6 = 14
Perceptions of Challenge	5	7	5
Perceptions of Threat	9	8	9

## **7.5332 Subject 2**

Subject 2 was a sixteen year old female player ranked No. 2 in the county (U-18) Her baseline results with a brief discussion were as follows:

### **7.53321 Sub-Components of Self-Referent Tennis Performance Questionnaire**

The results of this questionnaire are shown in Table 7.12. Glancing at the data, this player appears to demonstrate only moderate degrees of task involvement with regard to the importance, assessment and meaning that she places on the achievement of her sub-component performance skills for all three matches. Self-referent assessment is an area of particular weakness across all three situations, particularly in physical and tactical terms. The most important point to make, however, is that the mean differences of task involvement between each situation are very slim overall. These pre-competition responses support that there is stability of cognitions across similar situations.

### **7.53322 Locus of Goal Involvement Questionnaire**

The results from this questionnaire are represented in Table 7.13. Her responses to each situation showed a stronger focus on personal task involvement over the other three goals. Personal ego involvement was consistently the second highest goal in her state of mind, whilst social approval ego and task involvement were states of similarly low importance overall. This subject's responses to the LGIQ were highly consistent over the three situations that she simulated with significantly higher value given to personal and internal achievement goals, as opposed to social goals. On this measure, it would appear that this player needs little improvement with respect to her achievement focus. However, when viewing her responses to the SSTEPQ and LGIQ together, it suggests that although she may hold a potentially strong task-involved conception of ability, she may lack the cognitive skills which are required to put that state of involvement into practice. In other words, she values self-referent achievement, yet the perceived importance, assessment and meaning that she gives to aspects of her performance is modest. It would be interesting to determine whether an intervention could actionise her task involvement and help her to understand how her performance is the vehicle operated by her task-involved conception of ability.



**Table 7.12 Performance Factor Means and Overall Task Involvement Means for the SSTPQ - Subject 2**

Performance Factor	SITUATION NO. 1			SITUATION NO. 2			SITUATION NO.3		
	Imp.	Ass. (IAM)	Mean	Imp.	Ass. (IAM)	Mean	Imp.	Ass. (IAM)	Mean
Technical	7.00	6.00	6.00	7.00	5.00	6.66	7.66	6.33	6.66
Average		6.33			6.22			6.88	
Tactical	6.66	2.00	4.33	6.66	3.66	6.00	6.66	3.33	6.33
Average		4.33			5.44			5.44	
Physical	5.33	1.66	2.66	5.33	3.00	3.66	6.66	1.66	3.33
Average		3.20			4.00			3.88	
Mental	6.33	-	6.00	7.00	-	5.33	6.66	-	5.33
Average		6.16			6.16			6.00	
<b>IAM AVERAGES</b>	<b>6.33</b>	<b>3.22</b>	<b>6.33</b>	<b>6.50</b>	<b>3.88</b>	<b>5.41</b>	<b>6.91</b>	<b>3.77</b>	<b>5.42</b>
<b>OVERALL TASK INV.</b>		<b>5.30</b>			<b>5.26</b>			<b>5.36</b>	

Imp. = Importance of achievement; Ass. = Self-referent Assessment of achievement; Mean = Meaning.

Task Inv. = Task Involvement score based on the averages of IAM of all the sub-components in all of the performance factors.

**Table 7.13 Ranked Responses and Scores for the LGIQ - Subject 2**

Rank assigned	Situation 1		Situation 2		Situation 3	
	Goal	Points	Goal	Points	Goal	Points
1	PT	12	PE	12	PT	12
2	PT	11	PT	11	PE	11
3	PT	10	PT	10	PT	10
4	PE	9	PT	9	PT	9
5	SAE	8	PE	8	PE	8
6	PE	7	SAT	7	SAT	7
7	PE	6	SAE	6	SAE	6
8	SAT	5	PE	5	PE	5
9	SAT	4	SAE	4	SAT	4
10	SAE	3	SAT	3	SAE	3
11	SAE	2	SAE	2	SAT	2
12	SAT	1	SAT	1	SAE	1

	Situation 1	Situation 2	Situation 3
PE	22 (2)	25(2)	24 (2)
PT	33 (1)	30 (1)	31(1)
SAE	13 (3)	12 (3)	10 (4)
SAT	10 (4)	11 (4)	13 (3)

Ranks of importance within situation within ()

Overall mean scores for post-intervention comparison with rank of importance in ():

**Personal Ego = 23.6 (2)**

**Personal Task = 31.3 (1)**

**Social Approval Ego = 11.6 (3)**

**Social Approval Task = 11.3 (4)**

### **7.53323 Proportional Focus on Performance Factors and Outcome**

The proportions that the player assigned in each match situation to the importance of winning and performance technically, tactically, physically and mentally are shown in Table 7.14. As with Subject 1, there appears to be a dominant proportion given to the importance of winning as a single factor in all three situations, suggesting the existence of high ego involvement. This may seem to contradict results in the LGIQ, however, her ego involvement was relatively high on that measure, and her task involvement could be viewed as high if one totals the proportions given to each performance factor. Nevertheless, the differences in proportions given to performance factors across each situation showed a discrepancy of only 10 or less. This supported the relatively stability of the baseline for the purposes of intervention.



**Table 7.14 Proportional Focus on Performance Factors and Outcome Across Situations - Subject 2**

	Situation 1	Situation 2	Situation 3	Average
Winning	50	40	50	46.7
Technical Performance	10	20	15	15
Tactical Performance	20	20	15	18.3
Physical Performance	5	10	10	8.3
Mental Performance	15	10	10	11.6
Totals =	100	100	100	

**7.53324 Perceptions of Ability, Threat, Challenge and Match Importance**

The results for these pre-competition cognitive responses are shown in Table 7.15. The data shows how the importance of achievement was viewed to the same moderately high level in all three situations supporting the similarity of the contexts chosen. Perceptions of normative ability appeared to be identical across the three match contexts. The only situational discrepancy noted for this subject was on her appraisal of the nationals match context. Although, she appraised the other two situations as slightly more threatening than challenging, she interpreted the qualifying match as equally high in threat and challenge. There is no data that can be gleaned from the other measures to support or explain this cognitive appraisal. However, subject 1 appraised this situation in a similar fashion, and it may simply be that the opportunity to make the main draw of a national championships has slightly enhanced threatening and challenging properties.

**Table 7.15 Pre-Competition Cognitions Across Match Situations - Subject 2**

	Situation 1	Situation 2	Situation 3
Match Importance	7	8	8
Perceptions of Ability	7/6 = 13	6/7 = 13	7/6 = 13
Perceptions of Challenge	6	8	6
Perceptions of Threat	7	8	7

### 7.5333 Subject 3

Subject 3 was a fifteen year old male player ranked No. 9 in the county (U-18) His baseline results with a brief discussion were as follows:

#### 7.53331 Sub-Components of Self-Referent Tennis Performance Questionnaire

The results of this questionnaire are shown in Table 7.16. Visual inspection of the data reveals concurrent similarities with the other two subjects in terms of technical task involvement being the more dominant state, and self-referent assessment of performance being of mediocre quality. This is particularly the case for the assessment of physical and tactical skills, and the overall importance and meaning placed upon mental performance achievement. The profile of subject 3 depicts a player who perhaps places an over-emphasis on his technical ability, to the detriment of other skills. Given this observation, there was less than one Likert scale point (SD=0.58) difference between any of the means across the three match situations.

#### 7.53332 Locus of Goal Involvement Questionnaire

The results from this questionnaire are represented in Table 7.17 and show the greatest variability of all the subjects. Across all three situations, personal ego involvement and social approval ego involvement were dominant pre-competition states. However, there appeared to be a trade-off between the importance of achieving personal task goals and social approval task goals dependent on the match context. This may have been due to the nature of significant others whom the player verbalised were present at the matches during covert simulation. The results here do need to be viewed with caution, nonetheless, a consistent pattern did emerge in that ego-involved goals were more highly valued than task-involved goals in each match.



**Table 7.16 Performance Factor Means and Overall Task Involvement Means for the SSTPQ - Subject 3**

Performance Factor	SITUATION NO. 1			SITUATION NO. 2			SITUATION NO.3		
	Imp.	Ass. (IAM)	Mean	Imp.	Ass. (IAM)	Mean	Imp.	Ass. (IAM)	Mean
Technical	9.00	6.33	7.00	9.33	7.00	7.66	8.66	7.00	7.33
Average		7.44			8.00			7.66	
Tactical	7.33	1.33	4.00	6.00	3.00	4.33	6.00	2.66	3.00
Average		4.22			4.44			3.89	
Physical	8.33	4.00	6.33	7.00	3.33	6.00	7.33	4.33	5.33
Average		6.22			5.44			4.33	
Mental	4.33	-	3.00	5.00	-	3.66	5.33	-	3.66
Average		3.66			4.33			4.50	
<b>IAM AVERAGES</b>	<b>7.25</b>	<b>3.88</b>	<b>5.10</b>	<b>6.83</b>	<b>4.44</b>	<b>5.41</b>	<b>6.83</b>	<b>4.66</b>	<b>4.83</b>
<b>OVERALL TASK INV.</b>		<b>5.41</b>			<b>5.56</b>			<b>5.44</b>	

Imp. = Importance of achievement; Ass. = Self-referent Assessment of achievement; Mean = Meaning.

Task Inv. = Task Involvement score based on the averages of IAM of all the sub-components in all of the performance factors.

**Table 7.17 Ranked Responses and Scores for the LGIQ - Subject 3**

Rank assigned	Situation 1		Situation 2		Situation 3	
	Goal	Points	Goal	Points	Goal	Points
1	SAE	12	PE	12	PE	12
2	PE	11	PT	11	SAE	11
3	SAT	10	SAE	10	SAT	10
4	SAE	9	PE	9	PE	9
5	SAT	8	SAE	8	SAE	8
6	PE	7	PE	7	PT	7
7	PT	6	PT	6	PE	6
8	PE	5	SAT	5	PT	5
9	SAE	4	PT	4	SAT	4
10	SAT	3	SAE	3	PT	3
11	PT	2	SAT	2	SAE	2
12	PT	1	SAT	1	SAT	1

	Situation 1	Situation 2	Situation 3
PE	23 (2)	28 (1)	27 (1)
PT	9 (4)	21 (2=)	15 (3=)
SAE	25 (1)	21 (2=)	21 (2)
SAT	21 (3)	8 (4)	15 (3=)

Ranks of importance within situation in ()

Overall mean scores for post-intervention comparison with rank of importance in ():

**Personal Ego = 26 (1)**

**Personal Task = 15 (3)**

**Social Approval Ego = 22.3 (2)**

**Social Approval Task = 14.6 (4)**

### 7.53333 Proportional Focus on Performance Factors and Outcome

The proportions that the player assigned in each match situation to the importance of winning and performance technically, tactically, physically and mentally are shown in Table 7.18. In correspondance with the other subjects, a dominant proportion was given to the importance of winning as a single factor in all three situations, suggesting high levels of ego involvement. Again the differences in proportions given to performance factors across each situation showed a discrepancy of only 10 or less, supporting the existence of a pattern to his cognitions. It is also worth noting the constant prominence given to technical, and to a slightly lesser degree, physical performance. This coincides with the importance ratings given to these factors in the SSTEPQ.



**Table 7.18 Proportional Focus on Performance Factors and Outcome Across Situations - Subject 3**

	Situation 1	Situation 2	Situation 3	Average
Winning	50	50	50	50
Technical Performance	15	20	20	18.3
Tactical Performance	10	10	5	8.3
Physical Performance	15	10	20	15
Mental Performance	10	10	5	8.3
Totals =	100	100	100	

**7.53334 Perceptions of Ability, Threat, Challenge and Match Importance**

The results for these pre-competition cognitive responses are shown in Table 7.19. Importance of achievement was viewed as extremely high in all three situations supporting the similarity of the contexts chosen. Perceptions of normative ability were also highly constant for each opponent. The only situational discrepancy appears to be the cognitive appraisal of situation no. 1, where perceptions of threat were higher than perceptions of challenge. The reason for this result may be linked to the LGIQ score for personal task involvement which was extremely low relative to the multiple forms of ego involvement prevailing within the player.

**Table 7.19 Pre-Competition Cognitions Across Match Situations - Subject 3**

	Situation 1	Situation 2	Situation 3
Match Importance	9	10	10
Perceptions of Ability	7/7 = 14	7/6 = 13	7/7 = 14
Perceptions of Challenge	4	7	6
Perceptions of Threat	6	7	6

#### **7.5334 Subject 4**

Subject 4, the control subject, was a fifteen year old female player ranked No. 12 in the county (U-18). Her baseline results with a brief discussion were as follows:

#### **7.53341 Sub-Components of Self-Referent Tennis Performance Questionnaire**

The results of this questionnaire are shown in Table 7.20 reinforcing similarities with the other subjects. This is with particular reference to the importance and meaning of achieving in each performance factor which appears considerably greater than the actual self-referent assessment of whether achievement had taken place. Situation no. 3, which was the national's context for this subject, did tend to elicit slightly higher levels of sub-component task involvement. On scanning the raw data, there were some responses with a difference of 2 likert scale points ( $SD=1.15$ ), however these were the exception, rather than the rule. In overall terms, composite task involvement was moderate in all three contexts.

#### **7.53342 Locus of Goal Involvement Questionnaire**

The results from this questionnaire are represented in Table 7.21 depicting a solid and stable trend in the loci of goal involvement. Within all three situations, personal ego involvement was a dominant pre-competition state, but mastery and performance improvement were also valued achievement goals which encouraged a state of personal task involvement. A similar argument made for subject 2 may apply here also given that the potential for task involvement exists, but the actual assessment of performance sub-components is low as measured by the SSTPQ. In other words, does the player have the motive but not the actual means to make the most out of that motive? Finally, social approval ego goals were also valued to a degree which overshadowed any importance placed on social approval task goals.



**Table 7.20 Performance Factor Means and Overall Task Involvement Means for the SSTPQ - Subject 4**

Performance Factor	SITUATION NO. 1			SITUATION NO. 2			SITUATION NO.3		
	Imp.	Ass. (IAM)	Mean	Imp.	Ass. (IAM)	Mean	Imp.	Ass. (IAM)	Mean
Technical	7.66	3.66	6.66	8.33	4.00	7.00	8.66	5.33	7.66
Average		5.60			6.44			7.22	
Tactical	6.33	3.66	6.00	7.33	3.66	6.33	7.66	4.66	6.66
Average		5.33			5.77			6.33	
Physical	7.33	3.33	5.66	6.66	3.33	5.33	7.66	4.33	6.00
Average		5.44			5.11			6.00	
Mental	6.33	-	5.33	6.66	-	6.00	7.33	-	7.00
Average		5.83			6.33			7.16	
<b>IAM AVERAGES</b>	<b>6.91</b>	<b>3.55</b>	<b>5.91</b>	<b>7.24</b>	<b>3.66</b>	<b>6.11</b>	<b>7.83</b>	<b>4.77</b>	<b>6.83</b>
<b>OVERALL TASK INV.</b>		<b>5.46</b>			<b>5.68</b>			<b>6.47</b>	

Imp. = Importance of achievement; Ass. = Self-referent Assessment of achievement; Mean = Meaning.

Task Inv. = Task Involvement score based on the averages of IAM of all the sub-components in all of the performance factors.

**Table 7.21 Ranked Responses and Scores for the LGIQ - Subject 4**

Rank assigned	Situation 1		Situation 2		Situation 3	
	Goal	Points	Goal	Points	Goal	Points
1	PT	12	PE	12	PT	12
2	PE	11	PE	11	PE	11
3	SAE	10	PT	10	PE	10
4	PE	9	PE	9	PT	9
5	PT	8	SAE	8	SAE	8
6	SAE	7	PT	7	PE	7
7	PE	6	PT	6	PT	6
8	PT	5	SAE	5	SAT	5
9	SAT	4	SAT	4	SAE	4
10	SAE	3	SAE	3	SAE	3
11	SAT	2	SAT	2	SAT	2
12	SAT	1	SAT	1	SAT	1

	Situation 1	Situation 2	Situation 3
PE	26 (1)	32 (1)	28 (1)
PT	25 (2)	23 (2)	27 (2)
SAE	20 (3)	16 (3)	15 (3)
SAT	7 (4)	7 (4)	8 (4)

Ranks of importance within situation in ()

Overall mean scores for post-intervention comparison with rank of importance in ():

**Personal Ego = 28.6 (1)**

**Personal Task = 25 (2)**

**Social Approval Ego = 17 (3)**

**Social Approval Task = 7.3 (4)**

### **7.53343 Proportional Focus on Performance Factors and Outcome**

The proportions that the player assigned in each match situation to the importance of winning and performance technically, tactically, physically and mentally are shown in Table 7.22. These coincide with other subjects' responses, with winning being the most important single factor. The differences in proportions given to performance factors across each situation were minimal, suggesting a pattern to her cognitions. Once again, however, prominence was given to technical performance.



**Table 7.22 Proportional Focus on Performance Factors and Outcome Across Situations - Subject 4**

	Situation 1	Situation 2	Situation 3	Average
Winning	40	45	50	45
Technical Performance	20	20	20	20
Tactical Performance	10	10	5	8.3
Physical Performance	13	10	10	11
Mental Performance	17	15	15	15.7
Totals =	100	100	100	

**7.53344 Perceptions of Ability, Threat, Challenge and Match Importance**

The results for these pre-competition cognitive responses are represented in Table 7.23, showing firstly how 'match importance' was successfully manipulated in all three contexts. Perceptions of normative ability were fairly consistent for each opponent, with a slightly higher degree of positive expectancy against the third rival. The subject's appraisal of the degrees of threat and challenge rendered a pattern in favour of threat in each match faced. This may coincide with the levels of ego involvement prevailing in the player. Take account, however, of the pattern that has developed in the majority of subjects with reference to perceptions of ability and perceptions of threat. A number of subjects have reported high levels of ego involvement and high perceptions of threat in situations where their expectations of winning have been 65 % or greater.

**Table 7.23 Pre-Competition Cognitions Across Match Situations - Subject 4**

	Situation 1	Situation 2	Situation 3
Match Importance	9	8	9
Perceptions of Ability	7/7 = 14	8/7 = 15	8/8 = 16
Perceptions of Challenge	4	5	4
Perceptions of Threat	7	8	6

### **7.5335 Summary**

Evidence has been provided that a common pattern of pre-competition cognitive responses did emerge in the three situations. The responses are by no means identical, nor should they be given slight contextual differences. However, the responses are similar enough to suggest that they are the common cognitions that players hold for matches distinguished by similar key properties. In this respect, it was felt that a stable baseline of pre-competition social cognitions had been identified. Based on the findings from the two previous studies in this thesis and these current baseline responses, the study's general hypotheses were set and stood to be tested (refer back to section 7.41). It is important to note, however, that although these hypotheses were relevant to each subject, some appeared to be particularly pertinent to certain individual subjects.

### **7.534 Stage 4: Social Environmental and Task-Based Intervention Programme**

Following collection and analysis of baseline measurements, a multi-dimensional intervention programme was then initiated for each subject except the control. The programme mirrored the findings for Study 2 and consisted of: restructuring or reinforcing the social environment; leading the player to a more functional understanding and perception of the nature of the game; and introducing strategies and tasks designed to facilitate task involvement and competitive cognitions for matchplay. The programme duration was three months encompassing July and August 1996 as competition periods, and September as a less competitive, training period with the individual coach<sup>1</sup>. The programme was called 'The Competitive Performance' programme and it consisted of a triangle between player, parent and coach with the researcher acting as an outside educator throughout the study's duration. The content and process of the intervention is now presented with regard to each aspect of the triangle.

### **7.5341 The Player Element: The Competitive Performance Player**

The intervention for each player consisted of a series of four individual 60 to 90 minute educational sessions. The first three of these sessions were interactive and informational, whilst the fourth ran through the tasks to be completed by the player. These sessions for players (as well as evening sessions for parents and day sessions for coaches) took place in last week of June and first two weeks of July. They were ideally facilitated by the concurrence of the Wimbledon Championships which provided the researcher with numerous methods of clarifying points. Furthermore, all information discussed in the sessions were printed in a 'tennis educational' file for each player

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<sup>1</sup> Coaches tended to see players twice weekly in September and on a 10-day to fortnightly basis during tournaments



### 7.53411 Session 1: Understanding Motivation in Tennis Players

The first session explored the different reasons why players played tennis and what the player felt the most important reason was. Quotes of players from Study 2 depicting different motivational attitudes were then discussed and the merits of each attitude were addressed. Players were then asked to rate on a scale of 1 to 10, the degrees of satisfaction that they got from winning but personally performing badly, winning and playing well, losing but personally performing well, and losing and playing badly. The responses were discussed and rationalised in terms of long term motivation. All players rationalised that personal performance was the foundation to satisfaction and to winning in the short and long terms.

### 7.53412 Session 2: The Competitive Performance Mentality

An approach to competition which the researcher had begun to establish within LTA coach education was then introduced to players. Players were asked 'what determines whether you win or lose a tennis match?', with the summarised answer being that an outcome is determined by two personal performances - one on one side of the net, the other on the other. If one performance exceeds the other, then that player will win. This reinforced to the player that personal performance was vital and that s/he better take care of it! Players were then told that in any tennis match a player faces only two personal challenges:

- a) the **self-challenge**: to maximise, improve and maintain current personal performance standards in each of the performance factors with effort.
- b) the **game challenge**: to use the self-challenge to competitively overcome the test/opponent set by the game of tennis on that day.

It was reinforced that the game challenges the player to win every time they walk on court, against whoever they play. However, only by meeting the self-challenge can one maximise possibilities of meeting the game challenge. It was further emphasised that: 1) the game challenges and self-challenges may not be met (lose, play poorly); 2) that a player may happen to meet the game challenge but not self-challenge (win, play poorly, poor opponent); 3) that a player may meet the self-challenge, but not the game challenge (lose, play well, tough opposition) and finally; 4) that both challenges are met (win, play very well). In whatever circumstances, the self-challenge is essentially the foundation and must be appraised after each match. In this respect, players were taught to value intrinsic personal performance levels, but also to understand that tennis also challenges the player to win. Players were taught to approach winning for internal-competitive reasons - to channel their competitiveness into a personal goal against tennis itself which provides the opponents as obstacles to overcome. This perspective attempts

to reduce social approval as a reason for winning. The philosophy of meeting the self-challenge and meeting the game challenge was received well by each player. The motivational attitude that it seeks to develop was called the 'Competitive Performance Mentality' (CPM) which is designed to represent a goal profile of high task orientation (involvement) and a high internal-competitive, less social approval-based ego orientation (involvement). It was reiterated to each subject that 'Competitive Performance' players follow the self-challenge and game challenge philosophy every match they play whatever the situation or opposition.

### **7.53413 Session 3: The Motivational Climate of Tennis and RESISTANCE**

With players familiar with the principles of a Competitive Performance Mentality, the third session acted as a 'hazard warning' session on the numerous aspects of tennis that can often distract players from their focus on the CPM and cause them to be either too win-oriented or too performance-oriented in matches. Players were introduced to the effects that the motivational climate of parents, coaches, other players and the LTA/County can have on them by what they say and do. An extensive portion of the session was given to the social and structural nature of the game where the effects of others expectations; the need for social approval; and the social and structural consequences of winning and losing were all aspects discussed with reference to the effect that it can have on the CPM. A further element of the session was given over to match contexts and a discussion on how the player's perception of different matches with different opponents can inhibit the quality of attention placed upon being a Competitive Performance player. The discussion of these aspects with the player brought out a sense of superior knowledge as well as relief that they were not the only ones whose thoughts have been influenced less than constructively. Apart from increasing player's understanding and awareness, this session also presented them with something with which to practice their awareness and de-sensitise the motivational effects of the climate and match contexts. The acronym 'RESISTANCE', which was designed from previous applied work with junior players, was explained to players and given for them to use.



**RESISTANCE**, with a brief, player-focused explanation of each component, stands for:

- R ating** - don't worry about ratings; they are simply a loose indication of standard; make your own appraisal of the opponent and think about the CPM.
- E steem** - a match is not a measure of self-worth/esteem - it is chance to see how good your own personal tennis skills are, so test them out and don't worry about what others think.
- S eeding** - don't worry about being seeded or playing a seed, it's not the tournament's appraisal of you or the opponent that is important, it is your appraisal of what you need to do to meet the self-challenge and game challenge.
- I mportance** - all matches are important, because each provides you with a competitive experience to challenge your skills; treat all matches with the same consistent attention and no match will worry you more than another.
- S core** - scorelines of matches are deceiving; do not judge opponents by the scores by which they win or lose; only by watching them play yourself can you judge the current form and standard of a player.
- T eam** - focus on the performance that earned you selection for a team; you will only win for a team if you focus on the self-challenge and they can ask no more than that of you.
- A udience** - audiences want to see good tennis; they value effortful performance whoever wins or loses; stay focused on the self-challenge, be competitive and use the audience to strengthen your attention on personal performance.
- N o justice** - bad line calls, blind umpires, net cords and conditions favouring the opponent can only be controlled by your reaction to them; be disciplined in your responses and always repeat the phrase 'self-challenge' to refocus.
- Comparison** - everybody compares everybody else in tennis, be a bit different and focus attention on your own ladder to success; a focus on your own performance ladder is more effective than always worrying about other players' ladders.
- E ndorsements (Sponsorship)** - a Nike sweatshirt, Adidas shoes, Reebok shorts, Tacchini shirt and 10 Fischer racquets cannot play tennis, only a person can! Don't get beaten by high fashion, challenge the player who wears it!

Players with a Competitive Performance Mentality have RESISTANCE against those variables and stay focused on personal performance processes. Players who are expectancy-driven, highly ego-oriented and controlled or influenced by the very words that make up the acronym, have NO RESISTANCE. The acronym can have many applied uses, but for the players in this project, it acted as a preparation and regrouping

technique for matches, as well as an observation and desensitisation exercise. In the final session, the study's tasks were explained more specifically.

#### **7.53414 Session 4: Strategies and Tasks**

##### ***RESISTANCE***

Players were instructed to think about or repeat the phrase 'RESISTANCE' or 'I have RESISTANCE' before or during matches whenever they felt they were losing their attentional focus on the task at hand. Secondly, players kept a verbal behaviour log book for tournaments, the home and individual lessons. They were asked to note (at a convenient time) when any fellow player, coach or parent made a NON-RESISTANCE comment to them. They were told to tally off the specific letter of the acronym which the comment had satisfied, but to ignore tallying the comment if the person actually made any reference to personal performance or equivalent language in the same sentence. The tallying exercise lasted for three weeks which was long enough for it to have an effect and for the novelty of tallying to wear off. It was then suggested that whenever the player encountered and identified a person with NO RESISTANCE, s/he should cope with the conversation by using it to make his/her CPM even stronger.

##### ***PERFORMANCE SEGMENTING CHECKLIST***

Each player was given a number of performance segmenting sheets for their file in which they had to tick off and comment on whether they had completed a specific pre- and post-match segment of a match/tournament routine. These segments consisted of typical self-regulation tasks such as warm-up, equipment check, shower, food/drink, but also a set of goal setting and match evaluation tasks which are now described. A completed example is presented in Appendix 14.

##### ***PERFORMANCE REVIEW SHEET: GOAL SETTING***

Before each match, the subjects completed a performance review sheet (Harwood, 1995) in which they set themselves specific performance goals and mentally-related process goals for the specific match and opponent they were facing. The performance goals were termed 'performance self-challenge' goals and the process goals were called 'mental performance helpers'. They were set to give the player direction in what they wanted to achieve from the match and to facilitate the ability to meet the game challenge (win). They could be referred to at changeovers if so desired. A completed sheet is presented in Appendix 15.



## ***PERFORMANCE REVIEW SHEET: MATCH REVIEW AND APPRAISAL***

Following each match, players spent fifteen minutes reviewing the match and rating the achievement of the self-challenge goals and process goals that they had set. They also noted any problem-solving actions that they engaged in during the match and rated the achievement of those actions. Players then rated their level of competitiveness to meet the game challenge (e.g., hustle, determination) which forced them to view how disciplined they had been on overcoming the test. They also rated their level of self-challenge satisfaction which questioned the satisfaction level of that personal performance. Only then did they note the outcome of the match (i.e., 'was the game challenge met?'). Finally, and possibly most importantly, they listed the six 'positives' and the three 'trainers' to come from the match. The positives were all positive remarks about any aspect of personal performance in that match. The trainers were statements about which aspects of performance needed to be improved, what the opponent had taught the player about the quality of his/her skills, and what skills they had learned from the opponent.

## ***MATCH EVALUATION: THE COMPETITIVE PERFORMANCE REPORT***

When the player had returned home or if possible at the tournament, s/he completed a report on the match which could be filed with the performance review sheet recently completed. Each competitive performance report was structured like a journalist's news report. It required a 'headline' and then details of the match under various small sub-sections. These included: the course or flow of the match; your thoughts, feelings and behaviour during the match; the skills that were on form which satisfied you; observations on the errors that you made; the opponent's performance and the skills that put you under pressure; and finally, what you learnt from the match to help future performances. The report itself was aided by the match analysis conducted by parents about which the researcher encouraged performers to be receptive (see section 7.53421). A completed example of a report by subject 1 is presented in Appendix 16.

## ***COMPETITIVE PERFORMANCE SCORES***

In an attempt to create an opportunity for players to own an objective score which reflected their levels of competitive performance in each and every match, a system was devised in which players gained a performance percentage for the quality of achievement in different aspects of the match. The four aspects from which a total performance percentage was derived were: pre-match preparation, mental behaviour in the match, performance review achievements, competitiveness to meet game challenge, and finally game challenge (won/lost). A maximum number of points were allocated for each aspect yielding a total of 100 available achievement points per match. The two important points to note here are firstly that achievement is based on the quality of personal performance



displayed, subjective levels of competitiveness (regardless of outcome) and finally, objective outcome. This is in keeping with the principles of 'Competitive Performance' where both self-challenge (performance) and game challenge (outcome) are valued. The second point to make, however, is that the percentage of points available for performance and outcome are differentiated according to the perceived standard of the opposition. The precise system is explained in Appendix 17 with the key principle being that players personally judge the standard of the opponent via a star system, and the allocation of achievement points depends on the 'star' of the player. For easier matches, more proportional points are available for winning, for tougher matches, more points are available for personal performance. In this way, players were conditioned towards the importance of self-referent personal performance and the need to be competitive in every match because the highest Competitive Performance scores only emerge when both goals were achieved. Players typically calculated a three match average score and then set a goal for the average of the next three matches, as shown by the completed sheet in Appendix 18.

### ***PERFORMANCE FACTOR FILES***

A final set of tasks given the player involved the completion of a 'coaching messages' sheet, a 'physical training' sheet and an 'individual purposeful' hit sheet. The former was to be completed after a coaching session and was designed for the player to note what s/he had learned about a performance factor(s) in that lesson. The latter two sheets allowed players to document any physical sessions they completed and any training hits that they had with a specifically designed technical or tactical purpose. All of these sheets were designed to condition the player towards a greater understanding of personal performance and its value to their development as players. They were each filed in their 'tennis educational' files with completed examples shown in Appendix 19.

### **7.5342 The Parent Element: The Competitive Performance Parent**

The intervention with parents initially consisted of two 90 minute educational sessions, each conducted separately, which did not differ extensively from the material presented to players in their first three sessions. Session 1 covered 'motivation', the reasons for participation, and the presentation of quotes depicting different achievement goal profiles of players. The implications and consequences of different attitudes were discussed, followed by a discussion on the factors contributing to the development of those attitudes. It was emphasised how parents play a key role in the development of achievement motivation via their verbal and visual behaviours, and the nature of their contribution to the child's tennis. Typical examples of parental behaviour which were non-conducive to maximising achievement were utilised. It was also clarified how the majority of parent action may not necessarily be negative, but that given the other



negative influences around the player, the majority of parents could probably be a lot more functional and positive to achievement. The session ended with a presentation of the Competitive Performance Mentality (CPM) and parents were asked to consider how they could actively contribute to the development of that motivational attitude in their offspring before the next session.

Session 2 began by informing parents of the other 'hazards' in tennis that restricted the development of a CPM which could affect the player on a match to match basis. They were also introduced to the concept of RESISTANCE and its purpose. However, the remainder of the session was spent discussing what ideas the parents had come up with and then going through what tasks the investigator wanted the parents to do specifically. Whilst some of these tasks involved both parents, the majority were designed to be completed by either both or the parent more actively committed to his/her child's game.

### **7.53421 Parental Strategies and Tasks**

#### ***VERBAL BEHAVIOUR LOG BOOK***

Each set of parents were given a small log book where they were asked to note down any occasion where they made a 'Competitive Performance' remark or statement to the player. Parents were educated in the use of the motivationally-correct 'spoken word' by going through a list of statements, questions or remarks that parents might say to players in different circumstances. For example, after a match which the player had lost heavily, a parent might ask "how did you play, what did you learn from the match that might help you improve your performance next time?". Parents may make these statements in the car, at home, after a match, before a match, after a lesson - therefore, the parent was asked to simply signify in the log book using the key provided where they had made a comment(s) on that particular date. An example of a completed sheet from one log is presented in Appendix 20.

#### ***MATCH ANALYSIS AND PERFORMANCE CHARTING***

Parents are a valuable but often wasted resource when it comes to analysing matches. They are often more supportive than the coach in physical terms and yet do nothing constructive when watching their sons/daughters compete. This task attempted to increase the functionality of parents and allow them to make a distinct contribution to the players understanding of their match performance. Each set of parents were taught a simple match analysis system which allowed parents to chart the flow of the match and note down any positive or negative behaviours during each game. An example of a match charted for subject 3 is portrayed in Appendix 21. The completion of this task facilitated the post-match discussion which was the parents final task.

## ***POST-MATCH DISCUSSION SESSIONS***

Many coaches and players abhor the interference of parents, but in this study quality as opposed to quantity of parental involvement was encouraged and received well by coaches and players. The presented match analysis allowed the player to start a dialogue with the parent on how they had played. This was as much to inform parents less familiar with the game as well as to review the match. Parents and players were encouraged to exchange constructive thoughts on the match using the objective analysis as evidence for both parties. For a number of parents and players, the openness of the communication lines and the extent to which performances were discussed led to much more positive exchange of ideas and opinions on matches than had previously been thought possible.

### **7.5343 The Coach Element: The Competitive Performance Coach**

The two educational sessions with the individual coaches consisted of the same material that was presented to parents. Having understood the different motivational attitudes that players have and the importance of their role in facilitating the development of an optimum achievement mentality, each coach was presented with a brief set of tasks. The nature of their relationship with each player over the summer period was such that they probably played the least active role in the programme. Ironically, (but typically) these coaches seldom watched players in matches or tournaments unless they were local. During July and August, players booked weekly lessons with an option to cancel if they were still in a tournament. Most of the legwork at tournaments was done by parents, and unusually for this sample, both parents. Coaches became more prominent in September when the training period consisted of twice weekly bookings. With these constraints in mind, their tasks ensuring that they became 'Competitive Performance' coaches were as follows.

### **7.53431 Coach Strategies and Tasks**

#### ***THE MOTIVATIONAL LESSON***

One of the goals for the coach was to ensure that his/her lessons employed principles which would maximise task involvement and Competitive Performance motivation. With this in mind, coaches were educated about TARGET (Ames, 1992; Epstein, 1989) and taken through a lesson structure which sought to maximise the value of personal performance and implant the importance of personal skill execution in the players achievement belief structure. The 'motivational lesson', as it was coined, was shown as an example of the content structure for a lesson. It focused on the coach conversing with the player about the importance of different performance skills within the game as exemplified by elite player role models. The coach and player might then



determine where they were at regarding the development of a skill(s), and what was the purpose of the drill they were about to start. The player should then be encouraged to set performance goals for that drill which were as measurable as possible. Subsequently, a subjective rating of performance with feedback from the coach should always follow a drill regardless of objective success. The lesson then progressed using similar principles with coaches asked to provide players with several key messages about the performance factors that they had worked on in the lesson. They were also asked to make references to the self-challenge and the game challenge where appropriate. A completed sheet from one of the coaches is exemplified in Appendix 22.

### ***PERFORMANCE FACTOR FILE CHECKING***

Each coach was asked to ensure that they saw the tennis educational file kept by player in order to monitor their performances in tournaments, and also to check the completion of 'coaching messages' sheets. It was advised that half of a single session should be apportioned to this monitoring and feedback task every month.

### ***THE SEPTEMBER 'TRAINER' PROGRAMME***

In early September, at the end of the tournament period, players were asked to list all of the 'trainers' from the performance review sheets that had been completed for matches in the summer season. Players presented their coaches with this list and coaches were simply asked to direct their programme over the next month to working on an agreed selection of these 'trainers' with the player.

#### **7.5344 The Competitive Performance Triangle**

The player, coach and parent were not isolated units in the intervention and action was taken to create as much of a triangular structure as possible. Apart from incidental communication between each party, two other strategies were employed to maximise the development of an overall 'Competitive Performance' motivational climate.

##### **7.53441 Triangular Contracts**

The player, the coach and the parents were each given a copy of a contract which consisted of a list of rules, guidelines and actions for the project. These were all based along the principles of developing an optimal motivational attitude and climate. Each of the parties concerned carefully read through each other's contract, agreed with the list of components, agreed to adhere to their own contract and proceeded to sign each contract. Each party had their own project file in which their personal contract was placed at the front. Copies of each contract are inserted in Appendix 23.

### **7.53442 Triangular Committee Meetings**

Although specific dates for these meetings could not be set in advance, the triangle were asked to ensure that they met once in a tournament period and once prior to the September 'trainer' programme. The researcher did not attend these meetings, but stated that he would be asking for feedback after the project had finished (i.e., social validation). There were no rules for the meeting apart from the fact each party should report to each other and review progress, whilst allowing the player to chair the meeting in order to increase levels of responsibility.

### **7.5345 The Role of the Outside Educator**

The extensiveness of the intervention, in terms of the need to reinforce and modify the behaviour and beliefs of a whole social unit, demanded a fourth individual to act as a co-ordinator of activities. The researcher had been responsible for the collection of baseline data, the educational sessions and he was in a prime position to guide the study through the three month period. As a senior county player and county coach, he was acquainted with the players, parents and fellow coaches who knew of his experience in tennis. As a result of the educational sessions, there was a mutual trust that allowed the researcher to become a participant observer within the intervention programme. The researcher had no given title, but for the purposes of social validation, he was later referred to as the 'outside educator'. The researcher's role as outside educator from July to October consisted of three major elements.

### **7.53451 Familiarisation Matches with Parents and Players**

It was insufficient to simply go through the tasks that parents and players had to complete without using 'in vivo' examples of the tasks being completed themselves. Therefore, two match situations were used to clarify the process and familiarise the player and parent. A local ratings tournament which had a senior and a junior event run over two weeks coincided with the inception of the intervention in early July. All the subjects had entered the event, and so the outside educator decided to enter himself and took the opportunity to role model the process. One player attended the first round match, a second player attended the quarter-final, and the third player attended the semi-final<sup>2</sup>. Each player was taken through the performance review sheet as the outside educator set his own goals for the match. Following the match, the performance review sheet and Competitive Performance score was completed in an interactive session with the player. The outside educator then showed each player a copy of the Competitive Performance report from the previous match. This familiarised each player in the process of completing the most important performance segments.

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<sup>2</sup> The author was seeded no.1 for this event and judged his personal performance to be capable of reaching the final on seeing the draw.



In the second series of match situations, the player and parent were together with the outside educator. The player completed his/her own performance review sheet for that specific match in the presence of the outside educator offering assistance where necessary. When the match started, the outside educator charted the first set of the match with the parent(s) watching, so that they understood exactly what the simple system consisted of. The parent(s) then charted the second set of the match whilst being supervised by the outside educator. Following the match, all three parties sat down and the communication channels were opened. The outside educator chaired the discussion focussing firstly on the performance review sheet and its completion. The player was the lead speaker as s/he reviewed the match, but the other two parties would interject when something the player stated coincided with what they had noticed from the match analysis. The parents developed their role in the conversation adhering merely to match analysis observations at that stage. The outside educator as a qualified coach had greater latitude with which to offer constructive remarks over the actual performance of the player. The healthy discussions that transpired maintained the ownership that the player had for match review and evaluation of performance. Furthermore, a model climate had been created which would hopefully ensure that the functional tennis parent would be a valuable resource for the player.

### **7.53452 Tournament Check-Up's and Social Support**

During the six week period of tournament play, it was felt important for the outside educator to provide social support for the player and monitor the completion of tasks. With this in mind, the researcher allocated himself to each individual player for one whole tournament where parents could not guarantee their presence. He also supported players on an even basis if they were playing locally and their matches were not being analysed. The main tournaments which the outside educator attended with each player were:

#### Subject 1:

U-18 National Junior Championships, Nottingham: August 18th-24th, 1996.

#### Subject 2:

Winchester ITF Junior Tournament, Winchester: July 15th-20st, 1996.

#### Subject 3:

Leicestershire Junior County Closed Championships: July 22nd-27th, 1996.

In other local tournaments (e.g., Leicestershire Senior County Closed Championships: August 5th-10th, 1996), the outside educator supported and analysed matches for players on three extra occasions each.

### **7.53453 Player and Parent Feedback and Appraisal**

At an appropriate time mid-way through the tournament season, brief meetings were organised separately with each individual parent(s) and player. These took place in an ante-room at the Leicestershire Senior County Closed Championships (August 5th-10th) where all the subjects and the outside educator were competing. These sessions lasted between twenty and forty minutes and allowed for the presentation of completed material with any questions of interest. The researcher was impressed with the work that was being completed, but parents generally noted that the verbal behaviour exercise was becoming difficult and that it had already had its effects on changing the spoken word of the parent. Parents were invited to discontinue logging if they wished, but only if they felt that they could retain their use of Competitive Performance comments. Players also remarked that the RESISTANCE logging exercise was fun, but found it difficult and inconvenient to log every occasion that a NON-RESISTANCE comment was made because there were so many! After this three week period, therefore, players stopped logging and started the restructuring or reversal technique previously described (see section 7.53414 - RESISTANCE).

### **7.535 Stage 5: Re-Assessment of Subjects' Pre-Competition Cognitive Responses**

Exactly three months of the intervention had passed (June 24th-September 23rd) when the three week re-assessment phase of each subject's pre-competition cognitive responses was initiated. The procedure for re-assessment attempted to mirror exactly the protocol which had been applied for the collection of baseline responses. Conditions for the covert simulation and modeling of the different competition contexts were replicated as much as possible in locational and temporal terms. Each re-assessment was weekly over three weeks and took place in the same private room. Similar times of day were also organised where possible. The only notable difference in the process of covert simulation between assessment periods was the greater number of verbal prompts applied by the researcher in order to allow the subject to recreate the same environmental conditions that s/he had verbalised previously. This process clearly sought to maximise the replication of contextual properties as fully as possible. Following simulation of the context, the subjects responded to the Pre-Competition Questionnaire battery in the same orders as before. The researcher remained impartial, left the room and allowed the subjects to complete the questionnaires of their own accord. At the beginning of the first and second re-assessment sessions, the TEOSQ and the POSQ were completed in order to establish whether there were any changes in dispositional goal orientation. It is worth noting that the length of the assessment period (three weeks) meant that almost four months had expired between each baseline and post-intervention assessment session.



### **7.536 Stage 6: Social Validation Data Collection**

Following the third and final re-assessment session for each of the subjects, except the control subject, the 'Social Validation Questionnaire' (see Appendix 13a) was sent to their home addresses. This was to comprehensively investigate subjects' reactions to the content, benefits and procedures of the intervention. Similar questionnaires were also sent to parents and coaches in order to examine their experiences of the programme (see Appendices 13b & 13c).

### **7.537 Stage 7: Follow-Up Assessment**

In order to assess the retention effects of the intervention, each of the subjects covertly simulated one of the three match contexts that they had done previously, and responded to the Pre-Competition Questionnaire battery six months (March, 1997) following completion of the study. This stage of the study would help to establish whether changes in pre-competition motivational responses to an ego-involving match situation had been transitory or permanent.

## **7.54 DATA ANALYSIS**

The analysis of the data is divided into three main stages. The first stage involves reporting the dispositional goal orientation scores for each subject pre- and post-intervention. This is followed by the nature of pre-competition goal involvement responses and competitive cognitions for each subject following the intervention. Key aspects of this section are mainly the comparisons made between pre- and post-intervention pre-competition cognitive responses.

The second stage involves reporting the social validation data from the subjects who received the intervention, along with data from their parents and coach. Finally, the scores from the Pre-Competition Questionnaire are presented for each subject in the follow-up assessment.

## **7.6 RESULTS**

### **7.61 SUBJECT 1**

Subject 1 was a fifteen year old female player ranked No. 3 in the county (U-18). Over the intervention period, she competed in seven different tournaments, playing thirty one singles matches in the U-16 and U-18 age groups. She received a total of eleven lessons with her coach during this period, five in the competition phase and six in the training phase. Her dispositional goal orientation scores from the two measures are presented first, followed by results from the Pre-Competition Questionnaire completed after the intervention period. These latter results are presented alongside the data collected in the baseline phase for purposes of comparison.

### 7.611 Dispositional Assessments of Achievement Goal Orientation

The results from the TEOSQ and the POSQ taken prior to and after the intervention are reported in Table 7.24. Results show how task orientation has increased as measured by the TEOSQ (item mean = 4.14 to 4.57), and stayed the same as measured by the POSQ (item mean = 4.83). It is worth noting, however, that the maximum score for the POSQ scales are thirty and that this subject already reported an almost maximum score on the task subscale. Similar reductions in ego orientation were evident from both questionnaires. However, the subject's ego orientation as measured by the POSQ (item mean= 4.00) was higher than ego scores taken from the TEOSQ (item mean= 3.16) prior to the intervention. Therefore, the moderately low ego orientation reported by the TEOSQ (item mean= 2.33), contrasted with a moderate ego orientation as measured by the POSQ (item mean= 3.16) after the intervention period.

**Table 7.24 Dispositional Goal Orientation Pre- and Post-Intervention - Subject 1**

	TEOSQ		POSQ	
	Task	Ego	Task	Ego
PRE	29 (4.14)	19 (3.16)	29 (4.83)	24 (4.00)
POST	32 (4.57)	14 (2.33)	29 (4.83)	19 (3.16)

Scores in () are item means for each subscale ranging from 1 to 5 on the Likert scale

### 7.612 Sub-Components of Self-Referent Tennis Performance Questionnaire

The results of this questionnaire are shown in Table 7.25. On comparing responses to each situation with the baseline data, marginal increases in task involvement have been made across all three situations even though this subject started the project with relatively high overall levels. Mean increases in both importance, meaning and self-referent assessment of achievement in the performance factors overall has yielded a higher score on the achievement value given to self-referent tennis performance for each of the three match contexts. The subject appears to be consistently higher on physical, tactical and particularly mental task involvement with regard to the importance, assessment and meaning of achievement given to sub-components of these factors. Despite prevailing at an already high level prior to the intervention, technical task involvement was also higher for two of the three contexts, with a very marginal decrease in the value given to technical performance in situation no. 2. The findings for overall task involvement and the levels of task involvement specific to each performance factor



are depicted graphically in Figure 7.4. Technical task involvement in situation no. 2 forms the only overlapping data point in this graphical representation of the Subject 1's cognitive changes with respect to this type of pragmatic task involvement.

**Table 7.25 Performance Factor Means and Overall Task Involvement Means for the SSTPQ Pre- and Post-Intervention - Subject 1**

Performance Factor	SITUATION NO. 1			SITUATION NO. 2			SITUATION NO.3		
	Imp.	Ass. (IAM)	Mean	Imp.	Ass. (IAM)	Mean	Imp.	Ass. (IAM)	Mean
Technical	8.00	8.00	7.66	8.66	8.66	8.33	8.66	8.66	8.66
<b>Average</b>	<b>8.55 (7.77)</b>			<b>8.55 (8.77)</b>			<b>8.66 (8.32)</b>		
Tactical	8.00	8.33	7.66	8.00	7.00	8.00	8.00	6.66	7.66
<b>Average</b>	<b>8.00 (7.33)</b>			<b>7.66 (6.88)</b>			<b>7.44 (6.44)</b>		
Physical	8.33	8.00	7.33	8.00	6.66	8.33	8.33	5.66	7.33
<b>Average</b>	<b>7.88 (6.44)</b>			<b>7.66 (6.88)</b>			<b>7.11 (6.77)</b>		
Mental	9.66	-	9.33	9.66	-	8.66	9.33	-	9.00
<b>Average</b>	<b>9.5 (7.5)</b>			<b>9.16 (8.5)</b>			<b>9.16 (8.16)</b>		
<b>IAM AVERAGES</b>	<b>8.50 (7.74)</b>	<b>8.11 (6.55)</b>	<b>8.00 (7.25)</b>	<b>8.58 (8.00)</b>	<b>7.44 (6.66)</b>	<b>8.33 (8.16)</b>	<b>8.58 (7.91)</b>	<b>7.00 (6.55)</b>	<b>8.16 (7.41)</b>
<b>OVERALL TASK INV.</b>	<b>8.20 (7.18)</b>			<b>8.12 (7.61)</b>			<b>7.90 (7.29)</b>		

Imp. = Importance of achievement; Ass. = Self-referent Assessment of achievement; Mean = Meaning

Task Inv. = Task Involvement score based on the averages of IAM of all the sub-components in all of the performance factors.

Pre-intervention baseline means for comparison purposes are enclosed within ()

### 7.613 Locus of Goal Involvement Questionnaire

The results from this questionnaire are represented in Table 7.26 alongside comparison responses from the baseline phase. Several findings are noteworthy for this subject. Firstly, the widespread increase in the importance of achievement goals associated with personal task involvement (mean= 19.3 >to 27.3). All three personal task goals appeared within the top six ranks of importance across all three match contexts. Secondly, the contrasting decrease in social approval ego involvement as a fundamental goal state (mean=24.3 <to 9.0). Levels of personal ego involvement remained at a high

level for each of the matches, but only in the presence of high personal task involvement. Finally, this player appeared to value social approval via task-involving means to a greater extent in general (mean=6.0 >to 12.3). Nevertheless, the three match contexts emphasised that the achievement of personal goals far outweighed the importance of social approval goals prior to each match.

**Table 7.26 Ranked Responses and Scores for the LGIQ Pre- and Post-Intervention - Subject 1**

Rank assigned	Situation 1		Situation 2		Situation 3	
	Baseline	Post	Baseline	Post	Baseline	Post
1	PE	PE	PE	PE	PE	PE
2	PT	PT	SAE	PT	SAE	PE
3	PE	PT	SAE	PE	PT	PT
4	SAE	PT	PE	PT	PE	PE
5	PT	PE	PE	PE	SAE	PT
6	PE	SAT	SAE	PT	SAE	PT
7	SAE	PE	PT	SAT	PE	SAE
8	PT	SAT	PT	SAE	PT	SAT
9	SAE	SAT	PT	SAT	PT	SAE
10	SAT	SAE	SAT	SAE	SAT	SAT
11	SAT	SAE	SAT	SAE	SAT	SAT
12	SAT	SAE	SAT	SAT	SAT	SAE

	Situation 1		Situation 2		Situation 3	
	Baseline	Post	Baseline	Post	Baseline	Post
PE	29 (1)	26 (2)	29 (1)	30 (1)	27 (1)	32 (1)
PT	24 (2)	30 (1)	15 (3)	27 (2)	19 (3)	25 (2)
SAE	19 (3)	6 (4)	28 (2)	10 (4)	26 (2)	11 (3)
SAT	6 (4)	16 (3)	6 (4)	11 (3)	6 (4)	10 (4)

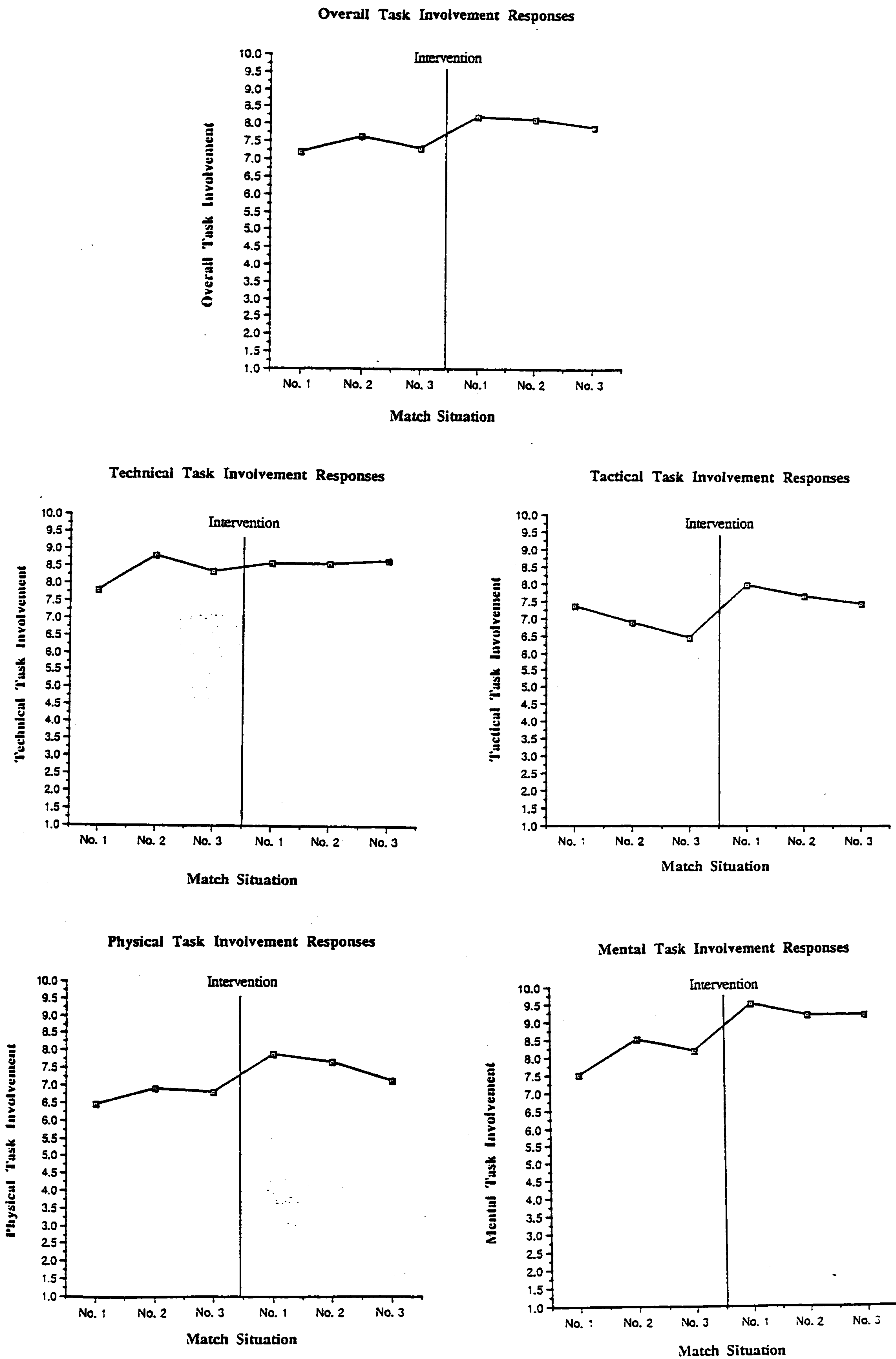
Ranks of importance within situation in ()

Overall mean scores pre and post intervention with rank of importance in ():

	Baseline	Post
Personal Ego =	28.3 (1)	29.3 (1)
Personal Task =	19.3 (3)	27.3 (2)
Social Approval Ego =	24.3 (2)	9 (4)
Social Approval Task =	6 (4)	12.3 (3)



**Figure 7.5 Graphical Representation of Pre- and Post-Intervention Assessments of Sub-Component Task Involvement (from SSTPQ) - Subject 1**



### 7.614 Proportional Focus on Performance Factors and Outcome

The proportions that the player assigned in each match situation to the importance of winning and performance technically, tactically, physically and mentally are shown in Table 7.27. There seems to be two important points to make when inspecting the Table. Firstly, the reduction in importance that has been apportioned to winning as a single factor (mean=50 <to 33.3). Although, the post-intervention mean is facilitated by a low proportion given in situation no. 1, winning is given a lower proportion of importance for each respective match situation. However, it is important to point out that winning is still generally the most valued single factor. Secondly, the subject has valued each performance factor almost equally within and across each match situation. The overall means for the proportions of importance given to each performance factor across each situation are virtually identical.

**Table 7.27 Proportional Focus on Performance Factors and Outcome Across Situations Pre and Post Intervention - Subject 1**

	Situation 1		Situation 2		Situation 3		Average	
	Baseline	Post	Baseline	Post	Baseline	Post	Post	B/line
<b>Winning</b>	40	20	60	40	50	40	33.3	50
<b>Technical Performance</b>	20	20	10	13	20	15	16	16.7
<b>Tactical Performance</b>	15	20	10	14	10	15	16	11.7
<b>Physical Performance</b>	10	20	10	13	10	15	16	10
<b>Mental Performance</b>	15	20	10	20	10	15	18	11.7
<b>Totals =</b>	<b>100</b>		<b>100</b>		<b>100</b>			

### 7.615 Perceptions of Ability, Threat, Challenge and Match Importance

The results for these pre-competition cognitive responses before and after the intervention treatment are shown in Table 7.28. Visual inspection of the data shows a marginal reduction in the importance of achievement in the three matches. However, perceptions of normative ability appears to have increased dramatically in each context. On average, self-confidence about beating each of the rivals has increased from about sixty five to eighty five percent. Finally, a distinct reversal has also occurred in the cognitive appraisal of each match. Perceptions of each match being an exciting challenge



have increased by between two and four Likert scale points, whereas perceptions of threat have decreased by up to six Likert scale points.

**Table 7.28 Pre-Competition Cognitions Across Match Situations Pre- and Post-Intervention - Subject 1**

	Situation 1		Situation 2		Situation 3	
	Baseline	Post	Baseline	Post	Baseline	Post
<b>Match Importance</b>	9	8	10	8	10	9
<b>Perceptions of Ability</b>	7/6=13	9/9=18	7/6=13	8/9=17	8/6=14	9/9=18
<b>Perceptions of Challenge</b>	5	9	7	9	5	9
<b>Perceptions of Threat</b>	9	6	8	4	9	3

## 7.62 SUBJECT 2

Subject 2 was a sixteen year old female player ranked No. 2 in the county (U-18). Over the intervention period, she competed in eight different tournaments, playing thirty two singles matches in U-18 age group. She received a total of ten lessons with her coach during this period, four in the competition phase and six in the training phase. The reasoning behind the low number of lessons in the competition phase was a tournament circuit in France which lasted for two and a half weeks.

### 7.621 Dispositional Assessments of Achievement Goal Orientation

The results from the TEOSQ and the POSQ taken prior to and after the intervention are reported in Table 7.29. Task orientation appears to have increased marginally as measured by the TEOSQ (item mean= 4.42 >to 4.57) and to maximum level as measured by the POSQ (item mean= 4.50 >to 5.00). Varied and marginal differences emerged for ego orientation. The POSQ ego scale showed a slight increase (item mean= 3.50 >to 3.66), whereas the TEOSQ ego scale reported a decrease (item mean= 3.33 <to 3.16).

**Table 7.29 Dispositional Goal Orientation Pre- and Post-Intervention - Subject 2**

	TEOSQ		POSQ	
	Task	Ego	Task	Ego
PRE	31 (4.42)	20 (3.33)	27 (4.50)	21 (3.50)
POST	32 (4.57)	19 (3.16)	30 (5.00)	22 (3.66)

Scores in () are item means for each subscale ranging from 1 to 5 on the Likert scale

### 7.622 Sub-Components of Self-Referent Tennis Performance Questionnaire

The results of this questionnaire taken post-intervention are shown in Table 7.30 alongside comparison means from the baseline phase. On visually inspecting the data, the value of self-referent achievement for all performance factors appears to have increased across each situation. Of particular note are the increases in task involvement with regard to tactical and physical skills where the sub-components of these factors were perceived to be more important for achievement satisfaction, assessed to a greater extent and possessed greater meaning overall. Of further interest are the widespread increases in the self-referent assessment of sub-component skills for all three matches which were low during the baseline phase. With assessment sandwiched between increases in the importance and meaning of achievement, the three elements together conveyed an overall improvement in pre-competition task involvement in all three match contexts. A graphical representation of the changes associated with this subject on this measure of task involvement is depicted in Figure 7.5.

### 7.623 Locus of Goal Involvement Questionnaire

The results from this questionnaire compared with pre-intervention responses are represented in Table 7.31. Personal task involvement and personal ego involvement seem to have consolidated their position as the two highest prevailing goal states for each match situation. Personal task goals are the main focus for achievement with a slightly higher mean score of 32.3 across the three matches. However, the slight increase in the importance of personal ego goals (mean=23.6 >to 24.3) within the players state of mind reinforces the greater value given to personal and internal achievement goals, as opposed to social goals. Little importance appears to have been given to the value of achieving social goals in these matches. However, particular attention to social approval ego goals has severely diminished (mean=11.6 <to 8.3) to a point where they are the lowest locus of importance for each match.



**Table 7.30 Performance Factor Means and Overall Task Involvement Means for the SSTPQ Pre- and Post-Intervention - Subject 2**

Performance Factor	SITUATION NO. 1			SITUATION NO. 2			SITUATION NO.3		
	Imp.	Ass. (IAM)	Mean	Imp.	Ass. (IAM)	Mean	Imp.	Ass. (IAM)	Mean
Technical	7.66	6.33	7.33	7.66	6.66	7.33	7.66	7.00	7.66
<b>Average</b>	7.11 (6.33)			7.22 (6.22)			7.44 (6.88)		
Tactical	7.33	6.33	7.33	7.33	5.66	7.33	7.33	5.33	7.66
<b>Average</b>	7.00 (4.33)			6.77 (5.44)			6.77 (5.44)		
Physical	7.66	5.66	7.33	7.33	5.66	6.66	7.66	5.66	7.66
<b>Average</b>	6.88 (3.20)			6.55 (4.00)			7.00 (3.88)		
Mental	7.00	-	6.33	6.66	-	7.00	8.00	-	8.00
<b>Average</b>	6.66 (6.16)			6.83 (6.16)			8.00 (6.00)		
<b>IAM AVERAGES</b>	7.42 (6.33)	6.11 (3.22)	7.08 (6.33)	7.25 (6.5)	6.00 (3.88)	7.08 (5.41)	7.66 (6.91)	6.00 (3.77)	7.75 (5.42)
<b>OVERALL TASK INV.</b>	6.87 (5.3)			6.77 (5.26)			7.14 (5.36)		

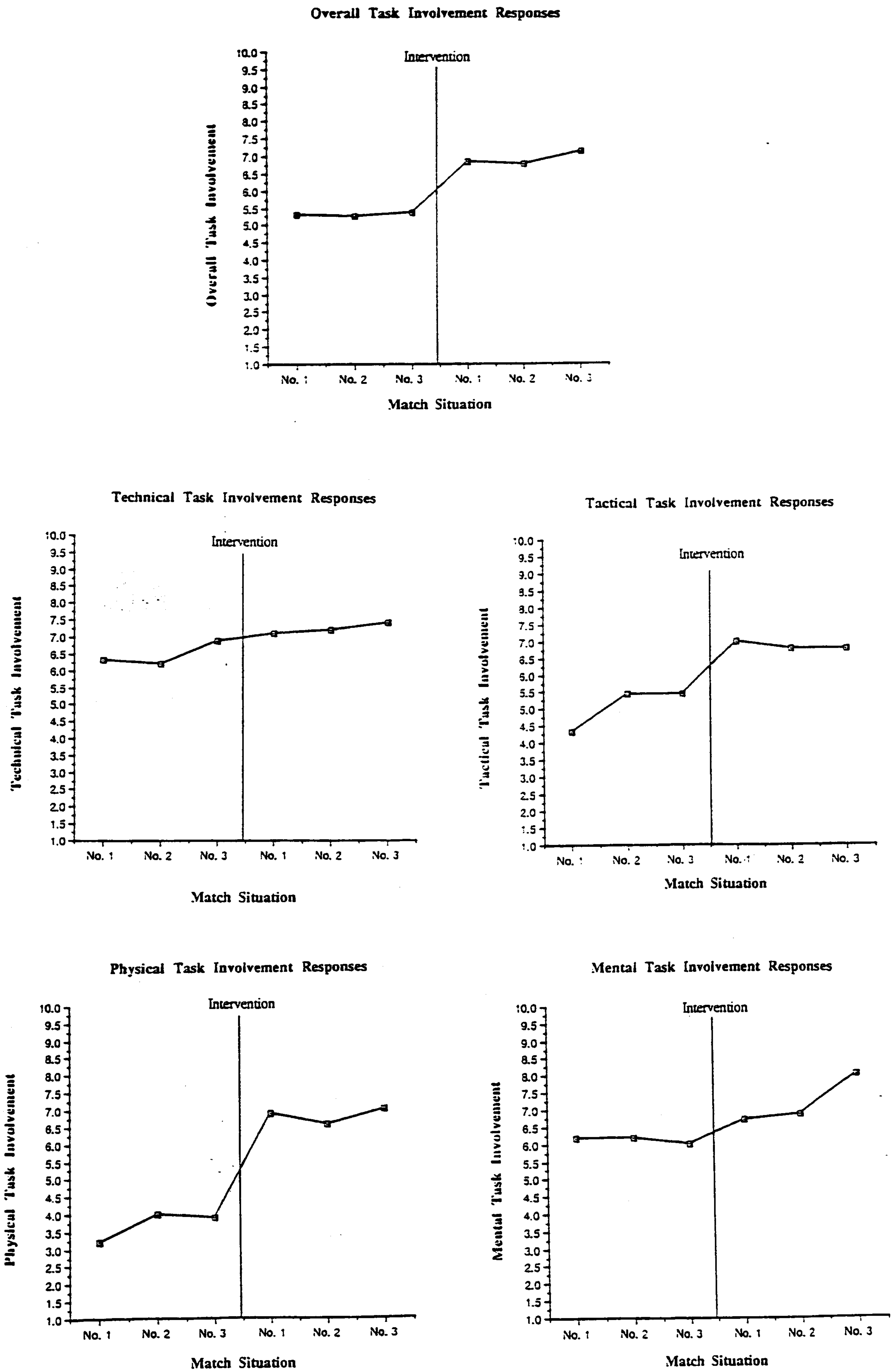
Imp. = Importance of achievement; Ass. = Self-referent Assessment of achievement; Mean = Meaning.

Task Inv. = Task Involvement score based on the averages of IAM of all the sub-components in all of the performance factors.

Pre-intervention baseline means for comparison purposes are enclosed within ()

Figure 7.6

Graphical Representation of Pre- and Post-Intervention Assessments of Sub-Component Task Involvement (from SSTPQ) - Subject 2





**Table 7.31 Ranked Responses and Scores for the LGIQ Pre- and Post-Intervention - Subject 2**

Rank assigned	Situation 1		Situation 2		Situation 3	
	Baseline	Post	Baseline	Post	Baseline	Post
1	PT	PT	PE	PT	PT	PT
2	PT	PE	PT	PT	PE	PT
3	PT	PT	PT	PT	PT	PT
4	PE	PT	PT	PE	PT	PE
5	SAE	PE	PE	PE	PE	PE
6	PE	PE	SAT	SAT	SAT	PE
7	PE	SAT	SAE	PE	SAE	SAE
8	SAT	SAE	PE	SAT	PE	SAT
9	SAT	SAT	SAE	SAE	SAT	SAT
10	SAE	SAE	SAT	SAT	SAE	SAT
11	SAE	SAT	SAE	SAE	SAT	SAE
12	SAT	SAE	SAT	SAE	SAE	SAE

	Situation 1		Situation 2		Situation 3	
	Baseline	Post	Baseline	Post	Baseline	Post
PE	22 (2)	<b>26 (2)</b>	25(2)	<b>23 (2)</b>	24 (2)	<b>24 (2)</b>
PT	33 (1)	<b>31 (1)</b>	30 (1)	<b>33 (1)</b>	31(1)	<b>33 (1)</b>
SAE	13 (3)	<b>9 (4)</b>	12 (3)	<b>7 (4)</b>	10 (4)	<b>9 (4)</b>
SAT	10 (4)	<b>12 (3)</b>	11 (4)	<b>15 (3)</b>	13 (3)	<b>12 (3)</b>

Ranks of importance within situation in ()

Overall mean scores pre and post intervention with rank of importance in ():

	Baseline	Post
<b>Personal Ego =</b>	23.6 (2)	<b>24.3 (2)</b>
<b>Personal Task =</b>	31.3 (1)	<b>32.3 (1)</b>
<b>Social Approval Ego =</b>	11.6 (3)	<b>8.3 (4)</b>
<b>Social Approval Task =</b>	11.3 (4)	<b>13 (3)</b>

#### 7.624 Proportional Focus on Performance Factors and Outcome

The pre- and post-intervention proportions that the player assigned in each match situation to the importance of winning and to the four performance factors in tennis are represented in Table 7.32. The importance placed upon winning as a single factor appears to have decreased dramatically (mean= 47 <to 23) and indeed in two match contexts, it is viewed with equal importance as the other performance factors. In association with this latter remark, each performance factor also appears to be valued to the same degree in each of the situations.

**Table 7.32 Proportional Focus on Performance Factors and Outcome Across Situations Pre- and Post-Intervention - Subject 2**

	Situation 1		Situation 2		Situation 3		Average	
	Baseline	Post	Baseline	Post	Baseline	Post	Post	B/line
<b>Winning</b>	50	30	40	20	50	20	23.3	46.7
<b>Technical Performance</b>	10	20	20	20	15	20	20	15
<b>Tactical Performance</b>	20	20	20	20	15	20	20	18.3
<b>Physical Performance</b>	5	15	10	20	10	20	18.3	8.3
<b>Mental Performance</b>	15	15	10	20	10	20	18.3	11.6
<b>Totals =</b>	<b>100</b>		<b>100</b>		<b>100</b>			

**7.625 Perceptions of Ability, Threat, Challenge and Match Importance**

The results for these pre-competition cognitive responses are set alongside responses made prior to the intervention and shown in Table 7.33. The pattern of responses mirrors that of subject 1 to a large extent. Each match was viewed with similar levels of importance as before, but perceptions of ability have increased to a point where the player is eighty percent confident of winning each match. Furthermore, each match situation was appraised with the same distinct levels of perceived threat and challenge. Perceptions of challenge increased to a value of eight, whilst perceptions of threat decreased to a value of six across all three matches.

**Table 7.33 Pre-Competition Cognitions Across Match Situations Pre- and Post-Intervention - Subject 2**

	Situation 1		Situation 2		Situation 3	
	Baseline	Post	Baseline	Post	Baseline	Post
<b>Match Importance</b>	7	8	8	7	8	7
<b>Perceptions of Ability</b>	7/6=13	8/8=16	6/7=13	8/8=16	7/6=13	8/8=16
<b>Perceptions of Challenge</b>	6	8	8	8	6	8
<b>Perceptions of Threat</b>	7	6	8	6	7	6



### 7.63 SUBJECT 3

Subject 3 was a fifteen year old male player ranked No. 9 in the county (U-18). During the intervention period, this subject played an impressive total of thirty eight singles matches from eight tournaments assisted by the fact that he entered the U-16, U-18 and open age groups where possible. His coach saw him for eleven lessons altogether, five during the most competitive phases and six during the training phase in September.

#### 7.631 Dispositional Assessments of Achievement Goal Orientation

The results from the TEOSQ and the POSQ taken prior to and after the intervention are reported in Table 7.34. Scores from both the TEOSQ (item mean= 4.42) and POSQ (item mean= 4.66) task orientation subscales remained unchanged at relatively high levels. Both questionnaires, however, reported substantial decreases in ego orientation. The POSQ ego scale (item mean= 4.33 <to 3.66) and the TEOSQ ego scale (item mean= 4.16 <to 3.50) exhibited scores which suggested a reduction in ego orientation from very high to more moderately high levels.

**Table 7.34 Dispositional Goal Orientation Pre- and Post-Intervention - Subject 3**

	TEOSQ		POSQ	
	Task	Ego	Task	Ego
PRE	31 (4.42)	25 (4.16)	28 (4.66)	26 (4.33)
POST	31 (4.42)	21 (3.50)	28 (4.66)	22 (3.66)

Scores in () are item means for each subscale ranging from 1 to 5 on the Likert scale

#### 7.632 Sub-Components of Self-Referent Tennis Performance Questionnaire

The results of this questionnaire set alongside baseline responses are displayed in Table 7.35. Visual inspection of the data reveals how task involvement overall has improved a moderate amount for the three matches, with situation no. 3 (the nationals context) being characterised by a more significant increase. Looking more closely at the data, one notices how the importance, assessment and meaning of tactical and physical sub-components of performance have increased for each match. However, the largest shift seems to be associated with the level of mental task involvement where the importance and meaning of achievements in sub-component mental skills has increased from low to moderately high levels. Technical task involvement remained at relatively high stable level apart from situation no. 3 where there was a premium on personal

achievements in all skills. As with subject 2, although importance and meaning of sub-component skill achievement has increased, it is the 'assessment' component of this composite measure of task involvement which has documented the largest improvements in general terms. The profile of task involvement pre- and post-intervention, in overall composite terms and in each performance factor, is graphically represented in Figure 7.6.

**Table 7.35 Performance Factor Means and Overall Task Involvement Means for the SSTPQ Pre- and Post-Intervention - Subject 3**

Performance Factor	SITUATION NO. 1			SITUATION NO. 2			SITUATION NO.3		
	Imp.	Ass. (IAM)	Mean	Imp.	Ass. (IAM)	Mean	Imp.	Ass. (IAM)	Mean
Technical	8.00	7.66	7.33	8.00	7.00	7.00	9.00	8.66	8.66
Average	7.66 (7.44)			7.33 (8.00)			8.77 (7.66)		
Tactical	7.00	4.33	5.00	6.66	4.33	4.66	7.66	5.00	6.66
Average	5.44 (4.22)			5.22 (4.44)			6.44 (3.89)		
Physical	6.66	5.66	6.33	6.66	5.33	6.33	8.66	7.00	7.66
Average	6.22 (6.22)			6.11 (5.44)			7.55 (4.33)		
Mental	6.66	-	6.00	7.33	-	7.00	7.66	-	8.00
Average	6.33 (3.66)			7.16 (4.33)			7.83 (4.50)		
<b>IAM AVERAGES</b>	<b>7.10</b> (7.25)	<b>5.88</b> (3.88)	<b>6.17</b> (5.10)	<b>7.17</b> (6.83)	<b>5.55</b> (4.44)	<b>6.25</b> (5.41)	<b>8.25</b> (6.83)	<b>6.88</b> (4.66)	<b>7.75</b> (4.83)
<b>OVERALL TASK INV.</b>	<b>6.40</b> (5.41)			<b>6.32</b> (5.56)			<b>7.63</b> (5.44)		

Imp. = Importance of achievement; Ass. = Self-referent Assessment of achievement; Mean = Meaning.

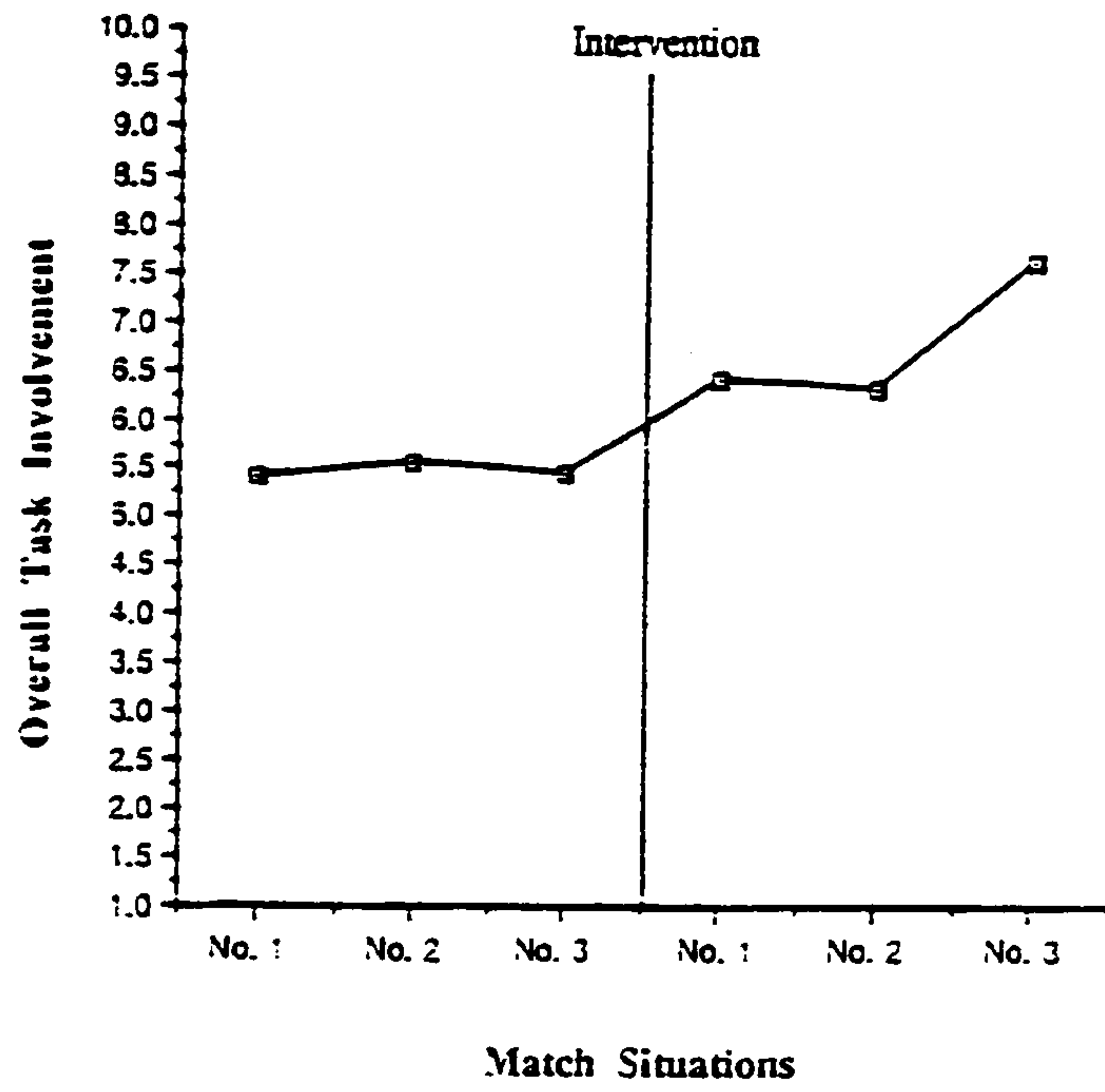
Task Inv. = Task Involvement score based on the averages of IAM of all the sub-components in all of the performance factors.

Pre-intervention baseline means for comparison purposes are enclosed within ()

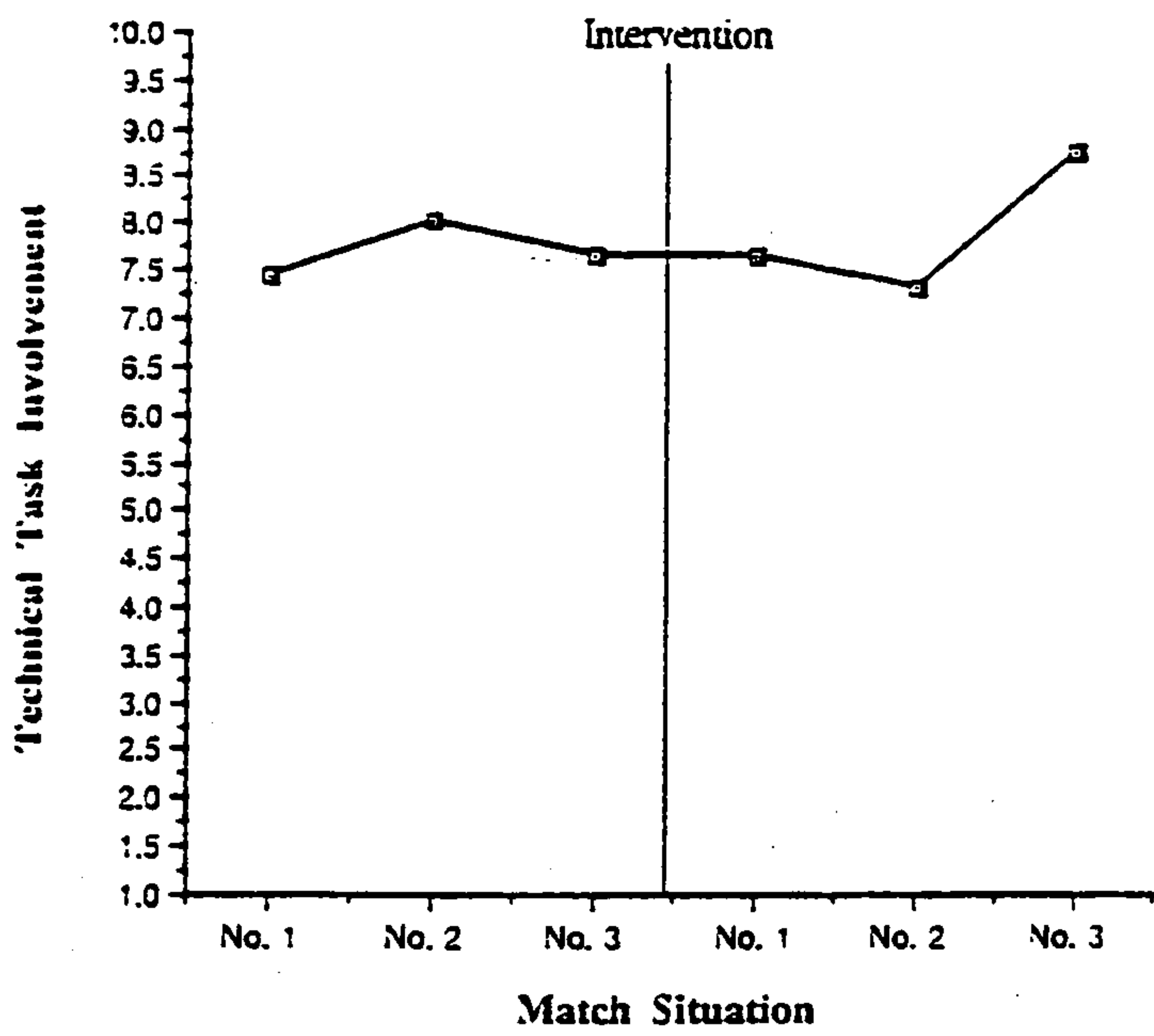


**Figure 7.7 Graphical Representation of Pre- and Post-Intervention Assessments of Sub-Component Task Involvement (from SSTPQ) - Subject 3**

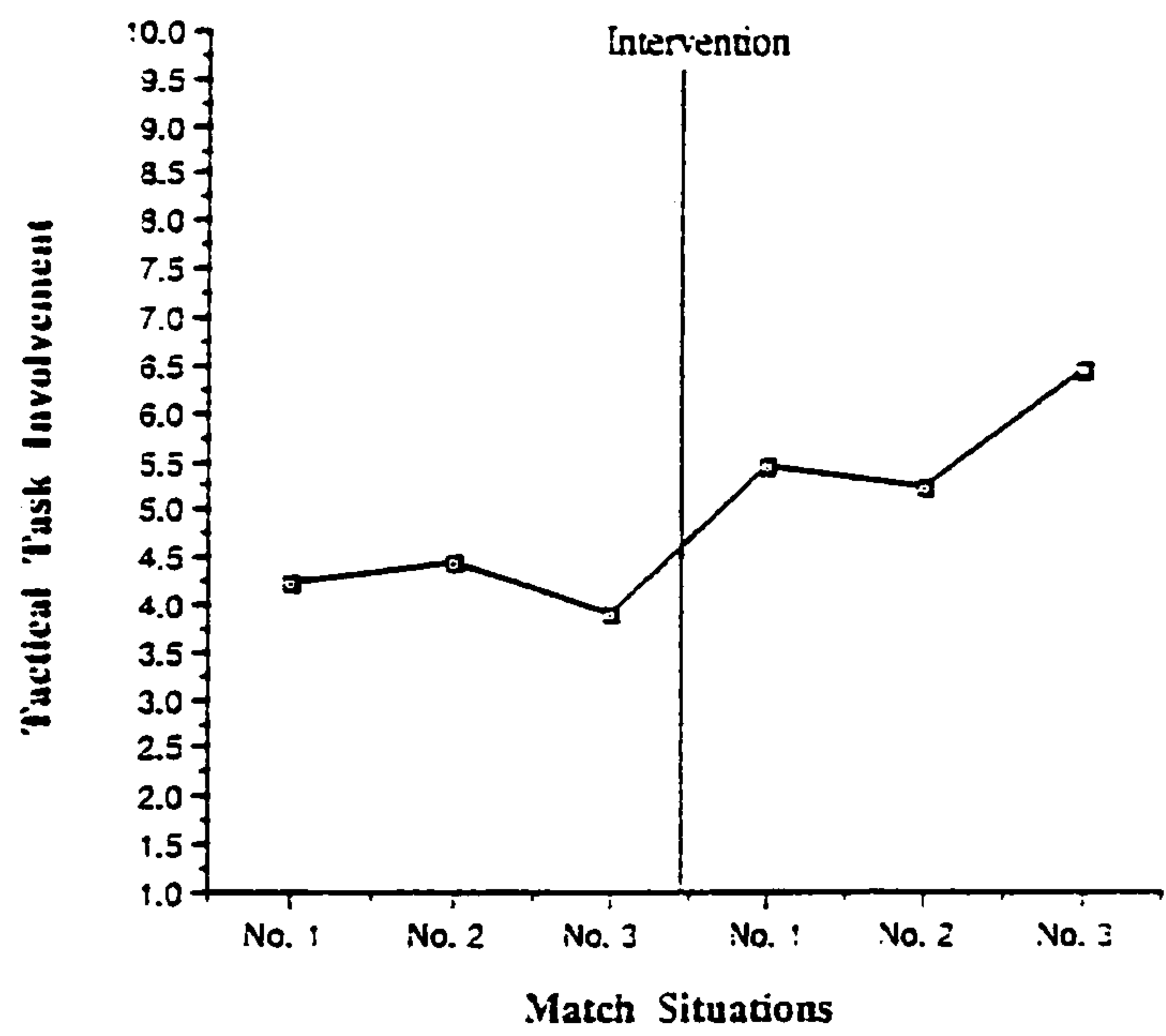
**Overall Task Involvement Responses**



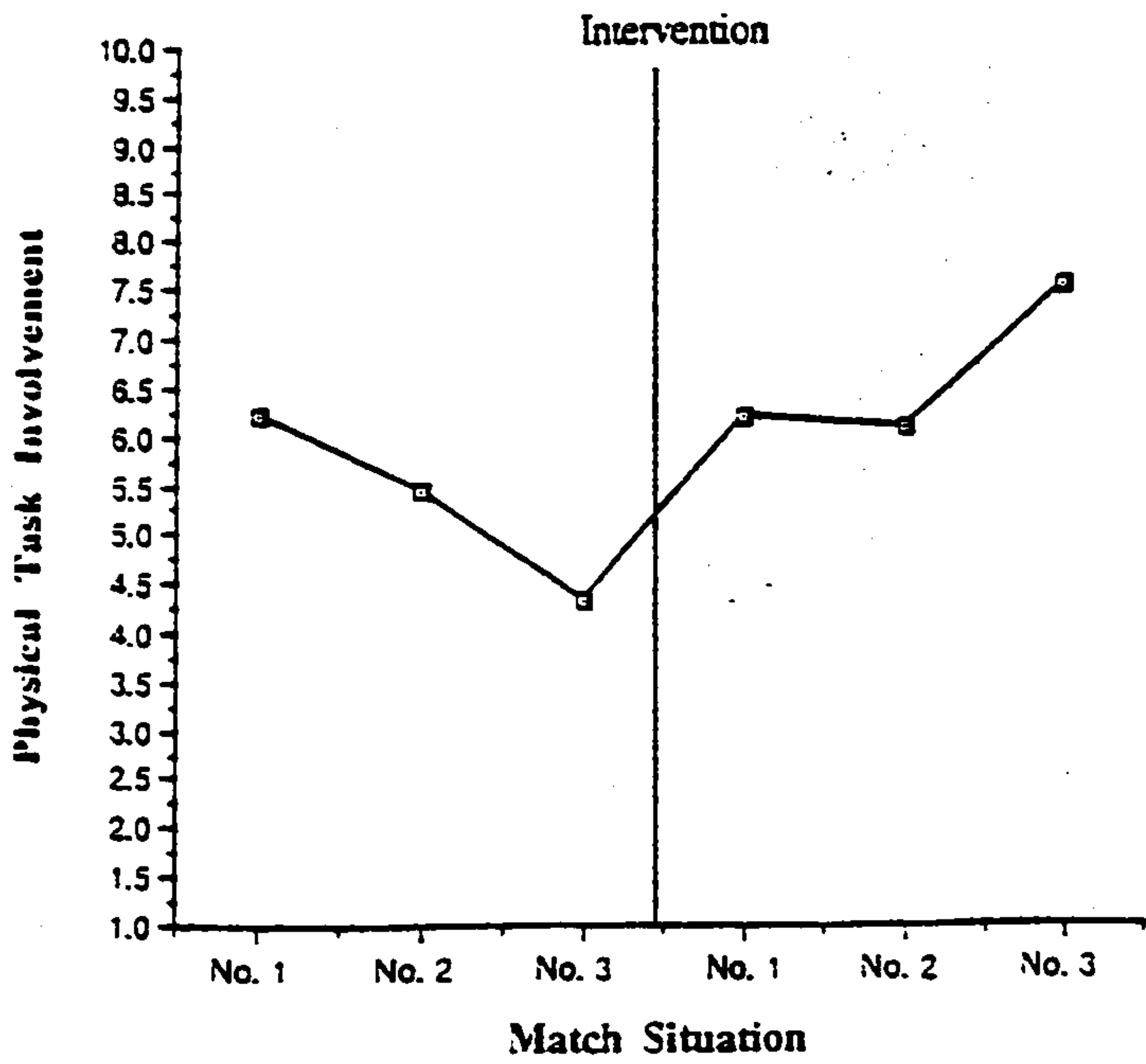
**Technical Task Involvement Responses**



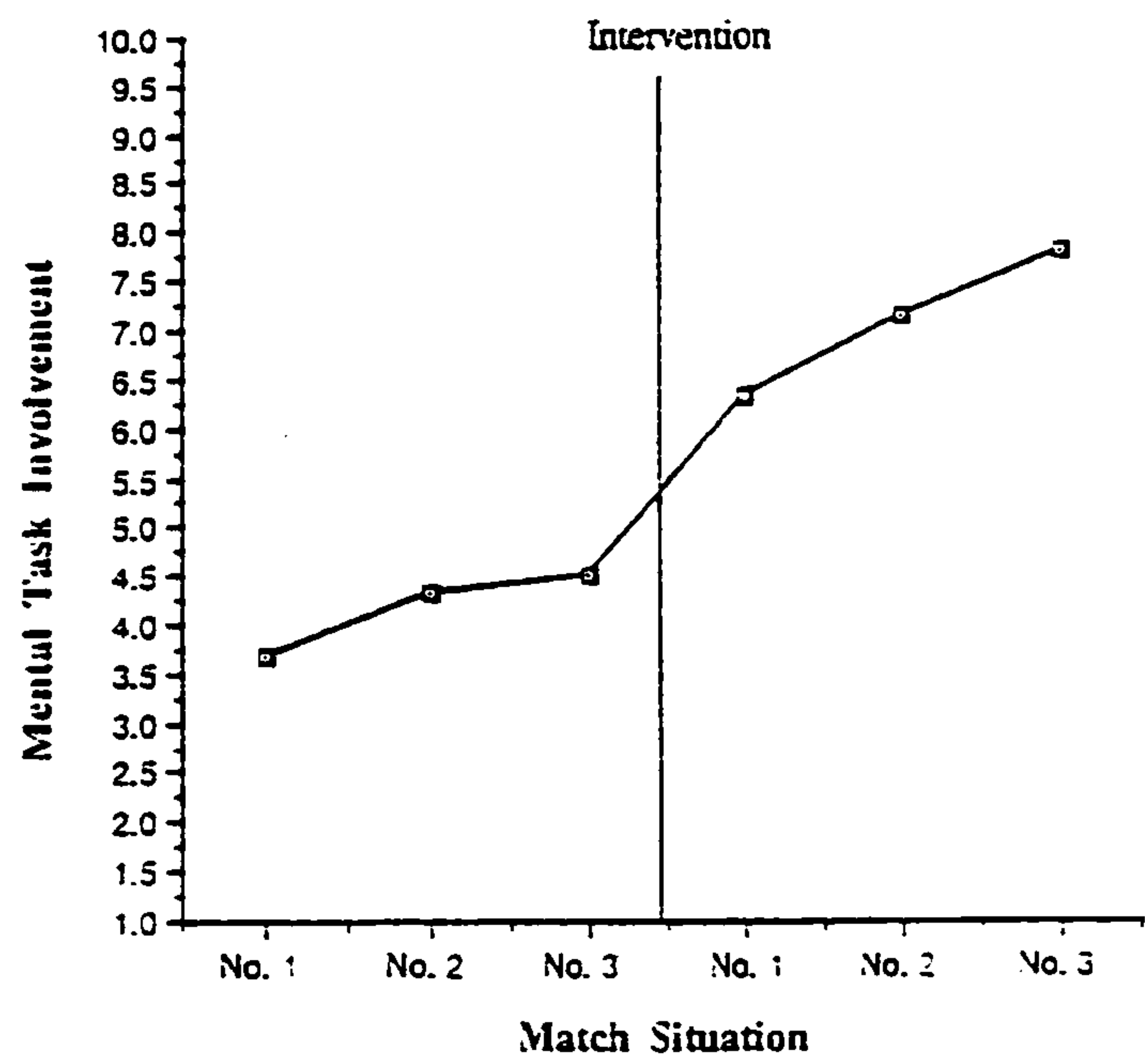
**Tactical Task Involvement Responses**



**Physical Task Involvement Responses**



**Mental Task Involvement Responses**



### 7.633 Locus of Goal Involvement Questionnaire

The baseline and post-intervention results from this questionnaire are exhibited in Table 7.36. Although, this subject's responses had a tendency to co-vary with the situation prior to intervention, the post-intervention results demonstrate a more solid pattern to the loci of goal involvement in each situation. Personal task involvement has doubled in importance (mean=15 >to 31.3) and is clearly the most prevailing goal state within the player for each match context. The importance of achieving personal ego goals has decreased (mean= 26 <to 19), but personal ego involvement is still the second highest ranking state in two out of three situations. Social approval ego goals, which played an important role in the players contextual beliefs about achievement during the baseline phase, have greatly diminished significance. Except situation no. 1, which consistently possessed a powerful social element in the player's perceptions, social approval ego involvement has decreased substantially (mean= 22.3 <to 15). Social approval task goals still appear to be of minor importance to this subject. In sum, whereas ego-involved goals were of fundamental significance to this player prior to intervention, personal task goals now appear to be the primary loci of goal involvement and the achievement of social goals (particularly those associated with winning) have much less of a priority focus.

**Table 7.36 Ranked Responses and Scores for the LGIQ Pre- and Post-Intervention - Subject 3**

Rank assigned	Situation 1		Situation 2		Situation 3	
	Baseline	Post	Baseline	Post	Baseline	Post
1	SAE	PT	PE	PT	PE	PT
2	PE	PE	PT	PT	SAE	PE
3	SAT	PT	SAE	PT	SAT	PT
4	SAE	PT	PE	PE	PE	SAT
5	SAT	SAE	SAE	PE	SAE	PT
6	PE	SAT	PE	SAT	PT	SAE
7	PT	SAE	PT	SAE	PE	PE
8	PE	SAE	SAT	SAE	PT	PE
9	SAE	PE	PT	SAT	SAT	SAE
10	SAT	SAT	SAE	SAT	PT	SAE
11	PT	SAT	SAT	PE	SAE	SAT
12	PT	PE	SAT	SAE	SAT	SAT

	Situation 1		Situation 2		Situation 3	
	Baseline	Post	Baseline	Post	Baseline	Post
PE	23 (2)	16 (3)	28 (1)	19 (2)	27 (1)	22 (2)
PT	9 (4)	31 (1)	21 (2=)	33 (1)	15 (3=)	30 (1)
SAE	25 (1)	19 (2)	21 (2=)	12 (4)	21 (2)	14 (3)
SAT	21 (3)	12 (4)	8 (4)	14 (3)	15 (3=)	12 (4)



Ranks of importance within situation in ()

Overall mean scores pre and post intervention with rank of importance in ():

	Baseline	Post
Personal Ego =	26 (1)	19 (2)
Personal Task =	15 (3)	31.3 (1)
Social Approval Ego =	22.3 (2)	15 (3)
Social Approval Task =	14.6 (4)	12.7 (4)

### 7.634 Proportional Focus on Performance Factors and Outcome

The baseline phase and post-intervention proportions assigned in each match situation to the importance of winning and the four performance factors are disclosed in Table 7.37. In a similar fashion to subjects 1 and 2, the importance attached to winning as a single factor has decreased for all three match contexts (mean= 50 <to 36.7). However, it was still the most salient factor for each match. Furthermore, although the importance placed upon technical and physical performance has not altered in general, the significance of the tactical and mental performance factors have increased across situations. This is especially the case for situation no. 3 where the proportional value given to each performance factor was relatively high. The majority of these results, particularly the latter, compare favourably with the results forthcoming from the SSTPQ and levels of reported 'performance factor' task involvement.

**Table 7.37 Proportional Focus on Performance Factors and Outcome Across Situations Pre- and Post-Intervention- Subject 3**

	Situation 1		Situation 2		Situation 3		Average	
	Baseline	Post	Baseline	Post	Baseline	Post	Post	B/line
Winning	50	40	50	40	50	30	36.7	50
Technical Performance	15	20	20	15	20	20	18.3	18.3
Tactical Performance	10	10	10	15	5	15	13.3	8.3
Physical Performance	10	10	15	15	20	20	15	15
Mental Performance	10	20	10	15	5	15	16.7	8.3
Totals =	100		100		100			

### 7.635 Perceptions of Ability, Threat, Challenge and Match Importance

Results for these post-intervention cognitive responses, set alongside baseline findings, are shown in Table 7.38. Importance of achievement in each match was consistently very high with a slight drop in importance for situation no. 2. Perceptions of normative ability were also slightly higher for each specific opponent, but especially the rival in situation no. 3 where the player appeared to be ninety percent confident that his performance abilities would overcome the opponent. This makes interesting reading given the findings documented from the other questionnaires about this particular situation. Few differences emerged in this subject's cognitive appraisal of the threat and challenge stimuli presented by the matches. Apart from situation no. 1, where perceptions of challenge increased, this player continued to report each situation as being both moderately high in threat, but also moderately high in challenge.

**Table 7.38 Pre-Competition Cognitions Across Match Situations Pre- and Post-Intervention - Subject 3**

	Situation 1		Situation 2		Situation 3	
	Baseline	Post	Baseline	Post	Baseline	Post
<b>Match Importance</b>	9	8	10	8	10	9
<b>Perceptions of Ability</b>	7/7=14	8/8=16	7/6=13	7/8=15	7/7=14	8/9=17
<b>Perceptions of Challenge</b>	4	6	7	6	6	7
<b>Perceptions of Threat</b>	6	6	7	6	6	7

### 7.64 SUBJECT 4

Subject 4, the control subject, was a fifteen year old female player ranked No. 12 in the county (U-18). This subject did not receive the intervention treatment, but competed over the same duration as the other players and continued to receive coaching in a normal manner. She played twenty eight singles matches in seven tournaments (U-16 & U-18 age groups), and received thirteen lessons from her individual coach. Of these seven were in the pre-September competition phase, and six more occurred in September.

#### 7.641 Dispositional Assessments of Achievement Goal Orientation

The results from the TEOSQ and the POSQ taken prior to and after the intervention phase are reported in Table 7.39. The scores for task and ego orientation are



characterised by slight and varied differences from both questionnaires. Task orientation appears to have decreased marginally as measured by the TEOSQ (item mean= 3.85 <to 3.71), but increased slightly as reported by the POSQ task scale (item mean= 4.16 >to 4.33) to a level which is substantially higher than the TEOSQ task orientation mean. TEOSQ ego orientation (item mean= 3.33) has remained unchanged, however POSQ ego orientation (item mean= 3.66 >to 3.83) has marginally increased. The changes shown in the control subject appear to be minor, but each questionnaire does offer a differing goal profile, particularly in the case of task orientation.

**Table 7.39 Dispositional Goal Orientation Pre- and Post-Intervention - Subject 4**

	TEOSQ		POSQ	
	Task	Ego	Task	Ego
PRE	27 (3.85)	20 (3.33)	25 (4.16)	22 (3.66)
POST	26 (3.71)	20 (3.33)	26 (4.33)	23 (3.83)

Scores in () are item means for each subscale ranging from 1 to 5 on the Likert scale

#### 7.642 Sub-Components of Self-Referent Tennis Performance Questionnaire

Table 7.40 displays the main pre- and post-intervention phase responses of this subject to the SSTPQ across the three match situations taken four months apart. Very few differences have emerged either in the composite task involvement score or the levels of task involvement pertaining to each performance factor. Situation no. 3 again appears to provoke slightly higher levels of importance, assessment and meaning on the four performance factors. Nevertheless, the profile of this subject suggests little change in the composite elements that establish how practically task involved the player actually is. This profile is described by the graphs in Figure 7.7.

#### 7.643 Locus of Goal Involvement Questionnaire

Table 7.41 depicts the ranks of importance that were given to different forms of pre-competition achievement goal across the three matches in the baseline and post-intervention phases. Little change has taken place across each match situation with personal ego involvement prevailing as the most powerful state upon the locus of goal involvement (mean= 28.6 >to 30.6). Personal task goals were consistently rated to be of secondary importance to achieve (mean= 25 <to 23.6), whilst social approval ego goals were constantly favoured over social approval task goals in the player's state of mind

prior to covert competition. These results suggest that almost no change in this subject occurred over the summer period.

**Table 7.40 Performance Factor Means and Overall Task Involvement Means for the SSTPQ Pre- and Post-Intervention - Subject 4**

Performance Factor	SITUATION NO. 1			SITUATION NO. 2			SITUATION NO.3		
	Imp.	Ass. (IAM)	Mean	Imp.	Ass. (IAM)	Mean	Imp.	Ass. (IAM)	Mean
Technical	7.33	4.00	6.66	7.33	4.33	6.66	8.00	5.00	7.33
Average	6.00 (5.60)			6.11 (6.44)			6.78 (7.22)		
Tactical	7.00	5.00	5.33	7.00	4.00	6.00	7.00	4.66	7.00
Average	5.78 (5.33)			5.66 (5.77)			6.22 (6.33)		
Physical	6.66	4.00	6.00	7.00	3.00	6.33	7.66	3.66	6.33
Average	5.55 (5.44)			5.44 (5.11)			5.88 (6.00)		
Mental	6.33	-	6.00	6.66	-	6.33	6.66	-	6.66
Average	6.16 (5.83)			6.50 (6.33)			6.66 (7.16)		
<b>IAM AVERAGES</b>	<b>6.83</b> (6.91)	<b>4.33</b> (3.55)	<b>6.00</b> (5.91)	<b>7.00</b> (7.24)	<b>3.77</b> (3.66)	<b>6.33</b> (6.11)	<b>7.33</b> (7.83)	<b>4.44</b> (4.77)	<b>6.83</b> (6.83)
<b>OVERALL TASK INV.</b>	<b>5.72</b> (5.46)			<b>5.70</b> (5.68)			<b>6.20</b> (6.47)		

Imp. = Importance of achievement; Ass. = Self-referent Assessment of achievement; Mean = Meaning.

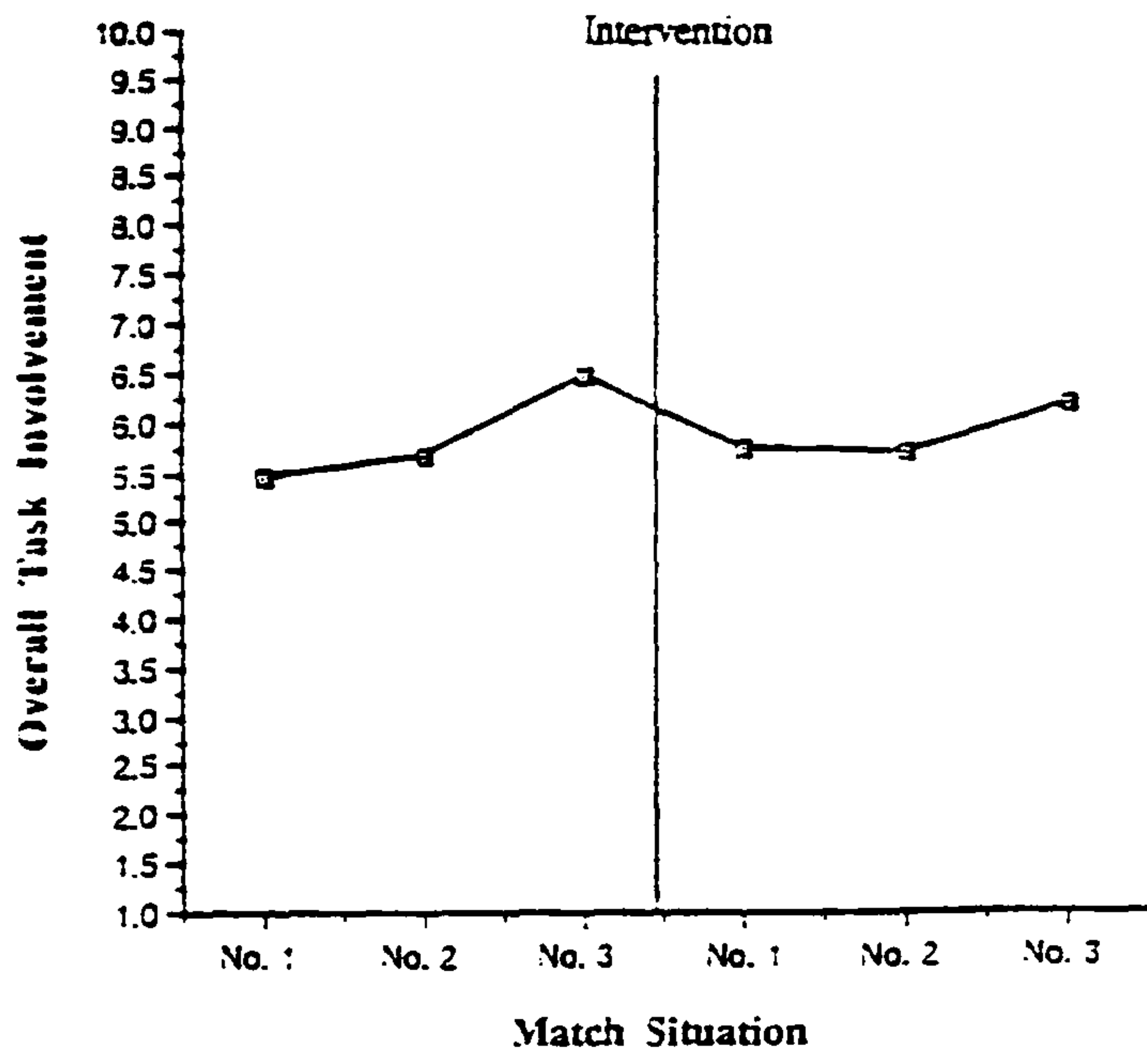
Task Inv. = Task Involvement score based on the averages of IAM of all the sub-components in all of the performance factors.

Pre-intervention baseline means for comparison purposes are enclosed within ()

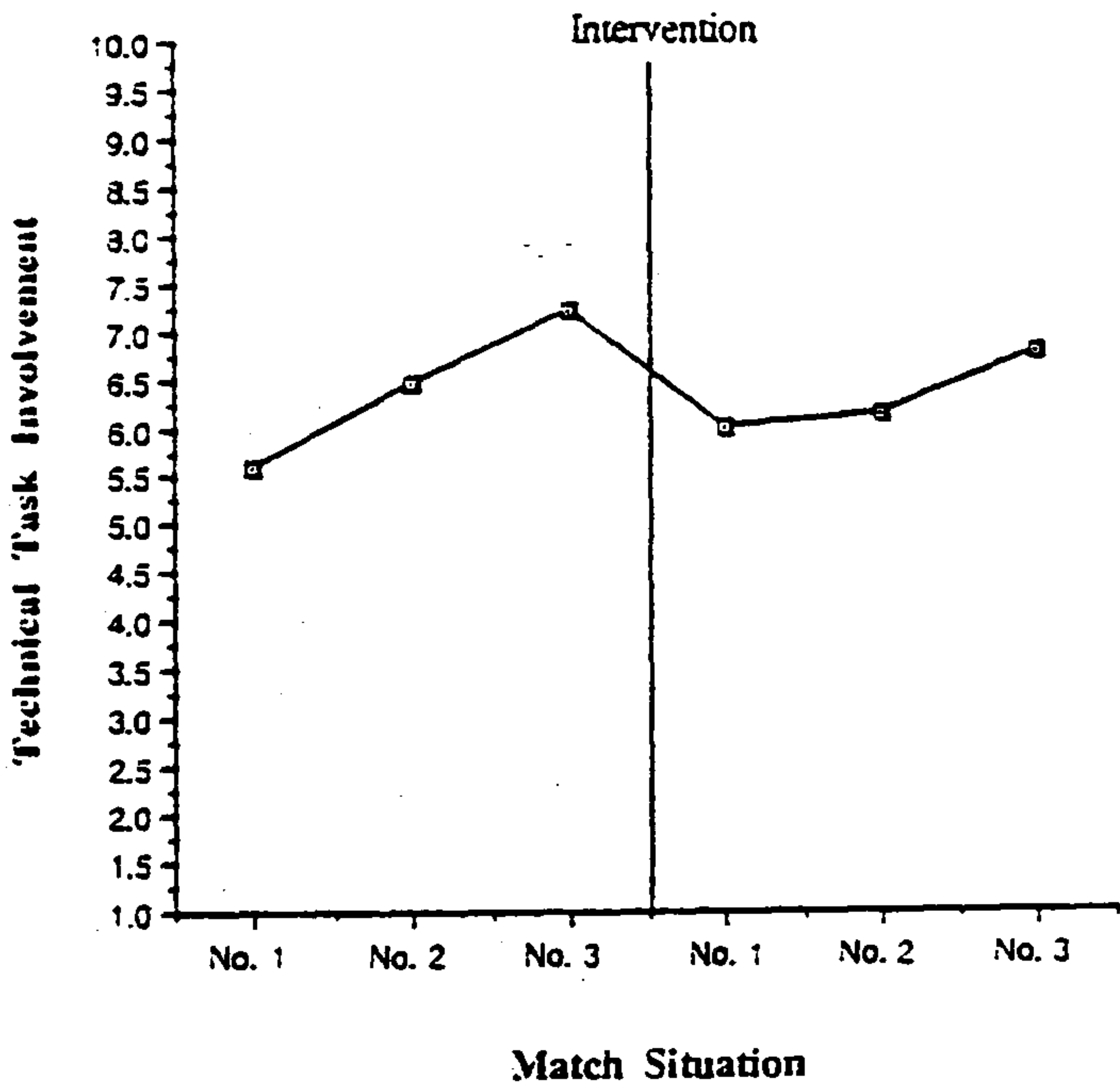


**Figure 7.8 Graphical Representation of Pre- and Post-Intervention Assessments of Sub-Component Task Involvement (from SSTPQ) - Subject 4**

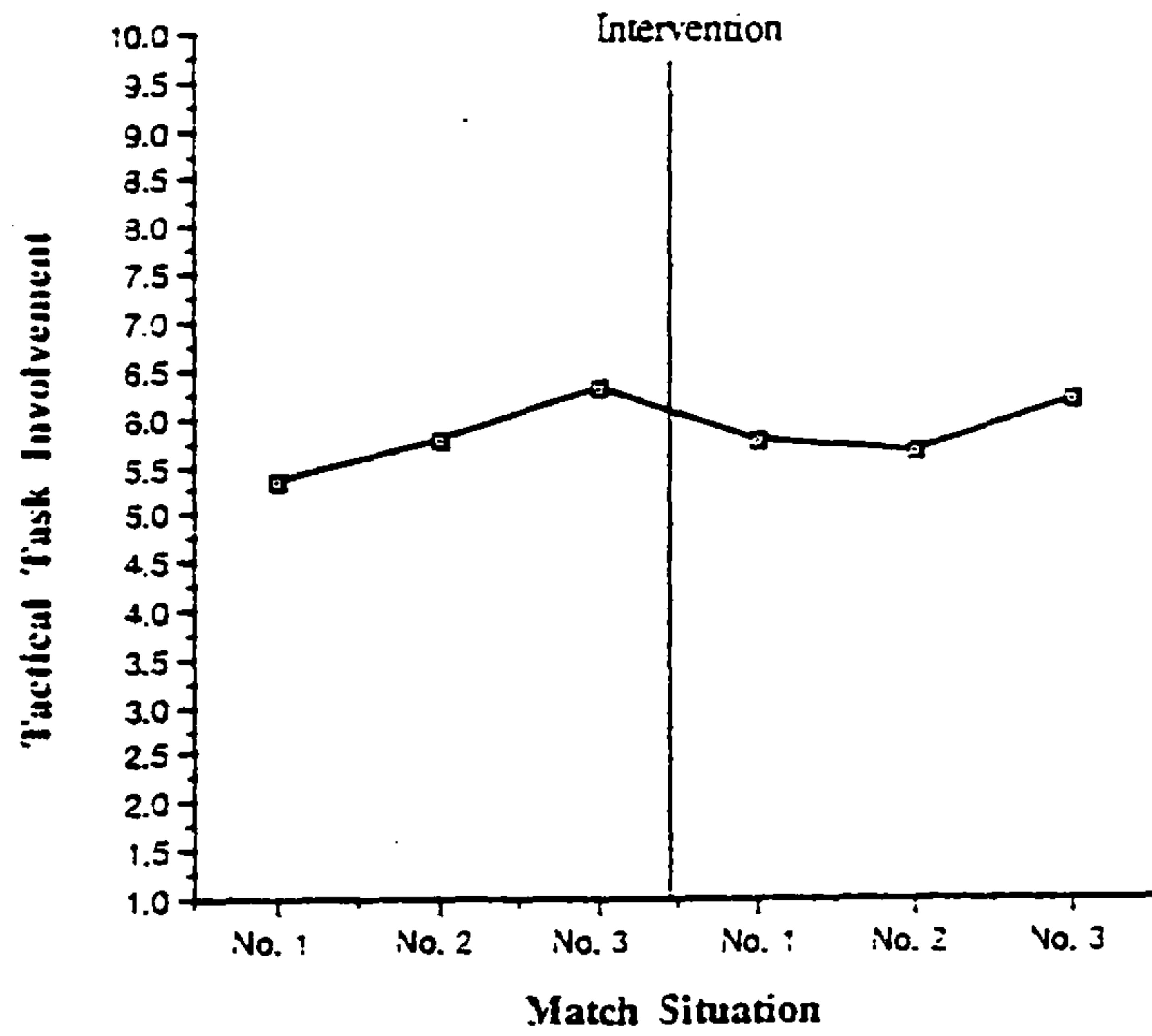
**Overall Task Involvement Responses**



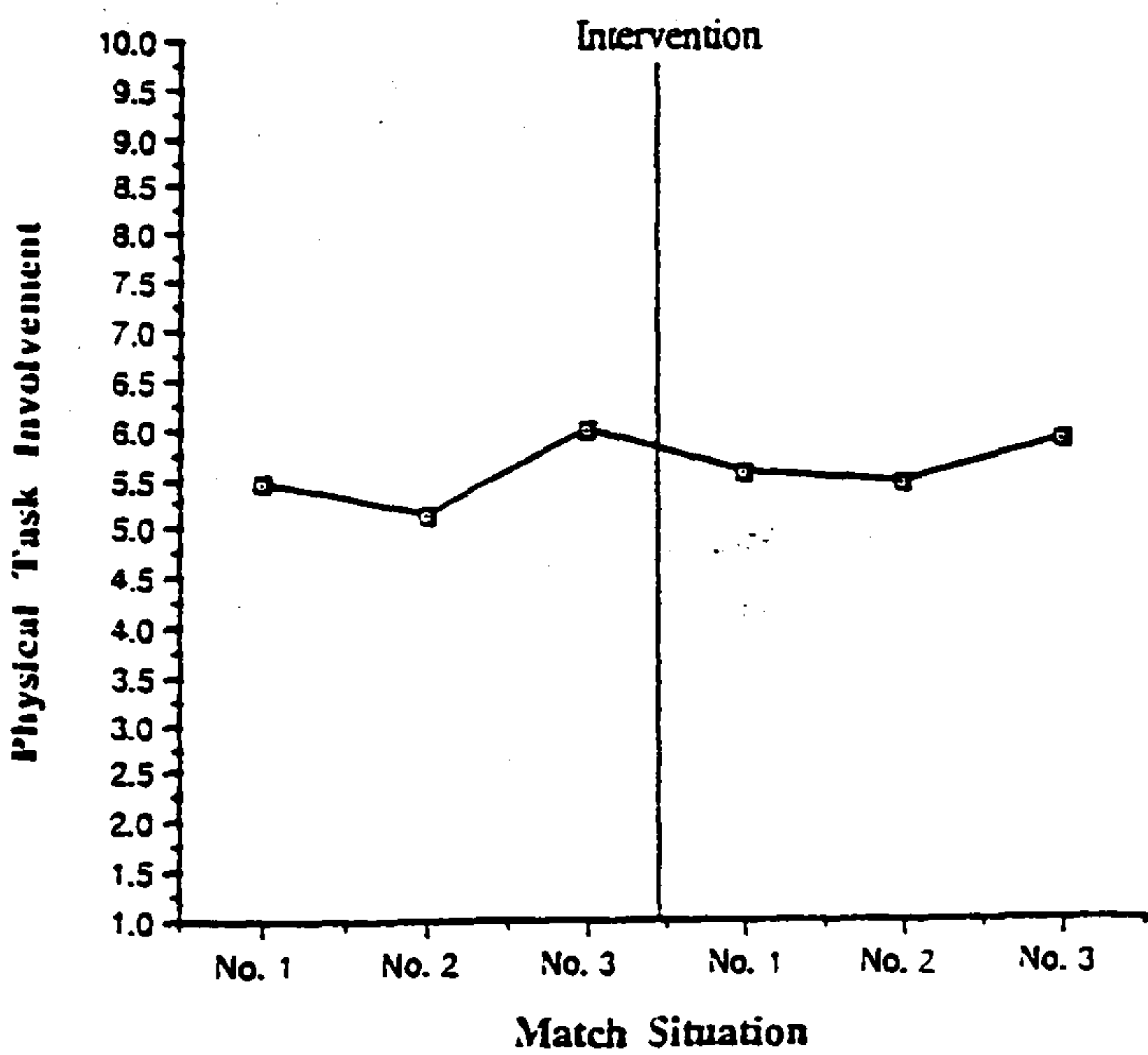
**Technical Task Involvement**



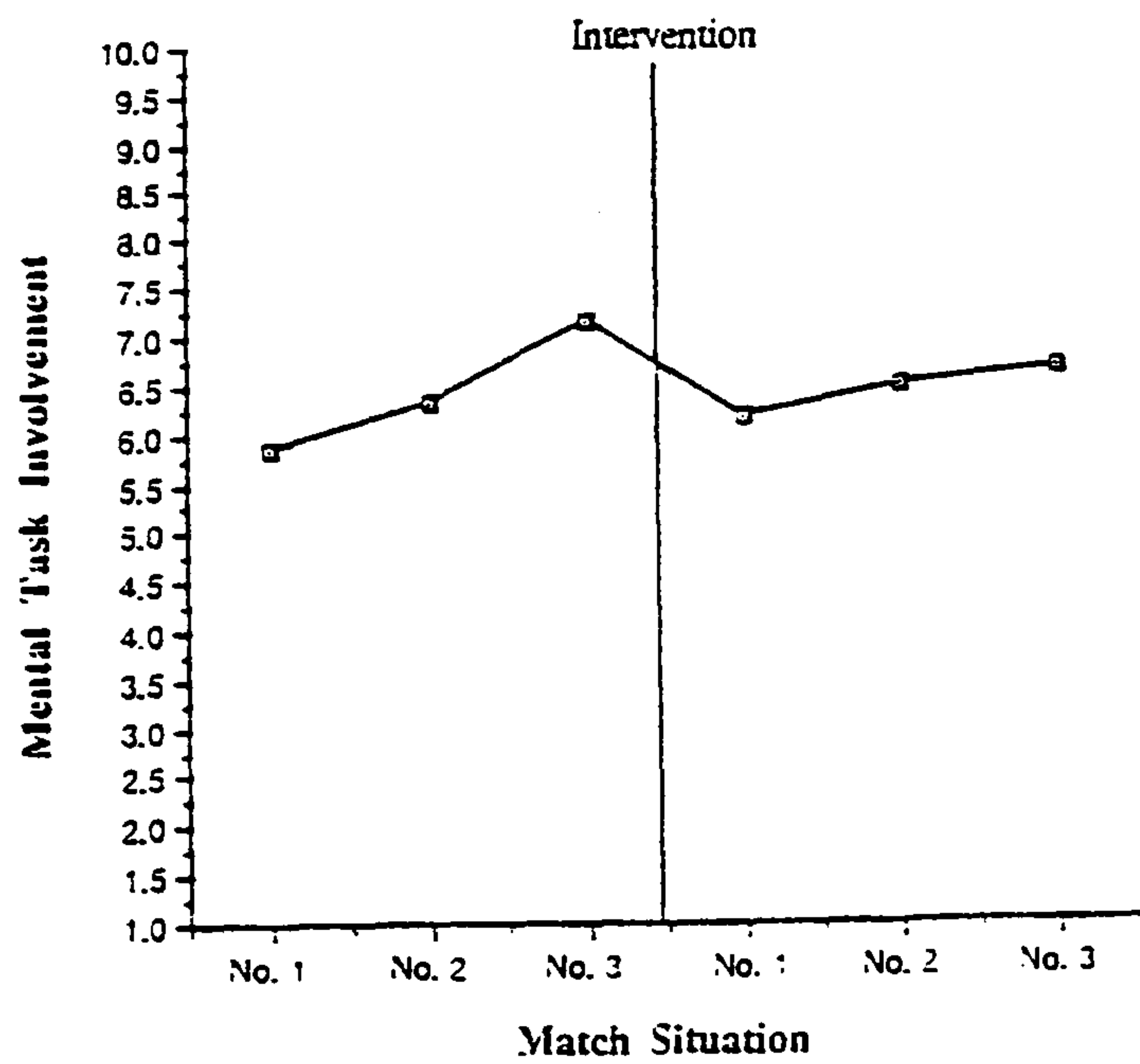
**Tactical Task Involvement Responses**



**Physical Task Involvement Responses**



**Mental Task Involvement Responses**



**Table 7.41** Ranked Responses and Scores for the LGIQ Pre- and Post-Intervention - Subject 4

Rank assigned	Situation 1		Situation 2		Situation 3	
	Baseline	Post	Baseline	Post	Baseline	Post
1	PT	PE	PE	PE	PT	PE
2	PE	PE	PE	PE	PE	PT
3	SAE	PT	PT	SAE	PE	PE
4	PE	SAE	PE	PE	PT	PT
5	PT	PT	SAE	PT	SAE	PE
6	SAE	PE	PT	PT	PE	SAE
7	PE	PT	PT	PT	PT	PT
8	PT	SAE	SAE	SAE	SAT	SAE
9	SAT	SAE	SAT	SAT	SAE	SAT
10	SAE	SAT	SAE	SAE	SAE	SAE
11	SAT	SAT	SAT	SAT	SAT	SAT
12	SAT	SAT	SAT	SAT	SAT	SAT

	Situation 1		Situation 2		Situation 3	
	Baseline	Post	Baseline	Post	Baseline	Post
PE	26 (1)	<b>30 (1)</b>	32 (1)	<b>32 (1)</b>	28 (1)	<b>30 (1)</b>
PT	25 (2)	<b>24 (2)</b>	23 (2)	<b>21 (2)</b>	27 (2)	<b>26 (2)</b>
SAE	20 (3)	<b>18 (3)</b>	16 (3)	<b>18 (3)</b>	15 (3)	<b>15 (3)</b>
SAT	7 (4)	<b>6 (4)</b>	7 (4)	<b>7 (4)</b>	8 (4)	<b>7 (4)</b>

Ranks of importance within situation in ()

Overall mean scores pre and post intervention with rank of importance in ():

	Baseline	Post
<b>Personal Ego =</b>	28.6 (1)	<b>30.6 (1)</b>
<b>Personal Task =</b>	25 (2)	<b>23.6 (2)</b>
<b>Social Approval Ego =</b>	17 (3)	<b>17 (3)</b>
<b>Social Approval Task =</b>	7.3 (4)	<b>6.7 (4)</b>

#### 7.644 Proportional Focus on Performance Factors and Outcome

The proportions of importance given to winning and the four performance factors for each of the three matches in the two assessment phases are displayed in Table 7.42. Winning is still the most valued single factor in these matches for this subject with little discrepancy between situations (mean= 45 >to 46.7). The proportions of importance given to each performance factor are also fairly consistent with mental and technical performance being the most valued. The results reflect a player whose pre-match



cognitions about winning and the salience of the key performance elements have not essentially changed.

**Table 7.42 Proportional Focus on Performance Factors and Outcome Across Situations Pre- and Post-Intervention- Subject 4**

	Situation 1		Situation 2		Situation 3		Average	
	Baseline	Post	Baseline	Post	Baseline	Post	Post	B/line
<b>Winning</b>	40	45	45	45	50	50	46.7	45
<b>Technical Performance</b>	20	15	20	15	20	15	15	20
<b>Tactical Performance</b>	10	10	10	15	5	10	11.7	8.3
<b>Physical Performance</b>	13	10	10	10	10	10	10	11
<b>Mental Performance</b>	17	20	15	15	15	15	16.7	15.7
<b>Totals =</b>	<b>100</b>		<b>100</b>		<b>100</b>			

#### **7.645 Perceptions of Ability, Threat, Challenge and Match Importance**

Table 7.43 compares some of the other pre-competition cognitive responses that were reported in the baseline and post-intervention assessment sessions for this subject. Firstly, the importance of achievement in each match was viewed as consistently high. Secondly, perceptions of normative ability were marginally varied. Finally, with reference to this subject's perceptions of threat and challenge, there was little change in the way that this subject appraised each particular match context. This player did not deviate from her perceptions that each match was more threatening than challenging.

**Table 7.43 Pre-Competition Cognitions Across Match Situations Pre- and Post-Intervention - Subject 4**

	Situation 1		Situation 2		Situation 3	
	Baseline	Post	Baseline	Post	Baseline	Post
<b>Match Importance</b>	9	8	8	8	9	9
<b>Perceptions of Ability</b>	7/7=14	7/8=15	8/7=15	7/7=14	8/8=16	7/8=15
<b>Perceptions of Challenge</b>	4	3	5	6	4	4
<b>Perceptions of Threat</b>	7	7	8	7	6	7

### 7.65 SOCIAL VALIDATION DATA

The following section presents data from the players, parents and coaches social validation questionnaires which is described in the appropriate sub-sections. Quotations of the responses are included alongside the relevant subject number in an attempt to gain a fuller understanding of the individual's experience of the programme and an explanation of the study findings. The subjects' social validation responses emerged from a two-part process as previously discussed.

#### 7.651 Social Validation - Subjects: Part 1.

The responses to the initial open-ended questions inquired about what the purpose of the study was. All three subjects thought they knew of the purpose, but when asked to elaborate on their answer, the responses varied considerably. The responses were: "To be able to go on court totally mentally prepared and with certain aims to achieve and to improve my performances" (1); "To try to create a working triangle between my parents, my coach and myself to benefit my tennis as much as possible" (2); "To help us gain knowledge of how to log our progress in tennis and do various tasks" (3). Secondly, when asked why they felt that they had been selected, responses were also wide ranging: "My thoughts and approach to tennis were not ideal. I was not gaining and improving due to my mental approach, only due to technical improvements" (1); "Because I value my tennis, but need to find ways to improve even more" (2); "From the initial questionnaires that I completed" (3).

In response to a series of questions which adopted a Likert-type scale, where responses ranged from (1) "not at all" to (7) "very much so", the subjects firstly indicated that they understood what was expected of them. One subject reported a value of '5'



whilst the other two responded with '6'. In response to whether they had stuck to the tasks in the project, two subjects reported values of '6' and the other subject, a value of '7'. All players thought that they had been fully committed to the project with scores of '6' for two subjects and the remaining subject claiming a maximum commitment score of '7'.

Players were then asked whether their tennis performance or ability as a whole had changed over the past 3 months of the project. Responses were measured on a scale of (-3) "decreased" to (0) "stayed the same" to (+3) "improved". Two subjects reported a '+2' improvement and one subject felt that they had improved maximally with a '+3'. This subject (1) added that this was due to a "new mental approach", whilst another subject (2) noted that she wasn't sure whether the improvement was due to her own or her coach's new attitude. All the players felt that these improvements to performance or ability had been significant with the three subjects responding with '6'.

The players felt that the tasks that they had completed and the procedures adopted were acceptable to them ('6', '6' & '7'), and that the tools used and the content of information provided were useful to them as players ('7', '6' & '7'). Furthermore, all subjects indicated an enthusiasm to continue with the training and competition 'tasks' responding with scores of '6', '7' and '5' respectively.

All three players felt that they had benefitted from the project, and liberally stated how they felt they had benefitted:

"My whole mental approach to both tennis practices and especially matches has completely changed. I feel that RESISTANCE especially helped me when playing certain players. It enabled me to enjoy each match more." (1); (it has improved...)"The way I look at performance goals and trying to improve them, which will lead to overall performance in a match. The match reports help me to look at the match as a whole and pick out those areas that I need to work on." (2); "It has helped me think about my tennis more, and my mental attitude towards the game has improved." (3).

The subjects were then asked that if they felt that the content of the project and tasks had contributed to their improvement and performance, could they comment on why they believed this to be the case. Subject 3 simply pointed out "I am thinking more positively about my game", whilst Subject 2 stated: "Concentrating on certain areas of my game (performance goals) has helped reduce pressure from certain matches. I know this because when I do concentrate on these areas it works!" Subject 1, however, was amazingly comprehensive in her answer. These words in fact made the researcher extremely proud of this player's efforts:

"The 'Competitive Performance' sheets made me actually think about what I was aiming to achieve during the match (& even in between points). The review and score sheet evaluated my performance and made it clear to me what I needed to work on and what my 'next performance tasks' (trainers) should be. The 'Competitive Performance score' sheets made me strive to increase my scores and gave me extra initiative to perform



well. The 'hit' sheets made me think 'Is this exercise useful? What is it practicing?' etc and therefore each hit was guaranteed to be purposeful and not wild and uncontrolled. I found that reading through the 'lesson' sheets occasionally made me remember specific tips - mental, tactical, physical or technical that I would have otherwise forgotten. Although I did not always remember to complete a 'physical training' sheet when appropriate, it made me realise that certain exercises help certain aspects of your physical capability."

The focus of the questionnaire then shifted to the player's perceptions of the role played by their parents, individual coach and the outside educator in the project. In terms of parents, two subjects felt that their parents made a valuable contribution with responses of '7' and '6' with '7' representing the anchor of "very much so". However, subject 1 responded with '4', elaborating that although her mother helped her to evaluate matches, she could not chart many matches due to work. All three players felt that the support they received from parents was positive to their improvement with scores of '5', '6' & '7' respectively. Each elaborated on the ways that parents had been supportive:

"I found that my parents could help me by giving their opinions from their point of view. Although we often discussed my matches, whether I won or lost, I never felt that I had to sit through a post mortem, and therefore all feedback they gave me was useful." (1);

"Whereas they have always supported me and have been positive about my game in the past, we have been able to talk more easily and even more positively after the match." (2)

"They have discussed more positively about my progress, and before and after matches. My parents were charting my matches which helped me write about the flow of the match in my match report." (3)

All three subjects then indicated that their relationship with their parents in terms of their tennis and their parents understanding of their game had improved. When asked how and why it had changed, each replied:

"I just feel that they have become more knowledgeable about the game from my point of view and have become more aware of how I feel before and after matches, especially as neither of them played competitive tennis when they were younger." (1)

"We can talk more easily after I have played, and also what they have said is more constructive because they now also have a focus and they know mine." (2)

"They understand more about my performance in a match, instead of the winning." (3)

Finally, all three players signified that they had benefitted from their parents being part of the project ('5', '7' & '6') and subjects 2 and 3 felt that their parents had also benefitted maximally from the project with two maximum '7' scores. However, subject 1



felt that her parents had benefitted moderately ('4') due to the lack of time they were able to give.

Moving to perceptions of the individual coach, each felt that their coach had contributed to the project in differing amounts ('5', '7' & '4') but all reported that their support over the past three months had been positive to their improvement with scores of '5', '7' and '7' respectively. When asked how the coach had been supportive, each stated:

"She has made an effort to explain why the practices have been useful and has made competitive comments which I have written down and learned from." (1)

"We have talked and discussed more about each lesson and match and I have been able to contribute more to these lesson plans and discussions than I used to." (2)

"He involves me more in the lessons, and asks me what I need help on, instead of him telling me what to practice." (3)

Only one player (Subject 2) felt that their relationship had changed with their coach as a result of the project, she stated: "He has always understood my game, but I feel that I have a greater awareness and input into my game now." Responses of '5', '7' and '6', however, suggested that all of the players had benefitted from the coach being part of the project.

Lastly, with respect to the outside educator, all of the players believed that he had made a valuable contribution to the project ('6', '7' & '7') and that his support had been positive to their improvement as a player ('7', '7' & '6'). In elucidating how he had been supportive, each player noted:

"He has explained each aspect of the project to me so I had a full understanding of what I was expected to do. He made me think about my performance much more as opposed to just winning the match." (1)

"He is consistent in his attitude and he's watched some of my matches and shown how the triangle can work." (2); "The educator has followed my progress on the tasks that I have been doing." (3)

Each player considered that their relationship with the outside educator, whom they did not know well prior to the project, had improved in terms of their tennis. They each specified:

"I understood what he required of me more once I knew him more. As a result, I became more motivated to fill in the appropriate sheets and ensure that I was prepared for matches." (1); "I can talk to him more easily and with more awareness as a result of the project." (2); "He understands my needs for tennis to improve my level of performance." (3).

Each player deemed that they had benefitted maximally from the outside educator being part of the project with three scores of '7'. They also thought that other players receiving help from educators like myself would be a good idea. All three players elaborated on why they thought this to be the case:

"I have learnt a whole new aspect of the game of tennis and I have benefitted mentally which has helped my regular performances to improve. I think that players however would only benefit if they were very committed to the project and genuinely wanted to take part as I found there was quite a lot of work involved." (1)

"Although I feel that in my case, myself, my coach and parents have similar ideas, if a player, parent and coach all had different ideas, an educator could help them to work together." (2)

"People would understand the game of tennis more which would help their performance both mentally and physically." (3)

### **7.652 Social Validation - Subjects: Part 2.**

The second part of the social validation questionnaire was sealed in an envelope and only to be opened after Part 1 had been completed. This informed subjects of the direct purpose of the study and why they had been selected before progressing to a series of 'Yes/No' questions with open ended follow-ups. These questions were much more focused on the different types of achievement goal adopted and which aspects of the project had been most useful to them in this respect.

All of the players felt that the meaning and value that they placed on personal performance in matches had changed as a result of the project. Each player reported how they thought it had changed:

"Before, I assessed my performance based upon outcome and did not go 'on court' with any aims. I have changed because I have discovered the meaning of 'performance' and realised that the result alone is much less important." (1)

"Personal performance has always been important to me, but I now value it even more since the project has given me different areas of my game for which to set performance goals that I then assess afterwards. When this goes well, it gives a great sense of achievement and if it goes badly, it shows where I've gone wrong and what I need to work on." (2)

"I am thinking more about my personal performance and how it was good or bad, but I also like to win." (3)

All three players felt that the importance or meaning of winning tennis matches had changed as a result of the project. Subject 1 stated: "The importance has not changed much, but the meaning has. After matches, I do not judge my performance on the outcome, but on my performance. Putting in a good performance and winning would mean most to me." Subject 2 simply noted: "It's changed in that I value the way I've played even more than I did before." Subject 3 clarified: "I think that winning is important, but for you to win, you have to put in a good self-performance."

Each player noted that they were more performance-focused (on the self-challenge) during matches where they were expected and put under more pressure to win.



In response to the next question which asked what they did to ensure or show that they were focussing on the self-challenge and the importance of performance, each replied:

"All my actions and what I say are guided to help me improve my performance. I try to assess the situation after each point and think 'what is going right/wrong etc ?' instead of just thinking 'I have to win this match?' but not analysing my game." (1)

"I write down performance goals before the match and because I've written them down before the match, I then focus on them during the match. I can then assess them afterwards. During the match, it helps me concentrate on what I want to do instead of having doubts about what might happen." (2)

"I went on court thinking that it is important to win the match, but most importantly, that I had to put in a good self-challenge. Even if you don't win the match, but you perform well, then you should be satisfied with your tennis." (3)

The questionnaire then reminded the subjects of the three match situations and opponents about which they had been asked pre-match questions. Three questions were asked about the validity of the covert simulation procedures. All three players indicated that they were able to imagine themselves in the three competitive situations with equal responses of '6' on a 7 point scale anchored at '7' by "very much so". Each subject also felt that each match situation was very typical of 'pressure' situations that players face in competitive tennis ('6', '7' & '7'). Most importantly, each of the players confirmed that in relation to actually being involved in the situation, answering the questions whilst imagining the situation was sufficiently realistic. On a 7-point scale ranging from (1) "not at all realistic" to (7) "highly realistic", subjects responded with scores of '5', '6' and '5'.

Following these closed responses to the assessment situations, subjects were asked if they could comment on how their approach or attitude to those matches had changed as a result of the project. Each responded:

"My physical, technical, tactical and mental aspects of my game (i.e., my PERFORMANCE) became more important than winning the matches. The opposition does not now appear as a threat anymore, only as an exciting challenge." (1)

"I worked towards worrying less about the outcome and concentrated more on how I wanted to play the matches." (2)

"I answered the questions with more thought towards the self-challenge, instead of just the game challenge." (3)

The penultimate question asked players to select which tasks or information from the project had been most useful in developing a performance, self-challenge-based attitude. All three players selected the educational file on the Competitive Performance Mentality/RESISTANCE and the 'performance review' sheets. Subjects 1 and 2 additionally selected the Competitive Performance match reports, Competitive Performance scores, 'individual purposeful hit' sheets and the 'coaching session messages'



sheet. Finally, subject 2 also gained benefit from the parent match analysis and flow charts. Subjects 1 and 3 then elaborated on why they had chosen these elements in particular:

"Resistance was extremely helpful because before I was very much affected by the person I was playing, their rating, the tournament etc. The performance review sheet could be taken onto court and I really tried to follow my aims. Competitive match reports helped me self-analyse my match and give me ideas for the next matches. Personal scores made me strive to improve my score and therefore performance. The coaching and hit sheets were useful to me to read through at later dates and made me remember useful advice I would otherwise forget." (1)

"The performance review sheets were useful to me because they helped me see where I did well and what areas in my game I need practice on." (3)

Lastly, each subject was asked if anything was irrelevant or not particularly helpful in the project. Subject 1 made a notable point by saying:

"The player log book which recorded the number of r.e.s.i.s.t.a.n.c.e. comments was interesting because it proved that the majority of people are only interested if you won and what your score was (like me before) but otherwise it did not help me much."

Subject 2 reinforced subject 1's sentiments exactly:

"The player log book made its point, but it's not something that I could do consistently."

Subject 3 made some personal recommendations and suggestions:

"The Competitive Performance score sheet would be more helpful if all the components could be averaged over the three matches, not just the overall score. I feel that the coaching session messages sheet could have been designed better to make it easier to understand."

A closing question finally asked subjects if they had anything left to add about the study. Subject 1 added nothing, and subject 3 noted how he had found the project "very enjoyable and beneficial". However, this section closes with subject 2's comments.

"The tasks I've been carrying out in this study have become helpful and natural routines and they're ones I'm going to continue with."

### **7.653 Social Validation - Parents**

The questionnaire for parents was simply a single sheet with six questions - two closed questions with a 7-point Likert scale anchored in the same way as for the players and four open questions. The three sets of parents (1, 2 and 3) all felt that they had benefitted from the project with responses of '5', '7' and '6' respectively. However, although subject 2's and 3's parents felt that they had made very valuable contributions ('7' & '6'), subject 1's parents confirmed only a moderately valuable contribution with a score of '4'. Parents were then asked what they had learnt from being part of the project,



with the responses being as follows: "Knowing the right things to say to the player before and after matches, which we feel made a difference although we weren't able to analyse many of the matches." (1); "Understanding the mental behaviour prior to and during a match, and being able to help more positively when necessary." (3). However, the parents of subject 2 appeared to be the most affected and learned:

"Positive tennis values can be strengthened by giving them a measurable and definable structure within which to operate. Players helped to develop a structure can begin to take greater responsibility for their own game. Each player has the opportunity to achieve or improve on their own personal goals and doing this enhances a sense of self-respect which makes them stronger both as people and players."

This question was followed up by asking parents whether their relationship with their son/daughter had changed with respect to their tennis as a result of the project. Subject 1's parents stated, "we are much more involved in really supporting our daughter when we can and understanding what she goes through as a tennis player and how we have a positive role to play. Before our role was more practically supportive, but we are much more attentive now." Subject 3's parents confirmed, "our relationship hasn't changed dramatically apart from being able to understand more the mental preparation needed for a tennis match and to talk to our son more positively." However, once again subject 2's parents document how things have changed in a vivid manner:

"We work with more consensus because there is a framework within which we come together to talk about tennis. We feel that as parents, we know more clearly what we can usefully do, and also what we can't. The areas that seemed to be sensitive for a player to talk about, seem to be much easier and can be talked about more openly. Even if we can't exactly define our roles, our roles seem to be evolving more clearly and in a way that we all feel more comfortable with."

The penultimate question asked parents to identify aspects of the project which were most relevant to their role as tennis parents. Each replied in the following way:

"The examples of the right statements to make and questions to ask in different situations was very helpful to us. It allowed us to discuss matches much more constructively with our daughter." (1)

"If we've understood what you're asking here, we found all these aspects relevant as part of the whole!" (2)

"The match analysis system - because we were able to see clearly the match performance. This in turn showed a clear picture of our son's match for him to follow." (3)

The final question required parents to note any aspects of the project which were irrelevant or which could be improved. Only the parents of subject 3 made a comment, as they constructively stated, "the graphs and charting matches show a clear pattern of performance, but we know that you could have showed us more difficult methods. In the

future, you could introduce even more sophisticated and useful match analysis methods to parents if they have learnt the basics."

#### **7.654 Social Validation - Coaches**

The questionnaire for coaches was simply a single sheet with five questions, four of which possessed the similar Likert scale response format and anchors to the questions asked of players and parents. Subject 1 and subject 3's coaches felt that they had moderately benefitted from the project with responses of '4', whereas the coach to subject 2 felt the maximum benefit reflected by his response value of '7'. Exactly the same pattern of scores were repeated when coaches were asked whether the 'motivational lesson' structure had helped them to create the appropriate performance-related lesson. Subject 3's coach added, "the structure has potential and it worked best when we saw each other on a more regular basis after tournaments. It wasn't easy during July and August." All coaches felt that they were moderately successful ('4', '6' & '5') in conveying messages from the four performance factors which the player could write down. They also believed that the players attitude, understanding of the game and overall performance had improved. Each coach responded with '6', '7' and '5' respectively and then clarified what improvements had been noticed:

"Improvements tended to be in the area of matchplay. Over the period of the project, I had fairly few individual lessons with her, so it was difficult to build any continuity. She seemed to benefit more from sessions with you (Chris) particularly regarding preparation and post-match evaluations." (1)

"Better direction and planning of practices. Focus of attention between points has also improved but has some way to go." (2)

The comments made by the coach to subject 3 are highlighted in a typed summary sent to the researcher and inserted overleaf. The final question asked coaches whether they had found any aspects of the project irrelevant or if anything could be improved. Subject 1 's coach stated, "it may have been more valuable over the winter period from the coaches point of view to develop continuity." Lastly, subject 2's coach asserted, "there was quite a lot of material to deal with when seeing a player only one and half hours per week. However, for a squad player, the elements are very beneficial when there is a more time to sit down, talk and plan. Having said that the exercises have helped both myself and my pupil."



TO -- CHRIS HARWOOD

FROM - BRENT HOROBIN

RE - DEVELOPING POTENTIAL PROJECT.  
PUPIL - JASON ROBERTS

With regard to the motivational project and pupil Jason Roberts I believe that he as in fact improved his overall attitude and in particular his mental approach to his tennis during the period covered by your project.

The performance review sheets and other information regarding performance scores, physical log sheets and match preparation have all helped to assist Jason.

His approach to matchplay as improved dramatically over the past few months and he is now more aware of the rewards relating to the performances he sets himself rather than that of winning being the only success criteria.

As you are probably aware Jason was going through a bad spell prior to and during your project, which in no small way was the result of peer pressure and the reluctance of senior members of the Boys U-18 to accept Jason as a member of the squad. This was not simply Jason being singled out because other members of the squad were also regarded as outsiders or no hoppers in the view of certain individuals.

Jason of course is quite a gentle character off court and was not in my opinion able to cope with this type of treatment in the early stages but I am delighted to say that with your project support and my constant encouragement he appears to have weathered the storm to such an extent that his County mid week performances have improved substantially and this as in turn earned him praise from boys who had previously been reluctant to accept him.

From my own point of view I feel that as with many new ideas that we are offered I will have gained a little more knowledge and will use certain ideas you have suggested with pupils in the future.

One of the difficulties of course with this type of project is that the period we worked through was very spasmodic with regard to seeing the pupil who was quite often not available for lessons due to tournament play which I believe to be invaluable to a players overall development.

Whilst Paula and I both try to be flexible with our promising juniors with regard to lessons during tournament periods it is not always possible to rearrange lessons due to other coaching commitments and a necessity to earn a living.

Please do not hesitate to contact me if you require any further information.

Hope to see you in the not to distant future,  
GOOD LUCK FOR WINTER SINGLES



Brent Horobin

## 7.66 Follow-Up Assessment

In order to assess the retention effects of the intervention treatment, follow-up measures were taken six months after the post-test assessment phase. The 'last round of qualifying for nationals' context was chosen at random as the single match situation in which covert modeling was applied by each subject. Having completed the PCQ battery, the players' pre-match responses in this particular context were compared with their post-intervention responses six months earlier. Table 7.44 presents a brief summary of the motivational responses and competitive cognitions of each subject.

**Table 7.44 Summary of Pre-Match Responses to Follow-Up Assessment**

	Task Involvement (SSTPQ)	Locus of Goal Involvement	Proportion Perf. vs Outcome	Challenge/ Threat	Perceptions of Ability
Subject 1	8.37 (7.90)	1. PE (PE) 2. PT (PT) 3. SAE (SAE) 4. SAT (SAT)	W- 30 (40) Te- 17.5 (15) Ta- 17.5 (15) Ph- 17.5 (15) Me-17.5 (15)	C = 9 (9) T = 5 (3)	17 (18)
Subject 2	7.08 (7.14)	1. PT (PT) 2. PE (PE) 3. SAT (SAT) 4. SAE (SAE)	W- 20 (20) Te- 20 (20) Ta- 20 (20) Ph- 20 (20) Me-20 (20)	C = 8 (8) T = 6 (6)	17 (16)
Subject 3	8.48 (7.63)	1. PT (PT) 2. PE (PE) 3. SAT (SAE) 4. SAE (SAT)	W- 30 (30) Te- 20 (20) Ta- 10 (15) Ph- 10 (20) Me-30 (15)	C = 6 (7) T = 8 (7)	16 (17)

**KEY:** PE (Personal Ego); PT (Personal Task)  
SAE (Social Approval Ego); SAT (Social Approval Task) ranked in order of importance

W= Winning; Te = Technical ; Ta = Tactical ; Ph = Physical; Me = Mental

C= Challenge; T= Threat. Previous responses to this context enclosed in brackets.

As the Table illustrates, all subjects reported a very similar, but generally more positive profile of responses to the same situation six months later. Subject 1's locus of goal involvement ranks were identical; the proportion of importance that she gave to performance factors and outcome favoured a slight increase in the relevance of performance; and, there was a negligible decrease in perceptions of ability. More notably, however, this subject's task-involved focus on the sub-components of performance appeared to marginally increase. Finally, her perceptions of challenge remained unchanged at a high level, although her perceptions of threat did increase



slightly to a moderate level. Subject 2's profile was virtually identical in terms of all PCQ responses. Finally, subject 3 reported a more considerable increase in practical task involvement, along with a locus of goal involvement which depicted how social approval ego involvement had decreased. This subject's proportional focus showed no major differences apart from a much greater level of importance placed on mental performance. There was a marginal decrease in perceptions of ability which may relate to how subject 3 was the only player to view their match and opponent as slightly more threatening than challenging. In the post-intervention reassessment, levels of threat and challenge had been at the same moderately high level.

## **7.7 DISCUSSION**

The previous study in this thesis uncovered the motivational criteria which appeared to influence the pre-competition achievement goal perspectives of seventeen elite junior tennis players. These findings provided both important and substantial practical implications for intervention research with players whose achievement goal profiles, at the dispositional and situational level, could be more adaptive in achievement terms. The present study, therefore, attempted to translate and actionise this information in order to examine whether the achievement goal perspectives held by young performers could be changed via a carefully structured intervention. The study was operationalised by implementing an intervention programme which consisted not only of educational, strategy and skill-based exercises for players, but also a restructuring of the beliefs, values, practices and activities of significant others in the wider social environment. Four national junior tennis players were selected on a basis of their dispositional goal orientation profiles, and their improvable levels of pre-competition task and ego involvement when responding to ego-involving match situations. One of these players acted as a control subject who competed in the same period as the other players, but did not receive the intervention. This was to ensure that no non-intervention-based external factors influenced changes in achievement goals.

In view of the extensive findings of Study 2 there were a number of questions to investigate and several hypotheses to consider on a general level. Firstly, it was hypothesised that the intervention would facilitate increases in task involvement prior to matches which were ego-involving in contextual terms. Secondly, it was hypothesised that levels of personal, internally-directed ego involvement, prior to these matches, would be more prominent relative to social approval-directed ego involvement. Thirdly, it was hypothesised that the competitive cognitions of perceptions of ability, threat and challenge would be reported more positively prior to each match context. Lastly, although a general hypothesis was not set, a final purpose of the investigation was to examine the changes that may have occurred in dispositional goal orientations as a result of the intervention. All of these questions were investigated via a single subject,



multiple-baseline across subjects design. This incorporated the covert simulation of, and cognitive-motivational responses to, three typically ego-involving match contexts pre- and post-intervention.

With the central research question focused on the ability of an intervention programme to influence achievement goals, the investigation was generally a success on many levels and yielded a great deal of information on the efficacy of intervention components. Due to the multi-dimensional and extensive nature of the study, the discussion will progress through four clarified areas. Firstly, the study's findings will be discussed with respect to each specific hypothesis. This will include each subject's results supported via social validation data where appropriate. Secondly, the social validation responses will be discussed in greater depth with reference to players, parents and coaches. The strengths and limitations of the study will then be drawn out, prior to a series of concluding remarks about what the study has achieved.

#### **7.71 GENERAL HYPOTHESIS NO. 1: INCREASES IN TASK INVOLVEMENT**

The first general hypothesis denoted that players receiving the intervention would report higher levels of pre-competition task involvement following the intervention treatment. This was with specific reference to a series of match contexts adopted in the study which could be classed as important, potentially stressful and ego-involving confrontations. Self-reported task involvement in these situations was assessed by a number of distinct but interrelated methods. All of the measures were unique to this study but had been developed in line with the principles of achievement goal theory, existing measures, recent findings from this thesis and insights from educational psychology (e.g., Urdan & Maehr, 1995).

The first measure of task involvement, the SSTEPQ, investigated the strength of the subject's task-involved conception of ability from a highly pragmatic viewpoint. It assessed the degree to which subjects had any task-involved direction in what they were trying to self-referently achieve with respect to their personal skills in the match. It was proposed that a player could only be practically task-involved for a match if s/he reported that the key sub-components of personal performance were important to achieve, were assessed at some stage, and had meaning in achievement terms relative to other factors. The results from this questionnaire supported the primary hypothesis in a manner which would be of great interest to coaches working on the skills of players in the four performance factors. All three subjects showed increases in their composite task involvement scores across all three important situations. In association with general increases in the importance and meaning of achievement given to sub-component skills, it was the element of assessment which unequivocally exhibited the most notable improvements. This result corresponds with social validation comments made by players about the increased focus on assessing performance. Additionally, different subjects



reported increases in task involvement in different performance factors. Subject 1 increased in all factors apart from technical task involvement in one match situation which was already very high. Subject 2 improved most ostensibly in physical and tactical task involvement which were low prior to the intervention. Subject 3 maintained high levels of technical task involvement, but increased in physical, tactical and particularly, mental terms. These findings are of interest considering that specific performance factors of weakness were not targeted as part of the intervention. Each subject of their own accord appears to have recognised the value of each performance factor and paid greater attention to those factors which were considered to be less important in the baseline phase. Moreover, negligible improvement was established within Subject 4, the control subject, whose composite task involvement remained moderate for each match context.

The second measure of pre-competition task goals, the LGIQ, assessed two forms of task involvement related to whether mastery, progress and improvement-type goals were adopted for personal achievement (personal) or impression management (social approval) purposes. Similar forms of ego involvement were also assessed, with players having to judge the importance of achieving each goal and ranking them in order of importance accordingly for each upcoming match. This would establish the locus or location of goal involvement in terms of the relative salience of personal versus social approval goals and ego versus task goals for that match context. Subject 1 and subject 3 showed marked increases in their personal task involvement levels to a point where personal task goals were consistently second or highest ranked across each situation respectively. Subject 3's personal task score indeed doubled from the baseline phase which coincides with his remarks about focussing on the "self-challenge" much more. Subject 2 commenced the study with high personal task involvement which consolidated its position as the prevailing goal state with a slight mean increase across matches. Baseline responses to the LGIQ and SSTPQ suggested that this subject had high potential to be task-involved but lacked the ability or knowledge to practically apply task-involved principles as indicated by her modest responses on the SSTPQ. Her improvements following the intervention, supported by her social validation responses, confirm the value that she places on different areas of her game, performance goals, and the need to assess the quality of her play. Subject 4 rated personal task goals to be of secondary importance to personal ego goals, but more important than social approval goals in general. This pattern did not change throughout the intervention period, supporting the effects of the intervention for active subjects.

In summary, hypothesis no. 1 was well supported. Important, ego-involving match contexts had been purposefully chosen to test out the degree to which task involvement would be activated in situations where winning would be a valued achievement. In their own individual manners, players responded to these match circumstances, post-intervention, in a way which showed greater attention and value



placed on the importance and achievement of skills within their own game. From a coach's perspective, if there is evidence that players can remain highly focused on the importance of self-referent achievement in such situations, then opportunities for self-referent and normative satisfaction, as well as personal skill development, are maximised.

#### **7.72 GENERAL HYPOTHESIS NO. 2: LEVEL AND DIRECTION OF EGO INVOLVEMENT**

The second general hypothesis stated that players taking part in the intervention would report more prominent levels of personal, internally-directed ego involvement relative to social approval, externally-directed ego involvement following the intervention. Given the recent research that has endorsed high levels of task and ego involvement in combination (Fox et al., 1994; Roberts et al., 1996), it was important to raise task involvement, but also to ensure that ego involvement was sustained in its most adaptive form possible. Insights gained from Study 2 suggested the motivational benefits of being normatively competitive for internal, personal reasons as opposed to self-presentational purposes. The 'Competitive Performance' philosophy of meeting self-challenge and game challenge was intentionally devised in order to increase task involvement and to condition players into believing that winning was important for personal reasons only. Furthermore, use of RESISTANCE and the reinforcement of a task-involving 'significant other' climate functioned to quell the importance that players placed on social approval-based reasons for winning.

Following the intervention, all three subjects displayed significantly improved goal involvement profiles when considering changes to the nature of their ego involvement responses in the three simulated match contexts. Subject 1 and subject 3 both reported high personal ego and social approval ego involvement prior to the intervention. However, following the treatment phase, the emphasis on social approval ego goals had decreased dramatically, whilst personal ego involvement maintained its prominence with a top two ranking alongside personal task goals. Subject 2's pre-intervention goal profile showed how personal ego goals were already more important than social approval ego goals for each match. However, by the end of the intervention period, this subject's level of social approval ego involvement was virtually non-existent, whereas the salience of achieving personal ego goals was still very much in evidence. An important observation can be made here in that during the baseline phase, two out of the three subjects were higher in both forms of ego involvement than task involvement, whereas after the intervention all three subjects were higher in personal goal involvement as opposed to social approval goal involvement. In other words, players appear to have increased their attention on personal loci of achievement, devalued social approval ego involvement and left a more distinct rift between the relative importance of personal and social goals. It is also worth clarifying that in the case of subjects 1 and 2, the value placed on social approval task versus ego goals was reversed between assessment



periods. Despite being of lesser importance compared to personal task and ego goals, social approval task goals were favoured above social approval ego goals in general. This not only reinforces the level of reduction that has occurred in social approval ego involvement, but also suggests that the intervention has provoked some mild social approval effects of a positive nature. These effects may have occurred due to RESISTANCE or, more ostensibly, to the task-involving *choice points* (Ames, 1992) adopted by parents and coaches when they used the spoken word and presented their achievement beliefs to the player. Intuitively, an overall locus of goal involvement comprising personal task and personal ego goals, underpinned by a weaker focus on demonstrating effort and mastery to other people, might be highly adaptive from an achievement standpoint.

In summary, the goal of developing the potential to activate a more positive form of ego involvement may have seemed adventurous at the outset. However, given the nature of tennis, it was important to maintain the importance of overcoming an opponent within the goal belief structure of the player. It was believed that the major problems associated with ego involvement could be arrested firstly, if it was activated with the support partner of high task involvement; and secondly, if players focused on overcoming opponents for themselves, as opposed to reasons associated with favourable social approval. Post-intervention responses to the LGIQ suggested that players did value the importance of demonstrating superior ability, but much less for self-presentational purposes. Considering the findings for task involvement, the resultant effect of the intervention was a three match series of goal involvement profiles which matched the focus of the intervention - a profile reflecting a Competitive Performance Mentality.

### **7.73 THE PROPORTIONAL FOCUS TO PERFORMANCE AND OUTCOME**

A final and indirect test of subjects' levels of task and ego involvement were the proportions of importance that they gave to winning and each of the four performance factors in each of the three matches. Prior to intervention, all three subjects for all three matches rated winning as by far the most important single factor, although one might suggest that performance was also highly valued when each factor score was combined. Following the intervention, however, two noticeable changes had occurred. Firstly, the importance placed on winning had generally decreased, and secondly, the proportions of importance attributed to each performance factor had begun to equal out. Subjects 1 and 2 reported how winning was equally as important as each performance factor for some of these matches. Furthermore, subjects 1 and 3, who apportioned high levels of importance to technical performance and physical performance (subject 3 only) prior to intervention, reported increases in the importance of the other performance factors when responding to similar match situations four months later. The finding for subject 1 matches her thoughts about why she was selected (i.e., too much emphasis on technical areas).



Furthermore, when asked questions about how she responded to these matches post-intervention, she asserted the importance placed on mental, tactical, physical and technical aspects of her game. It is important to note that the control subject reported an unchanged bias towards winning in each match situation and maintained her focus on the importance of technical and mental performance.

Although these findings do not relate directly to the conceptual foundation of task and ego involvement, they do emphasise shifts in value and the greater appreciation and understanding of the skills required to achieve in high pressure situations. In the final analysis, each player appears to have learned to value winning, but also to merit equally the interdependent roles of each performance element in matches which may be viewed as particularly stressful. In corroborating findings from the previous hypotheses, these responses suggest that subjects are capable of activating a more positive goal involvement profile for matches in which many young players might overemphasise the importance of winning at the expense of performance.

#### **7.74 GENERAL HYPOTHESIS NO. 3: POSITIVE COMPETITIVE COGNITIONS**

The third general hypothesis suggested that players would demonstrate more functional and positive cognitions with regard to pre-competition perceptions of ability, threat and challenge following the intervention.

##### **7.741 Perceptions of Ability**

In terms of perceptions of ability, all three subjects had reported moderately high pre-competition expectations of winning each of the three matches prior to intervention. When re-assessed, however, each responded with higher combined scores on their pre-competition perceptions of normative ability. Subject 1 displayed an increase from sixty to ninety percent in the confidence that she placed in her performance skills overcoming each of the three opponents. Subjects 2 and 3 both exhibited either ten or twenty percent increases in their confidence levels for each match. This pattern did not apply to the control subject who possessed similar baseline perceptions of ability to the other three subjects that had not altered significantly four months later.

It must be acknowledged that many factors could be responsible for facilitating increases in self-confidence over the three month intervention period. For example, one could not control for the 'performance accomplishments' (Bandura, 1977) of each subject during the summer. The findings do support the view that if one can augment the value and focus placed on achievement in the components of personal performance, then self-efficacy about personal performance may lead to greater self-confidence about the outcome. Given the positive social validation comments regarding the improvements in performance, one might support the notion that the intervention affected normative self-



confidence either directly via its own content or indirectly via its effect on performance. Within a Competitive Performance philosophy, if performance was improving whilst players maintained valued attention on meeting the self-challenge, then there would be gradual increases in the players confidence of meeting the game challenge.

#### **7.742 Perceptions of Threat and Challenge**

One of the most notable cognitive changes documented by the study was the appraisal made by players of the degree to which the match and opponent they were about to face were a threat or an enjoyable challenge. No practically significant and consistent changes were exhibited by Subject 3 or the control subject. However, subjects 1 and 2 appraised each match in a different manner following the intervention. Subject 2 experienced greater threat than challenge in two of the three match situations, with equal levels of threat and challenge in the remaining case. Re-assessment of these cognitions in the same match contexts revealed increases in perceptions of challenge, and slight reductions in perceived threat. In each situation following the intervention, this subject appraised each match as more challenging than threatening. Subject 1 exhibited a similar pattern of changes, but her reversal of perceptions was much more distinct and substantial. Prior to the intervention, almost maximum threat was perceived in each match, with lower perceptions of challenge in two out of three match situations. After the intervention, however, almost maximum challenge was perceived for each match with substantial reductions in her perceptions of threat. These results are validated by the subject herself who, when asked about her attitude towards these matches, stated, "the opposition does not now appear as a threat anymore, only as an exciting challenge."

In summary, although the hypothesis was supported for only two out of the three players, it would be of interest for future research to investigate more closely the relationships between goal involvement, cognitive appraisal (Lazarus & Folkman, 1984) and perceptions of ability. In this study, it appears that increases in task involvement and perceptions of ability, alongside active levels of personal ego involvement, relate to matches being cognitively appraised as both high in challenge and lower in threat. Although it is not possible to specify which elements of the intervention led to these positive cognitions, the philosophy of self-challenge and game challenge within the 'Competitive Performance' framework may have contributed to the effect.

#### **7.75 DISPOSITIONAL GOAL ORIENTATION**

A final sub-purpose of the study had been to examine the changes that had taken place in the goal orientation profiles of the players. In view of the length of the study and the fact that a more general 'tennis' goal orientation was being measured by the TEOSQ and POSQ, as opposed to a match-specific goal orientation, no general hypotheses were put forward. A further reason for this was the differing goal profiles of individual



subjects at the start of the intervention. It was therefore more pertinent to look at individual differences as opposed to general trends. In the final analysis, the three treatment players reported high levels of task orientation and moderate to moderately high levels of ego orientation with respect to assessments made by both the TEOSQ and POSQ. In general terms, task orientation levels were either increased or maximised, whilst ego orientation was either maintained at a moderate level or reduced from a high level. The control subject showed little variation pre- and post-intervention. Considering the most recent literature on achievement goal profiles (Fox et al., 1994; Roberts et al., 1996), these profiles suggest a healthy 'trait' of affairs. However, there were some inconsistencies to note between the two instruments on the process of change that occurred to yield these goal profiles. Although changes in the goal profile for subject 3, pre- and post-intervention, was consistent for both instruments, the process of changes in task and ego orientation for subjects 1 and 2 was reported in a slightly different manner by each measure. Both the TEOSQ and the POSQ are validated measures of achievement goal orientation with an almost identical assessment format. One can only speculate on the reasons for these differences. On looking at the item constitution of each more closely, both task and ego subscales contain similar items. However, the POSQ items possibly have a greater relevance to competition, whereas the TEOSQ items have a bias towards learning and training contexts.

Although one might have expected individual increases in task orientation (where it was low), a hypothesis for ego orientation was difficult to set given the importance that this study had placed on investigating multiple forms of ego involvement. Apart from one single item on the POSQ's ego subscale (i.e., I show other people I am the best), there was no means of measuring the dimension of social approval ego orientation. The LGIQ comprised a distinct set of competition-specific items and adopted a system of ranking which could perhaps have been translated to a Locus of Goal Orientation measure. In this respect, hypotheses for multiple forms of goal orientation may have been set. As it was, the TEOSQ and POSQ ego subscales measured a unidimensional as opposed to multidimensional form of ego orientation. Consequently, from the multidimensional viewpoint which the author and the intervention took, it was difficult to predict the effects of the intervention on a unidimensional measure.

To summarise these points, there is certainly scope to suggest that the intervention affected goal orientation profiles in a positive manner. Despite this observation, however, there is much for future research to consider. Firstly, that should competition-specific measures of goal orientation be validated, they should be utilised to assess the effects of a competition-related intervention. From a coach's perspective, it is useful to know a player's sport goal orientation, but it is more useful to know their achievement-related tendencies and motivational responses for specific competition contexts. Secondly, in accordance with the latter point, the multidimensionality of task and ego



orientation should be investigated more rigorously. Finally, despite basing this point of interest on an extremely small sample size, researchers should possibly look into comparing the TEOSQ and the POSQ, as measures of the same achievement goals, more closely.

## **7.76 SOCIAL VALIDATION**

Greenspan and Feltz (1989) recommend the collection of social validation data and this proved to be an important strength in emphasizing the clinical and practical significance of the findings (Hrycaiko & Martin, 1996). Moreover, being one of the first studies to date which has comprehensively attempted to effect social cognitive change in a competitive context, some of the insights gained from players, parents and coaches about their experience of the programme are revealing. The internal reliability, validity and objectivity of the investigation was strengthened by the responses of the Competitive Performance triangle to their social validation questionnaires.

### **7.761 The Internal Experiences of the Players**

The subjects did not know the true purpose of the study and had differing opinions as to why they had been asked to participate. However, all players committed to the project and its tasks, and each player argued that their performances had improved significantly over this period. Although structured performance and outcome data was not collected, comments made by each of their individual coaches supported that improvements had taken place. Subject 2 noted that her performance had improved due to a better attitude, but that she was unsure whether it was her attitude or a combination of her attitude and the attitude of her coach towards her. Most importantly, however, each subject emphasised the benefits of the performance segmenting tasks completed in increasing the value that they placed on personal performance and performance goals. This led to more process-focused as opposed to merely outcome-focused attentional states. Overall, the players comments about the tasks that they completed within a Competitive Performance educational framework appeared to thoroughly validate their responses to the Pre-Competition Questionnaire battery.

With respect to the impact of parents and coaches on the players' achievement cognitions, a consistent response from the three players was the improved communication and functional working relationship with parents in terms of their tennis. It might be argued that the greatest gains in the development of an optimal achievement goal profile come when there is a framework in place for both the player and significant others to sit down and openly discuss personal performance with the same belief and value structures. For two of the three players, match analysis charts promoted discussion and allowed players to learn from the competitive experience. The players' perceptions of coaches seemed to revolve around increased ownership of lessons, more fruitful discussion and



greater explanation of skills. All of these factors support the existence of a positive motivational climate where, from a player's perspective, a triangle of individuals had started to develop coherent belief structures and a framework from which the development of personal potential might be maximised.

### **7.762 The Internal Experiences of Parents**

The experiences of parents highlighted some of the strengths and weaknesses of the study. In general, parents played a more active role in the project and benefitted a great deal from 'getting their hands dirty' by charting matches and watching their language. Nevertheless, it was the increased proactive support to their child facilitated by an improving ability and structure in which to discuss matches which enthused the majority of parents. Subject 2's parents articulated their experiences of the project in a way which illuminated the extent to which a few simple educational sessions and a 'hands on' analysis technique can break down barriers of communication. These barriers typify the 'non-player' parent/player relationship which is common in tennis, but which were overcome as a result of intervention. One set of parents struggled to fulfill the entire project requirements due to time, and this indeed was a weakness of the study. Subject 2's and 3's parents were also the exception as opposed to the rule, as the majority of parents have very little time to watch matches over a consistent period. Future investigations may benefit from being more realistic as opposed to idealistic in the development of the intervention protocol.

### **7.763 The Internal Experiences of the Individual Coach**

The individual coach's role was much more in the background and their social validation responses suggested that, whilst they had noticed improvements in the players attitude, understanding of the game, and performance, some had not seen the player enough overall. All three coaches reported moderate to high degrees of benefit from their participation and felt that the motivational lesson structure was at least moderately successful in conveying task-involving messages. However, lack of continuity was a troublesome factor which was inevitable given that players entered the volatile competition phase first and benefitted from a more stable lesson programme later. This could not be avoided in view of researcher resources. Nevertheless, there can be little argument with the coach to subject 1's comment that the investigation may have been more valuably executed over a winter period. In an ideal situation, the coach would play a much more intensive role in the psychological development of the player. However, their less intense contribution stemmed from the increasingly evident problem of coaches seeing players train but not compete due to financial implications. It would be interesting to conduct a similar study with coaches who were attached to players on a more full time basis.



### **7.764 The Purpose and Impact of the Outside Educator**

In view of the lack of coaching support at tournaments, the role of a knowledgeable outside educator was useful. However, this was not his main purpose of existence. The outside educator's role was dynamic in its attempt to consistently maximise the availability of task-involving antecedents, whilst preventing or extinguishing those factors, properties or perceptions which connoted negatively high levels or forms of ego involvement. From Study 2's general dimensions, environmental restructuring with coaches and parents together with the performance-based strategies and tasks for players certainly actionised a significant proportion of "Motivational climate conveyed by significant others" and "Cognitive-developmental skills and experiences." However, there were many other negative effects that could transpire from "Structural and social nature of the game" and "Match context". The outside educator operated as both a teacher, role model and co-ordinator of activities throughout the intervention period. The gaps that were left by practical aspects of the intervention were treated through non-activity based educational sessions. RESISTANCE was the educator's method of arming and fortifying the player against the social and structural nature of tennis and the match contexts that it presents. Properties of these dimensions had the potential to cognitively distract the player from a task-involved conception of ability which would therefore compromise the effects of other aspects of the intervention. If the intervention was to be successful, no stone should be left unturned having gained detailed knowledge in Study 2 of the kinds of stones that needed turning!

The outside educator was reported to have had a very positive effect on all three players. Moreover, each player believed that other players should benefit from similar support structures provided by 'educators' in tennis. Future research should continue to explore the benefits that can be gained from being a participant observer (Burton, 1989), but also perhaps investigate the more practical and fundamental issue of employing outside educators of this nature to aid dysfunctional family units and 'at risk' children in real life competitive sport environments.

### **7.77 STUDY STRENGTHS**

Many of the study's strengths are rooted in the previous ten pages of text. The findings revealed that the intervention treatment prescribed to subjects was scientifically and clinically successful (Hrycaiko & Martin, 1996) in facilitating positive pre-competition states of goal involvement and other adaptive cognitions. Possible reasons for the success of the programme can be attributed to the study design that was developed, which accounted for a number of methodological weaknesses highlighted by Murphy (1990) in the intervention literature. The design adopted was an important strength, in that changes emerged in cognitions that may not have appeared as significant within a traditional nomothetic design. Researchers have previously been criticised for



not providing details of the intervention within their studies (Murphy, 1990). However, this study documented specific details of an intervention procedure that turned out to be particularly extensive.

Greenspan and Feltz (1989) proposed that intervention research should maximise its strength by conducting a follow-up assessment of the central measures. In this final study, in view of time and resources, a follow-up assessment of one single match context was conducted approximately six months following the last data collection. The pre-competition motivational responses to this situation suggested considerable retention effects amongst the three players. Indeed, a closer inspection of the data reveals both maintenance and improvement in levels of pre-match task involvement. These findings serve to strengthen the utility and effectiveness of the intervention programme, particularly as subjects had not received individual attention from the author since the termination of the study. Latimer and Sweet (1984) suggested that, in the field of psychotherapy, the efficacy of a treatment needs to be questioned if intervention effects are not retained for at least six months. This does not seem to apply here, and perhaps a contributory factor was the continued independent use of performance segmenting strategies such as performance goal setting, goal evaluation and match reporting. Each player affirmed an interest in continuing the tasks and, to the authors knowledge, individual coaches still supply each player with the relevant file sheets.

The most important strength of the study was undoubtedly its ability to put theory into practice in very broad circumstances. Considering how the intervention was received and the quality of the results, the procedures and techniques employed may be adopted by future research, practitioners, coaches and parents as examples of good practice when attempting to develop positive motivational attitudes.

## **7.78 STUDY LIMITATIONS**

Although the findings of the study were both encouraging and highly motivating for the researcher, a number of weaknesses were evident. Firstly, the failure of the study to collect pre-competition cognitive responses in 'in vivo' match contexts was a limitation. Even though subjects socially validated the covert simulation procedure to a large extent, the findings would have been more powerful if they had completed the questionnaires prior to the actual matches. As noted in the methodology, it would have been virtually impossible to create a stable baseline of patterned cognitive responses to situations with entirely uncontrollable properties. Furthermore, orchestrating exactly the same situations (Hersen & Barlow, 1976) for re-assessment purposes within a sport such as tennis was an even more demanding task given the lack of time and resources. There is no doubt, however, that with the availability of time to develop a stable of baseline and very careful targeting of specific match circumstances, pre- and post-intervention, a further study should look to explore 'in vivo' responses. The redeeming feature of the



method used in this study, however, was that the investigator had total control of match context properties and applied those which would test the players' motivational responses in an effectively ego-involving situation.

A further limitation of the study was its inability to collect data during the intervention phase. Although this is typical of many single subject designs (e.g., Hanton, 1996), it was not the purpose of this study to explore improving pre-competition cognitions before every type of match in which the player competed. The purpose was to allow changes to develop over a significant period of time and then, given a substantial intervention period, to re-examine how players responded to particular types of 'pressure' matches. The major difference between this study and other single-subject designs was that the intervention treatment was much longer prior to measures being taken. Nevertheless, measurements could have been taken during the intervention which would have indicated levels of improvement. The most valuable in this respect would perhaps have been the measurement of attributional style after matches. Reasons given for winning or losing, whatever the match context, would have indicated whether subjects were perhaps increasing their usage of internal stable and unstable attributions particularly after losing. This may have signified increases in the belief that achievement was dependent upon self-referent personal performance. In hindsight, a measure such as this should have been employed, but subjects already had a sufficient amount of work to do after matches.

It would have been useful to have gathered information on changes in parents and coaches goal orientations (Duda & Hom, 1993) as a result of the intervention. The study may also have benefitted from cross-referencing changes in pre-competition states of goal involvement to changes in the intensity and direction of pre-competition multi-dimensional anxiety (Jones, 1995). This may have helped explain some of the appraisal reversals with reference to perceptions of threat and challenge. Overall, time and the already complex nature of the study prevented these pieces of information from being collected. Nonetheless, future research may operationalise these ideas in subsequent goal perspective interventions.

One limitation of the study was the inability to employ an all male sample considering that the results of Study 2 were derived from seventeen male players. Knowledge of gender-specific antecedents may have made the study more personal to that gender and hopefully strengthened the intervention. However, the broad categories of antecedents in Study 2 would appear to make sense for competitive junior tennis players as a subculture, regardless of gender. In this respect, the investigator felt confident that applying such an intervention to females would not be invalid. The reasoning behind the selection of three females and one male was the lack of available players who showed debilitating goal profiles. Future studies may be able to gain access



to performers who do have a critical need for improvement in terms of their motivational attitude

A question that the study was not able to answer fully was the issue of which intervention component contributed most to the influence of pre-competition cognitions. Scientifically, it is difficult to tell and, holistically, one might argue that every piece of the intervention contributed in a coherent manner. Components analysis (e.g., Anderson et al., 1988) was not practical given the short duration of the intervention period. However, practically and clinically, if one refers closely to the comments made by players, the educational information (Competitive Performance philosophy; RESISTANCE) and the pre-and post-match tasks were component elements which they felt most improved their motivational attitude. However, that is not to say that parents and coaches proactively facilitated the process and were vital to the degrees of improvement.

A final limitation of the study was the inability to re-conduct the entire programme with the control subject and determine whether cognitive change could be effected in this individual. Time resources prevented this from occurring which does serve as a point of interest for applied psychologists working in this particular area of interest. The practitioner is faced with a multi-dimensional set of demands which do require time and attention to deal with effectively. Nevertheless, the control subject and her parents did receive a educational session following the study which served to highlight important areas for the player and parent to consider.

Lastly, there is the important issue of the Hawthorn effect, which is particularly relevant in single subject designs where participants are treated individually. This refers to subjects behaving differently, simply as a result of the attention that they receive in the investigation (Drew, 1976). It is most likely to occur when the subject's normal routines are disturbed. However, it decreases as subjects become accustomed to the new routines implemented in the treatment, a factor which renders the length of the study to be important (Hanton, 1996). In this study, subjects did receive a fair amount of attention earlier on. Nevertheless, the completion of pre- and post-match tasks, lesson sheets and purposeful hit sheets became an accustomed routine which was continued for a three month period over an intense phase of competition. It is also worth noting that the researcher was careful not to bias responses of subjects during the re-assessment phase. In this respect, with the subject having completed the covert simulation, the outside educator left the room and allowed the subject to answer the questions of his/her own accord. There is little doubt, however, that response biases may have been controlled more effectively if the experimenter and outside educator had been different people.



## 7.79 CONCLUSIONS

In summarising this extensive study, the findings provided compelling evidence that the intervention was successful when working with young performers in the real world of competitive sport. The study demonstrated that personal beliefs about achievement in competition can be modified in a way which targets an optimal achievement goal profile both in terms of goal involvement and goal orientation. Specifically, the study showed that it was possible to increase pre-competition levels of task involvement whilst ensuring or maintaining an adaptive form of ego involvement in which social approval was dissociated. Furthermore, the investigation emphasised the importance of understanding more assiduously the actual practical application and depth of a performer's reported task involvement. The study documented how performers improved on the importance, assessment and meaning that they gave to the achievement of personal sub-component tennis skills that comprised the achievement task. In this respect, increases in the pragmatic strength of task involvement were noticed. As a result of the intervention, the study helped a developing junior player to activate a state of mind which was highly task-involved, competitively ego-involved, highly self-confident, and more excited by the challenge, than the threat of the match. In high pressure circumstances, the coach or parent could not expect a better motivational approach to the match than this.

The intervention package and measurement tools were derived from previous research in this thesis. There is little doubt that establishing general principles from group designs, and investigating these using alternative qualitative methods of enquiry can generate very appropriate information for applied intervention research in sport psychology (Hanton, 1996). In this final study, we have seen how an integration of this information within a structured psychological programme can benefit a whole social unit in motivational terms.

# CHAPTER VIII

## *SUMMARY, DISCUSSION AND CONCLUSIONS*

### **8.1 INTRODUCTION**

The final chapter in this thesis is divided into three sections and is structured in the following way. The summary section revisits the aim of the thesis, the questions explored and the main findings for each of the three distinct studies. The discussion section firstly draws out the most salient issues within this particular area of achievement goal theory. It then focuses on the major practical implications of the research programme by presenting a proposed model of the antecedent process to goal involvement. This is immediately followed by an example intervention model depicting how theory-driven research can drive practical application. The strengths and limitations of the research process are documented prior to focusing on the possible directions to be taken by future research as a result of this study. Finally, a number of conclusions are presented, marking the completion of the thesis.

### **8.2 SUMMARY**

The central aim of the thesis was to conduct a detailed investigation into the pre-competition achievement goals of young sports performers. Using the theoretical tenets of achievement goal theory (Nicholls, 1984, 1989) as a backdrop, the studies applied an interactionist perspective in order to generate a clearer understanding of pre-competition goal involvement. Previous research adopting an achievement goal approach had tended to neglect the measurement of goal states which characterised performers in sporting contexts. This particularly applied to talented young competitors in actual competition situations. The thesis attempted to develop a greater understanding of these achievement goal states prior to competition on two progressive levels. The first level was represented by the two quantitative investigations comprising Study 1, and the qualitative material of Study 2. This level reflected the antecedents of pre-competition achievement goals and was focused on supplying new information about the factors upon which different achievement goals might be activated. The second level was represented by the final study which drew extensively from the antecedent information provided most notably by Study 2. This level reflected the attempt to modify or change pre-competition achievement cognitions by means of a multi-faceted intervention programme.

The issue of investigating goal involvement was critically important because achievement behaviours, including performance-related variables and performance itself,



can be directly influenced by the goal states occupying the attention of the performer at that moment in time. The typical research line had been to investigate goal orientation and its relationship with other motivational processes which were often general and not situation-specific. This thesis reflected a move towards the field-based end of research methodology where actual situations, performers and environments could receive detailed attention within the wider purpose of getting to grips with goal involvement. The following sub-sections provide a brief summary of each study and emphasise the rationale behind each investigation.

## **8.21 STUDY 1**

The stimulus for the first study came from the lack of research which had investigated the antecedents of pre-competition achievement goal states from an interactionist perspective. The measurement technology for goal involvement was almost non-existent, and few findings had been published on the antecedents of the different types of achievement goal. Goal orientation was typically viewed as the primary dispositional antecedent, whilst the contribution of the situation came rather narrowly in the form of the prevailing motivational climate. The antecedents of achievement goals reported by young sports performers prior to an actual competition had received little attention despite the fact that investigations of this sort could have far reaching practical implications. The purpose of Study 1, therefore, was to begin filling in the knowledge gap by exploring antecedents to pre-competition task and ego involvement in two distinct competition contexts. These contexts were selected by the extent to which they comprised diverse situational goal structures (Ames, 1984). The first context (Study 1A) mirrored an individualistic-focused goal structure which, although containing elements of direct competition, was characterised by individualistic properties to a much larger extent. The second context (Study 1B) reflected a competitive goal structure with a strong emphasis on normative social comparison and no individualised, self-referent feedback.

Study 1A examined 214 young competitive swimmers who completed the TEOSQ and three measures race goal orientation one month prior to their closed county championships. One hour prior to racing in their main event at this competition, they completed a Race Context Questionnaire (RCQ) which assessed the properties and perceptions of the competitive situation along with the swimmer's levels of task and ego involvement for that race. Regression analyses revealed that race goal orientation and several situational factors predicted pre-race task involvement, ego involvement and the overall or dominant state of involvement. Race task orientation was a strong predictor of race task involvement, suggesting a degree of strength in this race tendency which may have been facilitated by the self-referent nature of the existing context. Normative-based situational factors were the strongest contributors to race ego involvement, implying that



levels of ego involvement may be a function of variables which are linked to social comparison. The value of the race outcome emerged as precursor to both task and ego involvement, raising issues about the working relationship between the two goal states. However, the most powerful situational factor was the swimmers' perceptions of the achievement goal most desired by significant others to be achieved in the event. Not only did this factor correlate with the task and ego involved sub-states, but more importantly, it predicted the overall goal state where the relative levels of task and ego involvement were treated in combination. Two interaction effects on task involvement and the overall goal state emerged involving this latter variable. Most notably, these interactions revealed the power of possessing task-involved significant others and a high race task orientation.

Study 1B investigated 119 young competitive tennis players who completed the TEOSQ and three measures of match goal orientation one month prior to the National Junior Championships. One hour before their approximate match start time in the singles event, they completed the Match Context Questionnaire (MCQ) in which they reported their levels of match task and ego involvement, as well as their perceptions of and responses to certain situational characteristics. Results showed that although match goal orientation contributed to the prediction of match ego involvement and the overall goal state, situational factors played a much more substantial role. Again, perceptions of the match goal preferred by significant others were salient for task involvement, ego involvement and the overall goal state. However, an equally important finding was the prediction of pre-match task involvement by solely situational criteria. A value-related variable once again emerged as an antecedent to both task and ego involvement. However, task involvement was also predicted by a personal and social normative expectancy variable. This finding lay at odds with achievement goal theory where perceptions of ability, and certainly normative expectancy, should be unrelated to task involvement. The results for task and ego involvement suggested the possible influence of the competitive goal structure on increasing the salience of social comparison and the power of those situational variables associated with it. Consequently, the degree to which task involvement was an intrinsic goal in itself, as opposed to a state governed by external factors for the purpose of favourable social comparison, was an issue for debate.

The findings of Study 1 raised awareness of the merits of examining goal involvement by treating properties of the competitive situation with more respect. Some similar findings emerged from both contexts, bestowing the researcher with solid practical implications. Furthermore, the two investigations showed how performers reported being both task- and ego-involved as opposed to merely activating one state alone. However, differences in the prediction of task involvement implied that performers in individualistic and competitive goal structures may be experiencing two very contrasting qualitative states.



## 8.22 STUDY 2

The second study, reported in Chapter 6, examined the antecedents of pre-competition goal involvement in much greater depth. The study attempted to uncover the motivational criteria which influenced the development and activation of achievement goals within elite adolescent tennis players. The previous study had quantitatively reinforced the relevance of investigating dispositional tendencies and broad categories of situational factor. The rationale for this qualitative study was the lack of depth or detail behind these interactionist factors. In order to explore the question more fully, the substance behind the development of goal orientation and the properties of competitive situations needed greater attention.

Seventeen elite junior tennis players, with varying goal profiles selected from Study 1B, participated in a structured interview that progressed from their early experiences of the game until the present day. The interviews were transcribed verbatim and inductive content analyses proceeded to structure the data. Four general dimensions emerged from the results which together represented the numerous and complex set of factors behind the overall activation of task and ego involvement. These dimensions included: firstly, the players stage of cognitive development, the cognitive skills that they applied before and after matches, and their experiences of competition; secondly, the motivational climate conveyed by coaches, parents, peers and the LTA itself; thirdly, the structural nature of organised, competitive tennis and the social expectations and influences on the player as a result; and finally, the context of a specific match including the standard of the opponent and the nature, value and circumstances of the match itself.

These factors suggested that the development of task and ego goal orientation and the activation of pre-match task and ego involvement rested on a number of internal-experiential, externally-perceived and externally-imposed criteria. Some of these criteria reflected the general climate in which the player was developing on a macro-scale, others represented the situational criteria that were influential at specific tournaments on a more micro-level. An important question emanating from these findings related to whether pre-match task and ego involvement and goal orientation could be positively affected via an intervention programme based upon these players accounts.

## 8.23 STUDY 3

The final study reported in Chapter 7 examined the cognitive effects of a multimodal intervention programme on the achievement goals of four adolescent tennis players. The intervention, spread over a three month period of competition and training, was both social environmental and task-based in nature. It combined work with coaches and parents so that players' perceptions of the wider motivational climate might change. It involved education aimed at generating a positive approach to the nature of the game itself. Finally, it introduced a number of player activities and tasks which would alter



their perceptions of matches and develop valuable self-referent skills. The most important aim of the intervention was to increase levels of pre-match task involvement, whilst maintaining an adaptive focus on the importance of winning matches which were typically ego-involving in nature.

A single-subject multiple baseline across-subjects design was adopted with three subjects receiving the intervention treatment and the fourth acting as a no-treatment control. A series of measures were devised specifically for the study due to insights generated by Studies 1 and 2. These included: a questionnaire which assessed how task-involved a player was prior to a competitive match in practical terms; and, an instrument which examined the player's locus of pre-match goal involvement by assessing the relative levels of personal and social approval-based task and ego involvement. Baseline motivational responses were collected from the subjects having taken them through a covert simulation of three different match contexts which contained similar ego-involving properties. With a stable baseline established, the treatment was introduced to the three participating players, their parents and individual coach. Each aspect of the triangle received educational sessions prior to executing their own specific tasks. Parental tasks included monitoring their verbal behaviour, communicating more effectively with the player after matches in performance terminology, and increasing their functionality by charting performance in competition. Coach tasks involved monitoring verbal behaviour, creating a more self-referent performance-based lesson structure and content, and checking over the player's performance file. Player tasks could be structured within the term 'Competitive Performance' segmenting. This incorporated a series of pre- and post-match tasks designed to improve a player's focus on meeting self-referent goals, within an attitude which also recognised the importance of winning for purely personal, as opposed to social reasons. These tasks included the completion of a performance review sheet with the setting of specific match goals; the rating of achievement of each goal; a match report which logged important events, areas of personal strength and weakness, opponent skills and learning information; and finally, the calculation of an objective personal score which combined assessments of the quality of personal performance and competitiveness alongside points for winning against certain standard opponents.

Post-intervention assessments revealed no change in the control subject on any of the key dependent variables. However, results did show increases in practical pre-match task involvement for the intervention subjects. These were aligned with pre-match locus of goal involvement profiles which suggested increases in personal task involvement, the maintenance of personal ego involvement, and a decrease in social approval goals, particularly ego involvement. In addition, two of the subjects reported a complete and positive reversal in the degrees to which they perceived each match as a challenge or a threat. Finally, each treatment subject reported increases in their perceptions of confidence about winning each match.



Social validation data was collected following the post-treatment assessment, corroborating these findings to a large extent. Each player reported changes in the way that they approached matches and emphasised the usefulness of setting and self-referently evaluating performance goals, whilst maintaining a focus on being personally competitive. Feedback from parents and coaches substantiated ways in which the environment had changed for the player, changes which the players also reported themselves. Overall, these findings provided strong evidence that the intervention was successful and that pre-competition achievement goal states can be altered provided that the various antecedents of change are carefully incorporated in the programme. Facilitated by the previous studies, it was this final study which emphasised the important practical implications of simple triangular education, reprogramming the social environment, cognitive restructuring and developing performance management strategies such as Competitive Performance segmenting.

### **8.3 DISCUSSION**

This discussion endeavours to conceptually draw the findings from the four investigations together and is divided into four sub-sections: theoretical issues; practical implications; research strengths and limitations; and, critical issues for further research.

#### **8.31 THEORETICAL ISSUES**

The following section deals with the key theoretical issues emanating from the findings of this thesis with respect to pre-competition goal involvement. The section is comprised of two parts which discuss: the importance of the situation within the adoption of an interactionist perspective; and, issues related to the measurement of goal orientation and goal involvement constructs.

##### **8.311 The Interactionist Perspective and Influence of the Situation**

A major goal of the thesis was to test the validity of an interactionist perspective (Mischel, 1968) with regard to the prediction of pre-competition achievement goals. All four investigations in this thesis emphasised the importance of considering discrete situational variables and socialised dispositional goals with the utmost respect. A general weakness was perhaps the inability to present a clear profile of interactions within and between dispositional and situational factors. However, interaction effects did emerge in Study 1A, and the information gleaned from main effects, in addition to the qualitative insights of Study 2, reinforce the role of the socialised orientation and competition context.

Previous research had tended to accept that achievement goal theory possessed an interactionist foundation (Dweck & Leggett, 1988; Treasure & Roberts, 1995). Yet, only recently has research investigated the prediction of achievement-related behaviours and



motivational processes by employing disposition and situation as independent variables in the same study (e.g., Kavusannu & Roberts, 1996). Despite this progress: little research accounted for the active interaction of the two factors; motivational climate (situational goal structure) appeared to be the only situational variable; and, of most importance, few studies had attempted to measure goal involvement as the critical goal state upon which achievement-related processes may depend.

Building on the small amount of previous empirical research in this area, therefore, the findings of this thesis appear to be of significant conceptual importance. Until recently, it would simply have been enough to measure dispositional goal orientation and then be happy that if a performer had a high level of task orientation, that his/her behavioural pattern would be adaptive. The results of Studies 1 and 2 admonish this course of interpretation, a course which can be found within a number of studies which correlated task orientation with desirable achievement traits (e.g., Duda et al., 1995). The properties of the competitive situation, including the performer's perceptions of certain situational cues, form a type of micro-climate which is very capable of influencing a performer's perspectives on achievement. Perceived expectancy, value and the perceptions of significant others are examples of such contextual factors which are not too far removed from those presented in Maehr and Braskamp's (1986) taxonomy of situational influences on personal investment. The general dimension of 'match context' (and 'social and structural nature of the game') emanating from Study 2 further suggests that Study 1 merely scratched the surface with respect to the plethora of situational cues that could be of meaning to the young performer.

Within this debate, however, there is little doubt that the situational goal structure (Ames, 1986) of a sporting context plays a critical role in the salience of situational cues which can affect pre-competition goal states. Indeed, it may be worth investigating whether, for example, a competitive goal structure tends to increase ego involvement because its emphasis on social comparison activates a variety of normative situational cues such as personal and social expectancy. It may also raise an awareness of social evaluation and what significant others' beliefs are about achievement in that context. A public audience viewing a head-to-head contest in which only the winner is rewarded reinforces to the player that social evaluation will be outcome-based and achievement is about winning. The goal structure activates ego involvement via its own activation of relevant situational factors.

It will be important for future research to tease out the relationships between goal orientation, situational goal structure of the context and situational factors with respect to the ultimate state of goal involvement. As substantiated by Study 2, one might expect that repeated exposure to competition contexts governed by certain goal structures can have a profound effect on the development of goal orientation profiles for those contexts. For example, if a young tennis player is consistently subjected to a competitive goal



structure which activates ego involvement in a match context, then it would not seem surprising for a match ego orientation to develop as a result of the context in which the sport 'holds' its competitions. The counter argument for sports with more individualistic properties also applies and it is perhaps worth noting how swimmers and tennis players' goal orientation profiles were significantly different. Swimmers were higher in task-dominant goal orientation.

Research that has employed motivational climate as the only 'situational factor' is perhaps not as narrow as was argued earlier. Indeed, it is the measurement of motivational climate which may actually be the issue. The construct has been assessed in an almost trait-based fashion (Seifriz et al., 1992) where performers respond with their perceptions of a general situational goal structure that extends to the values and beliefs held by the coach and team. If one was to comprehensively assess perceptions of a specific competitive context, then the instrument would have to be completed by performers immediately prior to competition. It would have to contain items pertaining to reward and goal structure and other relevant situational cues which were responded to in the context of that specific competitive situation. This instrument would not be a measure of general motivational climate, it would measure perceptions of a competition context which included perceptions of the existing situational goal structure. The weakness of the current study is that it took situational goal structure for granted rather than measuring perceptions of the structure. There was, however, no existing measurement technology to do this.

Nicholls (1989) stipulated that individuals may experience both task and ego-involved goal states in an achievement situation. Studies 1A and 1B towed this orthogonal line whilst assessing which state was the more dominant of the two. The results of Study 1 showed how, despite contrasting goal structures, performers did report moderate to high levels of both task- and ego-involvement. Although, task involvement may have been more predominant in Study 1A and ego involvement in Study 1B, the findings support Nicholls' (1989) arguments for orthogonality. Furthermore, it is important to reiterate how some situational factors appeared to activate one goal state whilst depressing the other, whilst other situational factors activated both task and ego involvement. Our understanding of achievement goal theory may be reaching the stage where we need to look more closely at the interaction between situational variables on the activation of relative levels of task and ego involvement. These insights also admonish researchers to refrain from referring to contexts or performers as simply 'ego-involved' or 'task-involved'. Theoretically, both states of involvement can be activated by relevant dispositional or situational criteria. It might be simply be that one state is very low, whilst the other is very high.

In sum, the evidence from this thesis suggests that even though young performers may possess certain levels of goal orientation and a particular goal orientation profile,



components of the competitive situation and perceptions thereof need to be considered if one is to pinpoint the nature of goal involvement more precisely. If this can be achieved then subsequent cognitions, behaviours and responses may be more clearly understood.

### **8.312 The Measurement of Achievement Goals**

The measurement of achievement goals is a theoretical and methodological issue of considerable importance. In this sub-section, there are several points to make which propose that traditional and orthodox measures of goal orientation are limited, and that measures of goal involvement need to progress.

#### **8.3121 The Issue of Orthogonality**

The traditional view of both goal orientation and goal involvement is that their respective task and ego components are orthogonal constructs. Even though few explanations appear to have been offered as to how each independent construct works together, they are viewed as two largely uncorrelated concepts which are activated within one individual. This means that unless a person is split down the middle, the activated levels of each goal orientation or state of involvement have to be treated in combination via a resultant goal orientation or goal involvement profile. Instituted by Fox et al., (1994) and advocated by Hardy et al., (1996), goal profiling has been applied at the dispositional level, but not in terms of goal involvement. The results of Study 1 suggest the merits of measuring task and ego goal perspectives as separate entities, but ultimately assessing the importance of each construct in the face of the other. The fact that one goal perspective may be more powerful, despite the other being important, has to be considered for the benefits of understanding subsequent cognitive and affective responses. A performer may be high in task involvement, but higher in ego involvement - what implications does this have on cognitive variables such as attentional style and cognitive anxiety? At present, the method of goal profiling adopted using the TEOSQ does not provide an indication of dominance, it merely stipulates a level which is labelled as high or low. By applying a measure such as the TEOSQ, goal profiling can never progress from this, because the instrument yields two completely independent sub-scale scores which cannot be matched up in absolute terms. Indeed, if they were, the majority of the sporting population would predominate in task orientation, an assumption which would be a little difficult to accept.

If one is to assess dominance within orthogonality then a method must exist where levels of task and ego orientation or involvement are calculated in conjunction with each other. One cannot judge whether there is a predominant goal perspective unless both goal perspectives are 'allowed to play each other'. Study 3 attempted to achieve this by assigning points to the ranks of importance given to a number of task and ego-focused statements. In this way, a profile would develop connoting the levels of task and ego



involvement which were derived by treating the constructs in combination. This would make it much easier to judge the degree to which a goal perspective did predominate (if at all), with the degree of difference denoting how relatively weak or strong a particular goal perspective was. This method of measurement appeared to be useful for intervention purposes. It would be interesting to apply the principle within research which utilised goal orientation or goal involvement as an individual difference variable.

The weakness of this principle, which is the strength of a Likert scale format, is that a certain goal perspective may be important on a 1 to 5 scale, but, because it is the lowest ranked goal appears to be unimportant. Others might view this as a strength of the ranking approach, but certainly the strengths of one may be the weaknesses of the other. It is accepted that the LGIQ in Study 3 is an unvalidated measure which was useful for the purposes of an idiographic study. Nevertheless, its development was prompted by the theoretical issues just raised which question the measurement technology embracing achievement goals.

### **8.3122 The Issue of Specificity**

A notable finding of Study 1 was the failure of the TEOSQ to predict pre-competition goal involvement. It might be argued that the measurement of the two concepts were so contextually different that this was unlikely to happen. This is precisely the point for debate. Few studies have measured goal involvement and this thesis chose the ecological setting of competition in which to do so. An assessment of goal involvement required a practical indication of the level of importance that a performer placed on bettering himself and/or overcoming the opposition. A weakness of Study 1 was the use of single item measures. Nevertheless, if a questionnaire contained multiple items, it would be remiss of the instrument not to focus on these fundamental goals. Coaches and practitioners may be able to understand performers more clearly if they responded to assessments of goal involvement which tackled self-referent personal performance and outcome-related goals in this way. They are important answers, which the coach can comprehend, and which provide an indication of how the performer defines achievement in that specific competitive task. Namely, by improvements in self-referent ability and/or demonstrating normative superiority.

It might be argued that dispositional goal orientation should assess the tendencies to view achievement in competition in a certain general manner. The race and match goal orientation measures were designed for this purpose. They acted as representative dispositional tendencies for achievement within the achievement context of competition. At present, the validated measures of goal orientation (Duda & Nicholls, 1989; Roberts & Balague, 1989) may provide very holistic assessments because their items embrace competition, learning and practice contexts. These instruments may well provide valid assessments of sport task and sport ego orientation. However, they may not yield a valid



assessment of dispositions which reflect the nature of task- and ego-involved goals of meaning to the performer in competition. The results of Study 1 suggest that this may be an issue if dispositional measures such as the TEOSQ are being employed in the prediction of competition-related cognitive and affective responses. Although reserved to single items, the findings for race and match goal orientation would at least appear to support the need for more competition-specific measures of goal orientation to be developed. The Locus of Goal Involvement Questionnaire devised for Study 3 represents an attempt to measure achievement goal states using item terminology more specific to competition. Applying the same questionnaire as a dispositional measure, by orienting the instructions towards competition in general, would appear to be valid in principle.

Finally, in view of the potential impact of situational variables on goal involvement, the theoretical issue of measuring dispositional tendencies which incorporate important situational factors is worthy of attention. For example, a performer's *tendency* to be ego-involved in matches against higher standard opponents may be higher than for matches against lower standard opponents. Developing a situation-specific dispositional measurement technology might be useful in research and applied contexts. This information would prove valuable in that it would check for attitudinal differences in how the performer approached different situations. Ostensibly, if the coach was able to establish that a performer's level of match task and/or ego orientation was higher against higher rated opponents and lower against lesser opposition, then the coach would have a certain course of practical action to follow. At the present time, if a dispositional measure, such as the TEOSQ, does not contribute to the prediction of two fundamental competition goal states, then the coach or practitioner may be being misled by taking the responses to that measure at face value.

### **8.3123 The Issue of Practicality**

The findings of Study 1 and indeed the results of Study 3 suggested the importance of dealing with the issue of 'level' vs 'strength' of goal orientation or goal involvement. Referring back to the discussions of Study 1, a point was made pertaining to the notion that a performer may report a certain level of goal orientation, but the actual strength of the disposition depended on the degree with which it reflected the respective state of goal involvement. In the case of Study 1B, tennis players had reported high levels of match task orientation which failed to predict match task involvement. With task orientation being the more likely goal perspective to possess internal control characteristics, one might expect a high level to reflect the goal state even within an ego-involving situation. If no prediction emerged then one might question whether a task orientation had actually been measured. The goal orientation and goal involvement measures within Study 1 utilised the dimensions of 'satisfaction', 'success' and 'importance' of achievement in tapping levels of each goal perspective. These dimensions



of measurement, however, may not be comprehensive enough to generate a truer picture of task orientation or task involvement. From a practical point of view, it might be argued that the extreme task-oriented performer possesses three attitudinal qualities. Firstly, they should place importance on executing all skills in competition to the best of their abilities. Secondly, they should actively assess their skills in a way which corresponds with their self-referent conception of ability. Finally, as well as denoting that each skill is important, each skill should also have as much personal meaning to them as other skills. Using this as a possible model, one has to question whether the measurement technology applied in previous research or in Study 1 is capable of identifying such an individual. Study 3 emphasised the importance of this issue via the sub-components of performance measure which attempted to assess how practically task-involved the player was. Scientific and clinical improvements were documented in the importance, assessment and meaning that each player placed on each performance factor for competition. Still, however, there was additional progress to be made towards the player developing a strong self-referent attitude for matches.

The points made here have been derived from looking insightfully at the findings of this thesis, but also by questioning measurement practices on the basis of intuition and anecdotal evidence. The latter stance is never safe. However, when a validated questionnaire repeatedly conflicts with the well-established views that one has of performers' attitudes, work ethic, approach to matches and reactions to outcome, then it is time to question something else apart from one's self. In this case, the measurement issue is one of practicality with specific reference to the context of competition.

### **8.3124 The Issue of Multiplicity**

As noted in the review of literature, the original achievement goal approach proposed by Maehr and Nicholls (1980) contained a social approval goal perspective. It had a task-oriented glint where the goal was to maximise the probability of demonstrating virtuous intent through effortful behaviour (Weiss & Chaumeton, 1992). Unappreciated for the past fifteen years due to Nicholls' bi-dimensional achievement goal theory, the value of recognising social goals was re-stated in a recent article by Urdan and Maehr (1995). Although these latter authors talk of social approval, social solidarity and social compliance goals within an educational context, social goals in a competitive sport situation may be derived from the two existing goal perspectives. In the highly public domain of sport, there is a great deal of intuitive appeal to the belief that task and ego goal perspectives may comprise social approval components. In motivational terms, one is not questioning the 'intensity' of the goal, but its 'direction' or destination. Study 2 emphasises how many players are driven by ego involvement not for the personal challenge of winning, but because of external consequences and what others think of them. Likewise, some individuals may pursue task goals entirely for themselves, but



others, akin to Maehr & Nicholls' original construct, may focus on trying their best to improve merely to gain social approval from parents or coaches for their intentions. The Locus of Goal Involvement Questionnaire in Study 3 measured multiple forms of goal involvement. Specifically, personal task involvement represented the internal desire to improve and progress; personal ego involvement reflected the internal desire merely to overcome the opponent; social approval task involvement represented the external desire to show others effortful behaviours; and social approval ego involvement reflected the external desire to maximise favourable social comparison to others. Although the LGIQ was devised specifically for the study, the ranked and scored responses yielded some extremely insightful pre- and post-intervention findings.

What appears to be most striking about the possibility of multiple forms of task and ego goal perspectives is the greater understanding that may be achieved of incomprehensively answered issues. The impact of ego involvement on behavioural patterns continues to be debated with the position at present being that it must be accompanied by a high perception of ability or a high level of task involvement if it is to have a positive role to play. Although it may be difficult and inappropriate to extinguish external, social approval goals, the negative aspects of social approval ego involvement are fairly plain to see. Performers should want to win for themselves, as opposed to avoiding failure due to their perceptions of others. Likewise, the merits of being internally ego-involved and focused merely on competing to overcome the challenge of the opposition, rather than on social or external consequences, renders the goal perspective intuitively appealing.

It would also be interesting to conduct research into variables such as attributions, intrinsic motivation, attentional style, multidimensional anxiety responses and persistence by investigating whether responses differ within performers with differing loci of goal involvement. This particularly applies to performers high in personal ego and low in social approval ego involvement and vice-versa.

In sum, the findings of the final study in this thesis do reinforce that, whilst being under the umbrella of task and ego involvement, players did clearly distinguish between the importance that they placed on personal and social approval goals. Even more notably, whereas some players had commenced the intervention with a fairly prominent focus on social approval task or ego involvement, this focus had decreased considerably by the re-assessment stage. The issue of multiplicity, where task and ego goal perspectives are splintered into the components to which their achievement is directed, is worthy of further investigation

### **8.32 PRACTICAL IMPLICATIONS**

The ability to understand how a young performer can walk into competition with a positive, healthy and rationale attitude towards success and achievement is certainly an



enviable quality to possess. It is a critical ability for the applied sport psychologist and one which is not easily acquired. The results of this thesis have hopefully made strides in informing practitioners how this ability might be developed and put into practice. The following section presents the practical implications of this thesis through two models depicting how theory may directly drive practice. Whilst considering points from the previous section, a model of the antecedent process to pre-competition goal involvement is presented. Following a brief explanation of each major element, the information stored in this model is activated in real terms by presenting an intervention model derived from its properties. Although the models are based on work within specific sports, there would appear to be at least certain theoretical and practical principles which would apply to a vast array of sport contexts.

### **8.321 The Antecedent Process to Goal Involvement**

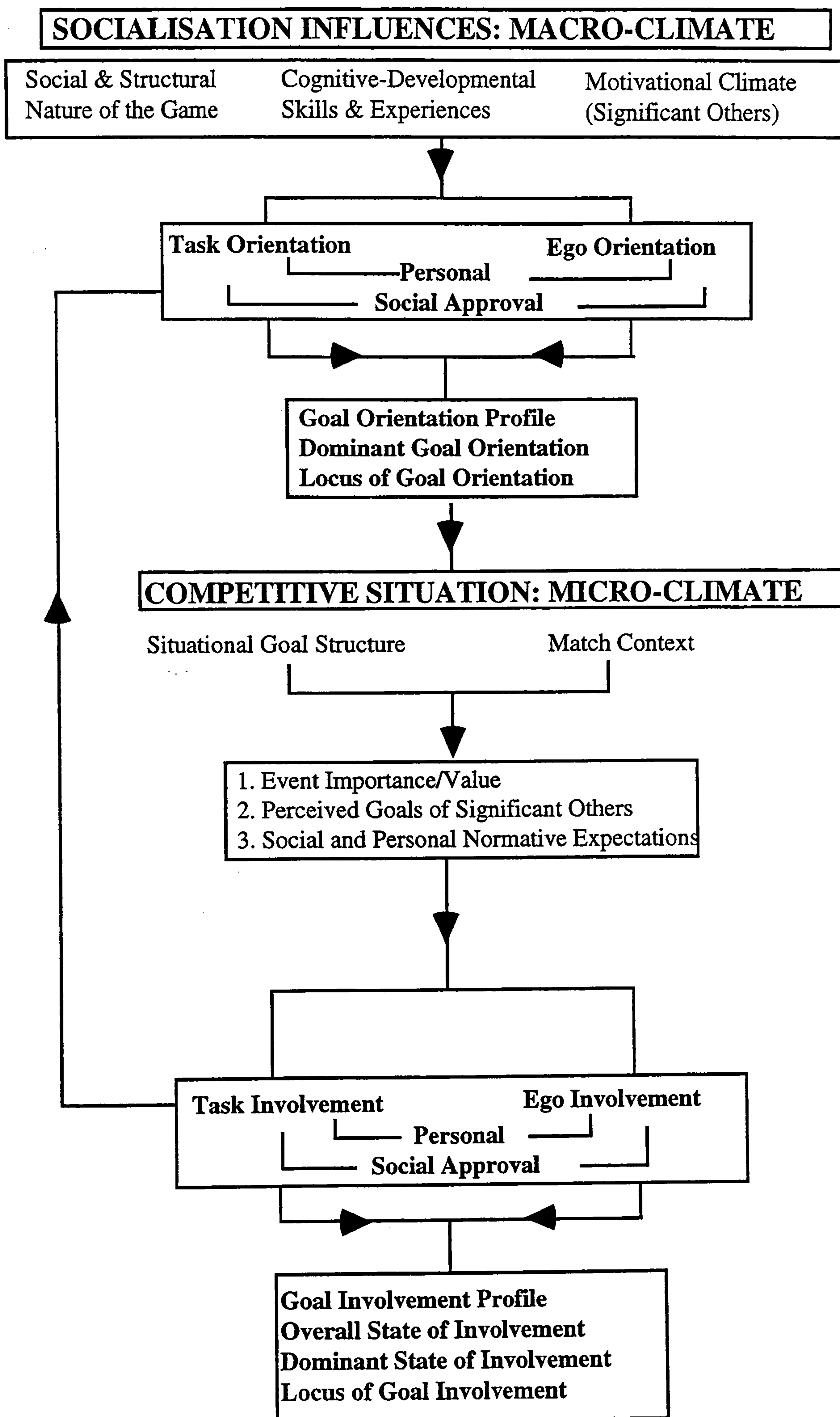
Figure 8.1 presents a model which attempts to be both developmental and interactionist in proposing a process by which a pre-competition state of goal involvement will be invoked. The model applies the findings of the first two full studies and places significance on the practitioner's or coach's understanding of the competition context itself, as well as the wider social environment and history of performer development. In this respect, the practitioner may be able to understand the antecedents of the performers goal orientation, and potential influences within a given competitive situation.

#### **8.3211 Socialisation Influences: Macro-Climate**

Achievement-related socialisation experiences of young sports performers, and the achievement environment in which they are nurtured, are proposed to have a major impact on the development of dispositional goal orientations. Each individual by 12 years old is capable of developing tendencies to be personal and/or social approval task and/or ego involved in sport. The level or intensity of these orthogonal tendencies may be dependent upon three major factors.

Firstly, the social and structural nature of the sport(s) or game(s) that the individual plays. Each sport will be characterised by a certain reward, recognition and evaluation system which conveys exactly how the sport itself construes achievement. This in turn may have a direct and constant impact on the individual's beliefs about achievement

**Figure 8.1 A Developmental and Interactionist Model Outlining the Antecedent Process to Pre-Competition Goal Involvement**





Secondly, the stage of the performer's cognitive development, their application of cognitive skills/strategies, and their repertoire of competitive experiences may be further factors within the context of socialisation. Meanings of achievement may vary not only due to the age of individual, but also due to the degree to which performance-related strategies are employed. Furthermore, the quality and quantity of experience characterising that individual, such as opportunities to compete abroad or the types of domestic competition entered, may have also have a bearing on their perceptions of what constitutes personal success.

Finally, the critical social groups that comprise the motivational climate may have a profound effect on the socialisation of achievement values. Parents, coaches, peers and power structures are very capable of conveying their meaning of achievement to the individual within an achievement context. Whether conscious or not of what they say or do, social agents have choice points in the way that they present information, devise systems, reward success and communicate in a verbal and non-verbal manner. Social conformity is generally high within young people and the achievement beliefs of significant others can have a long term developmental effect on the achievement goals of young performers.

### **8.3212 Goal Orientation**

Performers will develop a general personal theory of achievement for an activity or context based on their socialisation experiences within a particular macro-climate. By 12 years of age, they will be mentally capable of appreciating a task- and ego-involved conception of ability (Nicholls, 1984). However, their socialisation process to this stage and beyond will determine how much importance or meaning they place on self-referent and normative belief structures. The two goals are orthogonal and performers may value self-referent achievement as much as outperforming others. Therefore, their general definition of achievement may be grounded within a certain level of task orientation and a certain level of ego orientation. Further to this, their orientations towards task and ego involvement may be comprised of personal and social approval elements which reflect the direction of their efforts to achieve. This permits an overall profile to be developed which represents all levels of goal orientation together and denotes the dominance of one particular tendency should one exist.

### **8.3213 Competition Situation: Micro-Climate**

The performer's goal orientation profile reflects the disposition towards adopting certain achievement goals as a result of socialisation experiences. Whilst this may carry weight in a competitive situation, there are now other discrete situational factors to consider which may influence personal definitions of achievement in that particular context. Firstly, the situational goal structure of the micro-climate itself may increase the



focus on the importance of self-referent personal performance, and diminish the value of favourable social comparison, or vice-versa. The result can be a profile of task and ego involvement which does not marry up with the individuals goal orientation profile.

Secondly, the properties of the particular match or event context may have a fundamental effect on the performer's beliefs about what constitutes achievement. Factors such as normative expectancy, event value, event type and meaning, social expectancy, and the perceptions of significant others' achievement beliefs may all serve to activate differing levels of task and ego involvement for that competition. The situational goal structure may further mediate the relevance or irrelevance of these properties as antecedents of pre-competition goals. The competition situation or 'micro-climate' contains stimuli which may either complement the goal orientation profile, challenge the profile or interact with task and ego goal orientation to influence levels of pre-competition goal involvement.

### **8.3214 Goal Involvement**

Like its dispositional relation, task and ego goal involvement may be activated to separate and differing degrees. Both task and ego goal orientation levels in concert with a variety of situational factors are purported to be ultimately responsible for determining the degree of pre-competition focus on task- and ego-involved goals. The orthogonality of goal involvement suggests that sub-states of task involvement and ego involvement may be engaged to certain levels. These sub-states may be comprised not only of a focus on achieving the goal for personal and internal reasons, but also for reasons associated with social approval. The level and nature of personal and social approval-based task and ego involvement will give rise to a goal involvement profile which reflects the overall goal state of the performer. In this respect, a clearer picture is presented of the locus of goal involvement where a certain sub-state(s) may predominate over others. Finally, it is proposed that levels of task and ego involvement invoked pre-competition will have a transfer and conditioning effect on the tendency to become task- and ego-involved to that extent in the future. In other words, subsequent dispositional tendencies may be affected by previous pre-competition levels of the actual goal states.

### **8.33 THE INTERVENTION PROCESS TO GOAL INVOLVEMENT**

The antecedent model is presented as a topic for future research as well as practice. However, in the practical context, it serves to provide the pathways for understanding social cognitions and the mechanisms for social cognitive change. The results of Studies 1 and 2 informed the researcher not only of antecedents, but also of insights into which practical strategies might influence pre-competition achievement goals. Clearly, a comprehensive psychological assessment and sport analysis (e.g., Boutcher & Rotella, 1987) needs to be conducted not only to get a feel for the individual



performer, but more importantly, for the nature of sport that s/he plays and the total environmental structure/lifestyle in which s/he lives and grows. A detailed and broad motivational profile of the performer then begins to emerge upon which one can judge whether areas for improvement exist (if any). The goal of the practitioner in structuring a programme which attempts to positively influence a performer's approach to achievement can be multidimensional in the extreme. S/he may have a goal to achieve for parents, coaches, other performers and, to an even more uncontrollable extent, the system itself. Their most controllable goal, however, is focused firmly on the performer regulating him/herself and perhaps changing the perceptions that they have of external criteria.

What exactly is an adaptive state of goal involvement or goal involvement profile is a key question which remains relatively unexplored. Nevertheless, both anecdotal evidence and recent research (Fox et al., 1994; Roberts et al., 1996) suggest that a profile which consists of high levels of task involvement and ego involvement has distinct merits. Several points can be made related to the possible mechanisms operating behind task and ego goals which render this goal profile as conducive to positive achievement behaviour. Firstly, the level of internal control, the importance placed upon personal skills and the incremental/developmental view of ability associated with task involvement mean that personal effort and persistence will be high, alongside realistic, accurate and most probably, internal attributions to outcomes. The value placed on progressive skill development ensures the acceptance of challenging tasks designed to test at the cutting edge of current abilities. Attention to sub-component processes within the execution of tasks are also facilitated by the focus on personal task accomplishments. Self-referencing, the fundamental pathway for determining levels of undifferentiated success, encourages learning and problem-solving behaviour whilst assisting the attributional process.

In contrast, ego goals are characterised by a focus on achieving uncontrollable outcomes due to the personal importance placed upon demonstrating a superior capacity of ability. This is fundamentally achieved by favourable social/normative comparisons of ability, either by exceeding the performance of the opposition *ceteris paribus*, or attaining similar performance levels whilst displaying lower effort. The external controlling nature of the achievement focus has subsequent implications for factors such as effort exerted, task choice, persistence, and the perceptions and consequences of stress. This is particularly the case when personal perceptions of ability, viewed in terms of capacity, are low or fragile. Nonetheless, a vital quality retained by an ego goal is the inherent value placed upon overcoming the opposition and surpassing external standards. Head to head competitiveness is, in many respects, a fundamental requirement in the elite sport context. The mechanism, upon which the appropriateness of being high in ego involvement may rest, is the orientation or direction of the achievement goal. An ego goal to be achieved for one's self, regardless of others, may be more effective and less



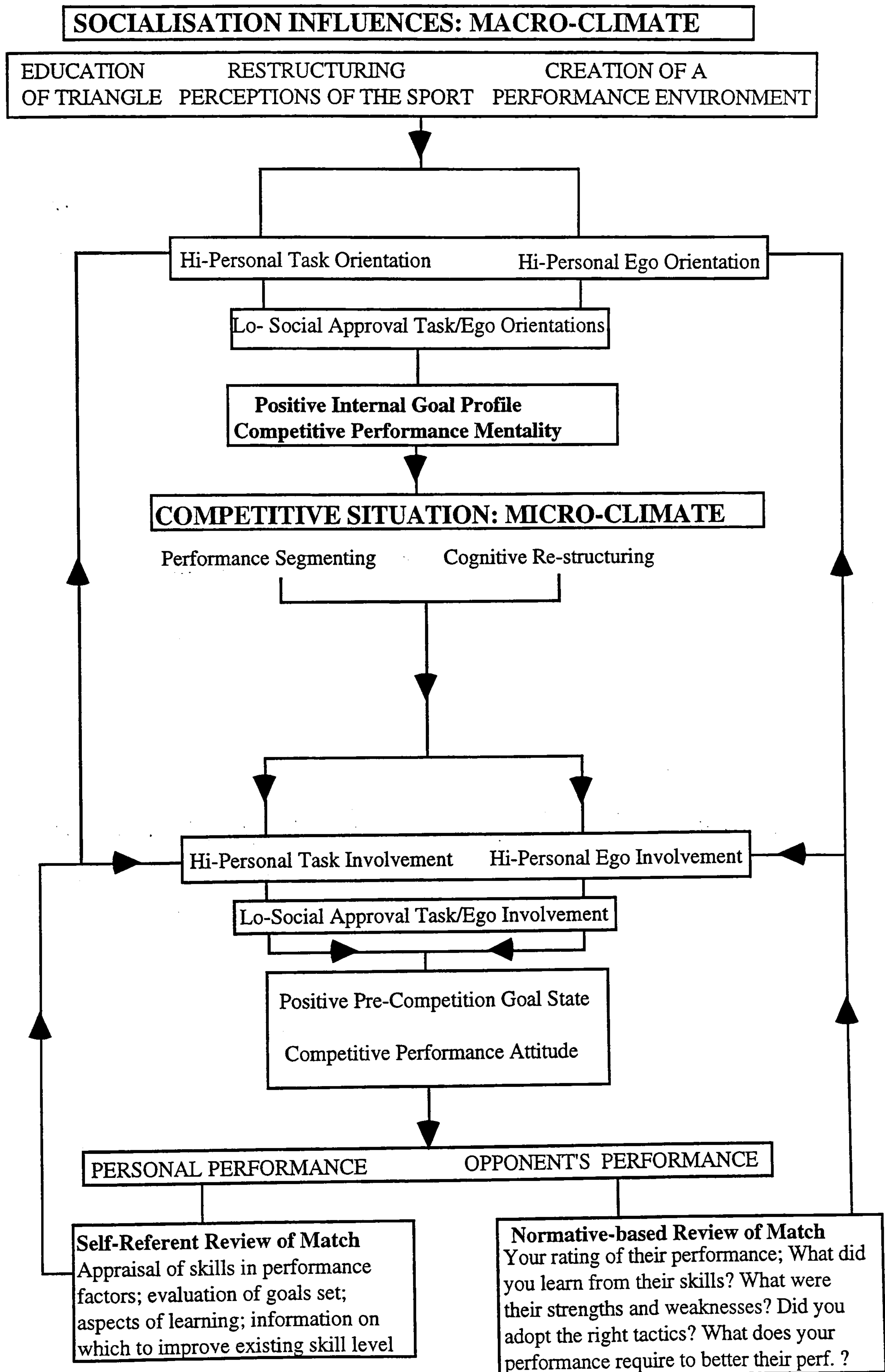
problematic than being ego involved for the main purpose of demonstrating superiority to external others. The former type of goal represents the perception that to be superior is simply the demand of the sport. Whereas the latter goal signifies the need to win for social approval reasons which has clear implications for self-esteem and impression maintenance. There are several idiosyncracies which need to be debated about how the two sub-states of task and ego involvement actually work together, but this issue will be raised under future research. Suffice to say that the intervention in Study 3 adopted a perspective or philosophy which endeavoured to furnish performers with an attitude which was highly task involved, but functioned in a way that maintained the importance of personal competitiveness. Furthermore, an attempt was made to develop an attitude which was more internally controlled and less social approval-oriented. The model presented in Figure 8.2 depicts the applied process by which an appropriate goal orientation profile may be developed, and how an adaptive state of goal involvement prior to competition may be activated. This process is specific to individual sports which possess a direct competitive goal structure (e.g., tennis).

The model will not be explained in detail as the key components should be clear from the previous chapter. However, it directly attempts to super-impose practical applications upon elements depicted in the antecedent process. In other words, it diagrammatically traces how theory is put into practice.

Within Figure 8.2, influencing change, or directing the development and activation of goal orientation and goal involvement, appears to be both a problem and emotion-focused issue (Lazarus & Folkman, 1984) for the applied psychologist. The effects associated with high ego- and low task-oriented sport structures, individuals, and contexts can be reduced by desensitisation and 'restructuring tasks' which endeavour to alter the perceptions of the performer (e.g., RESISTANCE). However, a problem-focused coping route may be much more effective if one can deal with the central cause. It may be impossible to change the system, but very possible to educate significant others in the appropriate verbal and non-verbal behaviours which have a central motivational influence on the young performer. Furthermore, active efforts to create an environment with performance or individualistic, task-involving properties via the careful use of TARGET, exemplify how to deal direct with the problem.



**Figure 8.2 A Developmental and Interactionist Model Outlining the Intervention Process to Adaptive States of Pre-Competition Goal Involvement in Competitive Goal -Structured Individual Sports**



In the competitive situation, pre-match performance segments such goal setting along with the use of cognitive restructuring may be pivotal to the activation and maintenance of a self-referent but competitive pre-match (and perhaps during-performance) attitude. After the execution of personal and opponent performances, post-match segments incorporating both self-referent and normative reviews of the competitive experience will be valuable for learning and skill development. In addition, this personal and opponent-considered review process should promote the active development and situational activation of a Competitive Performance Mentality/Attitude. In sum, it will be a combination of social and performer education, strategy implementation and thought rationalisation which may be the keys to facilitating an adaptive motivational attitude in general and for particular competitive experiences.

### **8.34 RESEARCH STRENGTHS**

Possibly the major strength of this thesis relates to its ability to address progressive research questions by applying different methodological approaches. Three diverse methodological designs have been employed ranging from: two large cross-sectional quantitative investigations; to a qualitative study incorporating retrospective interviews with a grounded theory approach to analysis; and finally, to an idiographic single-subject multiple baseline design. The central focus of this research was to develop a clearer understanding of certain aspects of a theory and this thesis has shown that the mixing of methods (Bryman, 1988; Steckler et al., 1992) has been critical to such progressive improvements in understanding. Each study appeared to blend into the next and the method of scientific inquiry was virtually self-selecting.

Research in sport psychology over the past twenty five years has been dominated by the use of nomothetic designs. As Hanton (1996) proposes, the root cause of this bias can be found within the goal of providing the emergent discipline of sport psychology with academic credibility as a scientific area of enquiry. The quantitative search for objective knowledge via the testing of hypotheses has typified the evolution of achievement goal theory. Achievement goal research has typically adopted a nomothetic approach with the quest to establish general laws about achievement goal perspectives and motivational climate. In fact, the first two investigations in this thesis were nomothetic in nature because the research question was novel and understudied. Study 1 incorporated three elements which had received little research attention: goal involvement; an interactionist perspective on antecedents; and 'in vivo' competitive situations. In this respect, it was deemed appropriate to try and gain general insights from two large sample sizes which would serve to maximise levels of external validity.

In recent years, however, researchers have recognised the benefits of other methodological avenues such as the use of interview techniques (e.g., Scanlan et al., 1989; Gould et al., 1992). An understanding of the performer in the real life environment



of competitive sport appears to have been greatly enhanced by allowing the individual to drive the research process. Quantitative research is somewhat restrictive to the individual, whereas qualitative methods allow both human expression and a clearer comprehension of critical concepts or findings. Study 1 had provided exploratory information, but this only served to provoke a need for a much deeper understanding of the processes behind goal involvement. From the qualitative approach adopted in Study 2, the author honestly felt that he was beginning to answer a question. The dimensions and higher order themes that arose from the quotations filled in many missing pieces when it came to tracing the motivational criteria which could influence a young performer's personal theory of achievement. This was even more of an uplifting feeling when one realised that the underpinnings to an intervention programme were encapsulated in the findings. The practical implications of this study were significant for tennis, nevertheless, the principle information stored in each general dimension may transfer to many other sports.

Study 3 continued with a focus on the individual, allowing considerable levels of personal detail to be investigated with additional attention placed on the social environment. Consistent improvements in such a variety of cognitions, however small, could then be identified. The administration of such measures, the total operation of the intervention and the detection of such individual differences would have been extremely difficult given a nomothetic, cross-sectional design. A further strength of the final study was the collection of social validation data from all parties concerned. Acting as a manipulation check (Greenspan & Feltz, 1989), players noted how their attitudes towards competition had changed with a greater importance placed upon personal performance. The success of the intervention was also socially corroborated by coaches, and parents in particular. Finally, an important strength of the final study was the six month post-test follow-up assessment of each individual player. If psychotherapeutic gains are not maintained for at least six months (Latimer & Sweet, 1984), the effectiveness of the intervention may be questioned. The results in this study, however, suggested that the effects of the intervention treatment had been retained.

A general strength of the research, previously noted, was its consistent focus on ecologically valid competitive sport situations. A large proportion of achievement goal research has either focused on general trait-based relationships (e.g., Duda & Hom, 1993), or used contrived laboratory settings (e.g., Hall, 1990) with low ecological validity. In developing a clearer understanding of goal involvement, it was appropriate to select the environment of competition as possibly the most important and useful context in which to generate information. Further to this, it is worth noting that throughout the research process, a great deal of emphasis was placed on ecological control. Detailed organisation and planning in each study allowed data collection to be consistent, tightly administrated and minimally disruptive to the developing situation.



A further strength of the thesis was the depth of focus that it gave to the sport of competitive tennis. Having elicited comparisons with the contextual goal structure of swimming, tennis was adopted as the medium for the final two studies for two main reasons. Firstly, it was felt to be a good representative of an ego-involving individual sport with a direct competitive goal structure (Ames, 1984). As most sporting disciplines contain ego-involving properties, it was deemed appropriate to select a sport via which at least some comparisons might be facilitated. Secondly, it provided the means to gain a greater appreciation of the place of task involvement within a context which favoured the opposite goal perspective. Specifically, it enabled one to test how much a task-involved conception of ability could be encouraged or activated within a highly ego-involving match context. To this end, the investigation of tennis has both increased knowledge about achievement goals in that sport, but has also provided a pathway or template for enhancing this knowledge in other sports.

Finally, this thesis has been powerful in its ability to raise awareness of critical issues requiring further research. This may not be surprising given that the central focus is a new one. However, questions have been raised regarding the measurement and nature of achievement goals which suggest that our overall understanding is still severely limited. This statement will be elaborated on further within the section on future research (see section 8.36).

### **8.35 RESEARCH LIMITATIONS**

Following on from the penultimate point in the last section, one could argue that a limitation of the study was the transferability of findings to other sports. However, this thesis did contribute substantial attention to swimming as a sport with a highly contrasting goal structure to tennis. Comparisons were made and the contrasting effects of situational goal structure on goal involvement were documented. This served to at least provide general insights for sports characterised by an emphasis on competitive and/or individualistic properties. The limitation remains, however, that highly specific insights were reserved to one sport in particular.

A further limitation relates to the focus on pre-competition goal involvement as opposed to measuring 'during performance' goal involvement. The pre-competition period was chosen for four major reasons from arguments cited by Silva and Hardy (1984). Firstly, the performer's achievement goal states prior to competition may reflect his/her intra-competition goal involvement and subsequent performance. Secondly, the performer has control of their psychological approach in this period which, thirdly, means that appropriate strategies can be established based on responses in this time phase. Finally, this time frame is the most easily accessible for researchers and practitioners. Undoubtedly, it would have been difficult in either sport to assess intra-competition goal states. However, this needs to be a goal for future research (see section 8.363) so that the



relationship between goal involvement and performance or performance-related parameters can be thoroughly examined. At present, only the social validation data suggests performance improvements and no information exists on how the link operates between a reported goal involvement profile prior to competition and actual achievement-related attentional states during performance.

One weakness that can be levelled at Studies 1 and 3 is the reliance on self-report measures which were devised for the purposes of each study. Arguments were presented for the use of single item measures, including their rationale, content validity, and the belief that the data generated supported key parametric assumptions. However, whilst they furnished a deeper awareness of issues surrounding the measurement of goal orientation and goal involvement, they also emphasised their own limitations. These weaknesses were tackled head on by the measurement technologies devised for the final study, all of which underwent forms of content validation and pilot investigation. One cannot argue against the fact that these are yet scientifically unvalidated measures. Nonetheless, at the individual level, social validation/clinical responses by the subjects themselves did support scientific differences (Hrycaiko & Martin, 1996). Further to this, it must be remembered that the author was dealing with an area of research which was essentially missing a measurement technology.

Other limitations relate to the failures to examine the individual difference variables of age or gender more closely. The age groups were remarkably consistent between the studies, but given greater sample sizes, it might have been interesting to look at differences between early and late adolescence. Also, with cognitive development as perhaps a vital mediator in the process of goal orientation development, an investigation of seven to twelve year old performers might make a valuable contribution to the literature. In terms of gender, the predictors of goal involvement within Studies 1A and 1B were essentially the same, allowing the data to be collapsed together. This finding is important because although previous research has supported differences in levels of goal orientation between males and females, Study 1 suggests that the interactional antecedents of achievement goals may well be very similar. The limitation in the context of the thesis was the use of an all male sample for Study 2 and then a mixed sample for Study 3. With respect to the former, it would clearly be worthwhile conducting a similar study for female players. In this way, general gender-related differences may be detected, but also more practical information specific to that sex might be generated. In terms of the latter, the primary selection criteria for the final study was 'room for improvement'. An all male sample would have made sense if an abundance of male subjects had satisfied this criteria. As it happens the results of the final study reinforced that the practices derived from a male dominated study were effective for female subjects.

One further limitation to the generalisability of findings was the focus on performers within individual sports only. Not only may the antecedents of pre-



competition goal involvement for team sport performers be entirely different, but the nature of task and ego involvement itself may be interesting to investigate. This latter statement is made with particular pertinence to levels of personal ego involvement which seem obscure in a team context when evaluating personal ability in normative terms.

Finally, perhaps the strongest weakness of this programme of research relates to its inability to explain how the states of task and ego involvement actually interact together once they have been activated. The studies may be merited on developing a clearer understanding of pre-competition goal involvement, but this tells us little about how it all works in actual competition. If task and ego involvement reflect attitude-related states of mind, then comprehending the practical operation of their orthogonality within an actual performance situation is critical. It may be a little harsh to count this issue as a limitation, but it remains a key direction for achievement goal research.

### **8.36 FUTURE RESEARCH DIRECTIONS**

This thesis has helped in advancing our understanding about pre-competition achievement goals by its attention not only on the overall antecedent process, but also on practical strategies to facilitate the activation of adaptive pre-competition states. Research into the antecedent and intervention process of goal involvement in sport is a new challenge waiting to be accepted with new issues awaiting attention. This final section proposes a number of key areas for prospective research, including a sub-section addressing future research into the concept of orthogonal goal involvement.

#### **8.361 Future Research into the Antecedent Process**

This section presents important areas or questions for future research which fall under the umbrella of the antecedent model. Measurement, methodology, context, and individual differences are the main foci of attention.

- Future research should focus on the definition and measurement of goal orientation as the 'tendency to be task and ego involved in sport' more precisely. If the tendency is to reflect actual states of goal involvement in a particular context, then the exact nature of goal involvement in that context must be represented in the measurement technology. Improvements in measurement would be facilitated by carefully defining what goal orientation means in the context of achievement goals in competition, in the context of training/practice, as well as in the context of sport or 'the' sport in general. At present, one gains a picture of very general sporting beliefs or values through such measures as the TEOSQ, but a less than convincing insight into the achievement goals relevant to competition.



- The idea of goal orientation and goal involvement being splintered into personal and social approval elements merits greater exploration. If the direction of achievement goals comprises either an internal or external focus, then the implications for motivational processes, behaviour, cognition and affect may be significant. It would be interesting to examine whether the direction of achievement goals depends upon the sporting discipline and its goal structure. For example, social approval may be more salient in ego-involving contexts with competitive goal structures where social evaluation is prominent.
- The technique of goal profiling in terms of both goal orientation and goal involvement needs to be forcefully adopted and refined by future research. It may be both useful and methodologically sound to examine the antecedents related to the activation of each separate goal perspective. However, research which investigates the cognitive-behavioural outcomes associated with achievement goals must recognise that the overall outcome *in reality* is dependent on the relative levels of each. Task and ego involvement are like a 'doubles pair', the outcome can never be attributed to one player alone! Improvements in measurement technology should facilitate goal profiling. This means extending the principle of locus of goal involvement and goal orientation where the separate constructs can be assessed in combination.
- Further research on the structural properties of competition contexts within different sporting disciplines is at a premium. Measuring general climate will not suffice as an accurate assessment of perceptions of the competitive situation when predicting critical motivational states. Situational goal structure is a vital component, but so too are other perceptions and properties of particular situations which may or may not be causally related to goal structure (Maehr & Braskamp, 1986). Constituents of the micro-climate must be understood for the different types of individual and team sports which vary in individualistic and competitive properties. Only then can one more thoroughly understand the role of the situation in influencing states of goal involvement.
- At a methodological level, researchers should be encouraged to combine the use of qualitative and quantitative designs. Quantitative research may provide harder, objective evidence on achievement goals which may be corroborated by qualitative interview techniques. However, it is qualitative research which will provide the investigator with practical guidance to optimising a quantitative study. The wealth of

information provided could be particularly useful as a template for item generation and questionnaire construction.

- Future research should attend more closely to age-group differences as cognitive development appeared to be a central mediator of goal perspectives. Although the process of differentiation has been documented within an educational context, research which has examined the activation of task and ego involvement in young performers between seven and twelve years old is non-existent. It would be interesting to learn whether performers as young as eight or nine have a fully differentiated conception of ability due to the ego-involving nature of the sporting context and situational goal structure. The individual difference variable of gender also applies in this case.

### **8.362 Future Research into the Intervention Process**

This section presents a number of areas related to conducting intervention work in achievement goal theory which may be worthy of attention.

- Researchers should continue to utilise grounded theory approaches for the purpose of developing intervention strategies. As raw material from in-depth interviews elaborates into a complex structure of antecedents, so the practical implications begin to take shape along with the mechanics of a possible intervention.
- There exists a dearth of intervention studies within the context of achievement goal theory. Future researchers should aim to adopt the principles of Studies 2 and 3 by investigating the effectiveness of long term interventions with:
  - team(s) and individual sports performers
  - male and female performers
  - different age ranges
  - sporting disciplines with a variety of situational goal structures
- Research on what exactly is a quality goal profile or motivational attitude is still in its infancy. Investigators are encouraged to question the circumstances in which ego involvement is highly adaptive to achievement behaviour. Further to this, more research is invited on the Competitive Performance philosophy, a perspective which is firmly focused on the foundational values of task involvement linked in with the internal nature of ego involvement.



- The usefulness of measuring task involvement through the practical *importance*, *assessment* and *meaning* associated with relevant performance sub-components could be of additional interest to researchers.
- An important requirement which future intervention research should strive to satisfy is the assessment and re-assessment of goal states in actual as opposed to simulated competitive situations. There was a clear rationale behind the use of covert simulation in Study 3. However, if variables can be sufficiently controlled in an ecological setting, then the place of assessment lies in the live situation.
- Social validation can enlighten the researcher as to how the intervention worked, its subjective effectiveness, and to the perceived contribution of different psychological strategies and techniques. Nevertheless, applied researchers may benefit further from conducting qualitative interviews post-intervention. These may provide more solid insights into all aspects of an individual's intervention experience.

### 8.363 Future Research: Understanding Goal Involvement

There is little doubt that researchers lack a thorough understanding of goal involvement in actual operation. Even Nicholls (1989) presents no evidence to suggest how task and ego involvement pragmatically work together as orthogonal constructs. As researchers, we believe that both conceptions of ability can be activated and that both goals can be valued to the same or differing degrees by performers. The principle that these states can apparently be activated at the same time in a given situation provokes a set of serious questions that require careful attention. This is particularly important in the case of performers whose pre-competition goal involvement profile appears to suggest that they are entering the competition focused on achieving both self-referent and normative goals:

- Firstly, how does task involvement and ego involvement represent themselves in the performers attentional state during performance? Is the performer consistently high in both goal states or are the two states transient during performance, only to balance up equally in overall terms?

If the mind has a finite capacity for information processing, the process by which, in a single moment, a performer can be focused on self-referent achievement as well as normative achievement must be understood. The relationship between goal involvement and attentional style/control (Nideffer, 1985) appears to be critical to our knowledge of achievement goal theory in its most practical guise.

- Secondly, how does the nature and existence of task and ego involvement in a performer's mind vary with the duration, scoring systems and intermittent nature of different sport types?

For example, a tennis player has to contend with intermittent breaks after discrete performances over a long period of time. A swimmer, on the other hand, may perform for less than 1 minute. The nature of attentional states including the influence of the developing situation (e.g., 1-1, first set **as opposed to** 5-4, final set) may be different both between and within sports. A tennis player may pre-dominate in task involvement at the start of games (e.g., 15-0), but in ego involvement on game or break points and in key game situations (e.g., 6-5, 40-30). What implications does this have for measuring pre-competition states?

- Finally, given the above issues, when is the best time to assess goal involvement? Is it crucial, if measuring pre-competition goal involvement, that one also measures goal involvement immediately after performance when emotional responses facilitate a true representation of what achievement meant to the performer? Indeed, how important is *affect* as a indicative bi-product of a goal that has been achieved or not?

These questions are desperately in need of research attention if we are to further our understanding of goal involvement in competitive sport. A state of goal involvement would appear to be some sort of conscious or semi-conscious achievement-related state of mind. If goal states are transient then the implications for performance or performance-cognitive content and affect (Newton & Duda, 1992) may be crucial.

In the author's opinion, it may be worthwhile for future research to explore how performers often differentiate their experiences of personal achievement both in terms of the global outcome of competition, but also the sub-components of competition. Anecdotal examples are plentiful of performers who, when interviewed, will spontaneously report their primary achievement goal for the competition. 'I'm disappointed with the result...'; 'It's great to do a personal best...'; 'It's useful to win away from home...'; 'That's the first time I've broken 62 seconds this year....'. Such opening statements depict that one broader, self-referent or normative achievement goal did occupy aspects of that performer's attention. However, follow-up remarks such as 'We played well in the second half...our passing improved'; 'I had a good turn at 100m...'; 'His strokes were simply superior to mine'; 'I played the big points better than him', suggest that task- and ego-involved conceptions of achievement can operate during performance on another level.

Such secondary statements either specify why the primary achievement goal was achieved or not, or indicate the existence of a different source of achievement which is



unrelated to the primary achievement goal. Consequently, levels of task and ego involvement may be connected to either the overall, end result of global competition (e.g., the match, the race, the tournament); or, the overall quality of self-referent and/or normative performance sub-components and performance processes (e.g., the performer or opposition's quality of the serve, the stroke, the dribble, the long iron, the putt, the pass, speed to the ball, emotional control etc.).

Evidence from real life suggests that it would be interesting to explore whether there are both global and sub-component elements to the operation of task and ego involvement in competitive young performers. In this way, we may begin to understand the circumstances in which the global goal drives the state of mind, and the situations in which the components of their own or their opponent's performance dictates the quality of their achievement-related mind set.

## **8.4 CONCLUSION**

The main purpose of this thesis has been to further our understanding of pre-competition achievement goals within young sports performers. Despite being a somewhat uncharted area of achievement goal theory, the results illustrate the value of gaining greater knowledge about achievement goal states in competition contexts. The relative novelty of each study in this thesis has meant that the findings and insights of each investigation have generated new hypotheses, as opposed to testing old ones. This research, however, does appear to have enhanced our understanding of both theory and practice by challenging the existing knowledge base.

An interactionist perspective has been adopted throughout the period of study facilitating a broad investigation into the antecedents of pre-competition goal involvement. It has been shown quantitatively that both dispositional goal orientation and properties of the competition context are important mediators of task and ego involvement. However, a fuller understanding of this process was only derived from qualitative research where the socialisation of goal orientation and the meaning of situational criteria became much clearer. With this information at hand, the thesis translated theoretical insights into direct operating practices. An ecological intervention showed how social cognitions towards achievement in competitive situations may be restructured by representing the antecedents of change within the intervention technology.

Throughout this thesis, measurement technologies for this specific aspect of achievement goal theory have been challenged. Self-report measures, developed for the purposes of the thesis, have proved useful but await much greater scrutiny. Finally, I refer the reader to the introduction within Chapter 1 which emphasised the importance of developing the achievement potential of our brightest prospects for the Millenium and beyond. Constantly optimising the achievement motivation of young sports performers is

a complex process. It requires detailed knowledge of how an adaptive achievement goal profile or positive motivational attitude can be developed, activated and sustained over a long period and within a variety of sport contexts. It is hoped that this thesis has offered clearer insights into how this process may be effectively regulated.



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## APPENDIX 1

### The Task and Ego Orientation in Sport Questionnaire (Study 1A - swimming)

The following questionnaire asks some questions to try and find out when you feel most successful in SWIMMING.

**DIRECTIONS:** Please read each of the statements listed below and indicate how much you personally agree with each statement by circling the appropriate response.

When do you feel most successful in SWIMMING? In other words, when do you feel that a training session or a competition has gone really well for you?

I feel most successful in SWIMMING when .....

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I'm the only one who can do a certain stroke	SD	D	N	A	SA
I discover a way to improve and it makes me want to train more	SD	D	N	A	SA
I can do better than my friends	SD	D	N	A	SA
The others can't do as well as me	SD	D	N	A	SA
I learn something that is fun to do	SD	D	N	A	SA
Others mess up and I don't	SD	D	N	A	SA
I improve on my skills by trying hard	SD	D	N	A	SA
I work really hard	SD	D	N	A	SA
I win the race	SD	D	N	A	SA
Something I learn makes me want to go and train more	SD	D	N	A	SA
I'm the best	SD	D	N	A	SA
A stroke that I work on really feels right	SD	D	N	A	SA
I do my very best	SD	D	N	A	SA



## APPENDIX 2

### The Task and Ego Orientation in Sport Questionnaire (Study 1B- tennis)

The following questionnaire asks some questions to try and find out when you feel most successful in TENNIS.

**DIRECTIONS:** Please read each of the statements listed below and indicate how much you personally agree with each statement by circling the appropriate response.

When do you feel most successful in TENNIS? In other words, when do you feel that a training session or a match/competition has gone really well for you?

I feel most successful in TENNIS when .....

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I'm the only one who can do a certain shot	SD	D	N	A	SA
I discover a way to improve and it makes me want to practice more	SD	D	N	A	SA
I can do better than my friends	SD	D	N	A	SA
The others can't do as well as me	SD	D	N	A	SA
I learn something that is fun to do	SD	D	N	A	SA
Others mess up and I don't	SD	D	N	A	SA
I improve on my skills by trying hard	SD	D	N	A	SA
I work really hard	SD	D	N	A	SA
I win the match	SD	D	N	A	SA
Something I learn makes me want to go and practice more	SD	D	N	A	SA
I'm the best	SD	D	N	A	SA
A stroke that I work on really feels right	SD	D	N	A	SA
I do my very best	SD	D	N	A	SA

## APPENDIX 3

### Competition-Focused Measures of Goal Orientation (Studies 1A & 1B)

#### Assessments of Race Goal Orientation (Study 1A):

The following questions examine the way you think about swimming races **in general**. Answer them by circling the appropriate number which reflects how you generally feel. Please be as honest as possible and answer them on your own without any advice from parents and coaches.

##### When you compete in a swimming race.....

...how successful and satisfied do you feel if you beat other rival swimmers, but do not do a very good personal time?

Not at all satisfied								Very satisfied
1	2	3	4	5	6	7		

...how successful and satisfied do you feel if you swim a very good personal time, but lose to your rivals in the race?

Not at all satisfied								Very satisfied
1	2	3	4	5	6	7		

...what is generally more important to you as a swimmer- **beating your rivals** (regardless of the time) or **achieving a good personal time** (regardless of where you finish)?

Beating/Winning Most Important				Equal Importance				Personal Time Most Important
3	2	1	0	1	2	3		

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#### Assessments of Match Goal Orientation (Study 1B):

The following questions examine the way you think about tennis matches **in general**. Answer them by circling the appropriate number which reflects how you generally feel. Please be as honest as possible and answer them on your own without any advice from parents and coaches.

##### When you play a tennis match.....

...how successful and satisfied do you feel if you win and beat your opponent, but do not personally play very well?

Not at all satisfied								Very satisfied
1	2	3	4	5	6	7		

...how successful and satisfied do you feel if you personally performed very well, but lose the match to your opponent.

Not at all satisfied								Very satisfied
1	2	3	4	5	6	7		

...what is generally more important to you as a player - **beating your opponents** (regardless of how well you play) or **performing very well** (regardless of whether you win or lose) ?

Beating/Winning Most Important				Equal Importance				Personal Performance Most Important
3	2	1	0	1	2	3		



## APPENDIX 4

### The Race Context Questionnaire

#### ABOUT THE NEXT RACE

1. How important is it for you to swim well in the next race?

Not at all Important 1	2	3	4	5	6	Extremely Important 7
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2. How good do you think the opposition are in your next race?

Extremely Poor 1	2	3	4	5	6	Excellent 7
------------------------	---	---	---	---	---	----------------

3. Do you think that you can **beat** your closest rivals in the next race?

Definitely No -3	-2	-1	Unsure 0	+1	+2	Definitely Yes +3
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4. How much do you want to **beat** these closest rivals?

Not at all 1	2	3	4	5	6	Very much so 7
-----------------	---	---	---	---	---	-------------------

5. In your opinion, would your coach think that you are capable of beating your closest rivals in the next race?

Not at all capable 1	2	3	4	5	6	Extremely capable 7
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6. In your opinion, would your parents think that you are capable of beating your closest rivals in the next race?

Not at all capable 1	2	3	4	5	6	Extremely capable 7
----------------------------	---	---	---	---	---	---------------------------

7. Do you feel physically ready for this next race?

Not at all 1	2	3	4	5	6	Very much so 7
-----------------	---	---	---	---	---	-------------------

8. Do you feel mentally ready for this race?

Not at all 1	2	3	4	5	6	Very much so 7
-----------------	---	---	---	---	---	-------------------

9. In this next race, do you think that your coach would prefer you to beat other swimmers and win rather than achieve a faster personal time but not win?

Beating & Winning Most Important 1	2	3	Equal Importance 4	5	6	Faster Personal Time Most Important 7
--	---	---	--------------------------	---	---	---

10. In this next race, do you think that your parents would prefer you to beat other swimmers and win rather than achieve a faster personal time but not win?

Beating & Winning Most Important				Equal Importance				Faster Personal Time Most Important
1	2	3		4	5	6		7

11. To what extent is achieving a **good personal time**, regardless of where you finish, important to you in this next race?

Not at all Important							Extremely Important
1	2	3	4	5	6		7

12. To what extent is **beating other swimmers**, regardless of what time you achieve, important to you in this next race?

Not at all Important							Extremely Important
1	2	3	4	5	6		7

13. What is **more important** to you in this next race: Beating the swimmers in the race **or** swimming a good personal time?

Beating/Winning Most Important				Equal Importance				Personal Time Most Important
3	2	1		0	1	2		3

14. **To impress your clubmates and other swimmers**, which do you think is more important - To beat other swimmers and win races, regardless of the time you swim **or** to swim a very good time, regardless of where you finish?

Beating/Winning Most Important				Equal Importance				Personal Time Most Important
3	2	1		0	1	2		3



## APPENDIX 5

### The Match Context Questionnaire

#### ABOUT THE NEXT MATCH

1. How important is this match for you?

Not at all Important							Extremely Important
1	2	3	4	5	6		7

2. To what extent do you think you will win this match?

Definitely No				Unsure			Definitely Yes
1	2	3	4	5	6		7

3. In relation to yourself, how do you rate your opponent?

Much weaker				Similar standard			Much stronger
1	2	3	4	5	6		7

4. How strong is your desire to win this match and beat this opponent?

Not at all strong				Normal			Extremely strong
1	2	3	4	5	6		7

5. In your opinion, would your coach think that you are capable of beating this opponent?

Not at all capable							Extremely capable
1	2	3	4	5	6		7

6. In your opinion, would your parents think that you are capable of beating this opponent?

Not at all capable							Extremely capable
1	2	3	4	5	6		7

7. Do you feel **physically** ready for this next match?

Not at all							Very much so
1	2	3	4	5	6		7

8. Do you feel **mentally** ready for this next match?

Not at all							Very much so
1	2	3	4	5	6		7

9. In this next match, do you think that your **coach** would prefer you to **WIN** the match, playing badly, rather than play **VERY GOOD TENNIS** but not win?

Winning (regardless of performance) Most Important				Equal Importance			Very good tennis (regardless of result) Most Important
3	2	1	0	1	2		3

10. In this next match, do you think that your **parents** would prefer you to **WIN** the match, playing badly, rather than play **VERY GOOD TENNIS** but not win?

<b>Winning</b> (regardless of performance) Most Important 3            2            1	<b>Equal</b> Importance 0            1	<b>Very good tennis</b> (regardless of result) Most Important 2            3
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11. **To impress the LTA/officials** which do you think is more important - To win the match and get the result against the opponent, regardless of how well you play or to put in a very good performance, even though you might lose?

<b>Result/Winning</b> Most Important 3            2            1	<b>Equal</b> Importance 0            1	<b>Personal Performance</b> Most Important 2            3
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12. To what extent is achieving a very good personal performance, regardless of whether you win or lose, important to you in this next match?

Not at all Important 1            2            3	4            5            6	Extremely Important 7
--	-----------------------------	-----------------------------

13. To what extent is **winning and beating your opponent**, regardless of how well you perform, important to you in this next match?

Not at all Important 1            2            3	4            5            6	Extremely Important 7
--	-----------------------------	-----------------------------

14. What is **more important** to you in this next match: Beating your opponent and winning or feeling a sense of personal performance satisfaction?

<b>Beating/Winning</b> Most Important 3            2            1	<b>Equal</b> Importance 0            1	<b>Personal Performance</b> Most Important 2            3
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## APPENDIX 6

### Tennis Involvement Progression Questionnaire

#### 'YOUR INVOLVEMENT IN TENNIS'

*Your development as a player can be split into 3 phases which flow from one to the other. You'll start in Phase 1 (early experiences), then move into Phase 2 (increased commitment) and finally into Phase 3 (more fully committed to tennis). Read the following definitions of each phase and then label how old you were when you started and then moved from one to the other.*

#### PHASE 1: Early Experiences

- \* Getting involved in tennis - e.g. short tennis etc
- \* Mainly Group lessons
- \* Practicing usually once per week
- \* Doing other activities and sports besides tennis

At what age did Phase 1 start (i.e. when you started playing tennis) = \_\_\_\_\_

At what age did Phase 1 finish (i.e. Phase 2 began, more commitment = \_\_\_\_\_

#### PHASE 2: Increased Commitment

- \* Private/Individual lessons
- \* Increased amount of tennis/tennis-related activities
- \* Tennis took up more of your time - junior county sessions perhaps
- \* Began competing in age-group/ratings tournaments and playing club matches
- \* More time and money were involved

At what age did Phase 2 begin = \_\_\_\_\_

At what age did Phase 2 end (i.e. Phase 3 begins) = \_\_\_\_\_

#### PHASE 3: Committed to tennis

- \* More high level individual coaching
- \* Tennis takes up alot of your time
- \* Started to play top junior (Regional/National) competitions + Junior County
- \* Selection as a Rover player (this might have happened in Phase 2?)
- \* Much more time and money involved

At what age did Phase 3 begin = \_\_\_\_\_ How old are you now? = \_\_\_\_\_

How many hours do you practice/play **per day** = \_\_\_\_\_

How many days **per week** do you play = \_\_\_\_\_

How many weeks of the year do you play = \_\_\_\_\_

## APPENDIX 7

### The 'Understanding Attitudes of Elite Tennis Players' Reader

#### *UNDERSTANDING YOUR GOAL FOCUS AS AN ELITE TENNIS PLAYER*

You have now reached a stage in your 'tennis' where you are playing at the highest level of the game in Britain. It is an achievement to be proud of and hopefully something that you'll look back on in the future with great satisfaction. By the time of this interview, you'll have played many competitive matches and practice matches, won many more matches than you've lost, trained a great deal and be continually developing your skills. This interview will revolve around 2 aspects:

- a) the competitive matches that you have played in the past
- b) the competitive matches that you play currently

Whenever a player enters into a tennis match, there is usually something definite that they want to achieve from the match. We know this because when they finish they will almost always feel satisfied or dissatisfied; happy or sad; ecstatic or disappointed etc. This tells us that, because of their own personality or because of thoughts that they have about the match situation, they go on court with something to achieve in the first place. This can be called a '**goal focus**' because the player has a goal and in that match they want to focus on achieving that goal. Now, the goal that a player wants to achieve in one tennis match might not be what he desires to achieve in all matches. There might be different goals for different matches. What does tend to happen, however, is that the goals fall into two types of 'goal focus' category:

One category of 'goal focus' is totally about 'being better than the other player', wanting 'to be superior to your opponent' so that you feel good yourself and also perhaps look good to other people (other players, coaches, parents, LTA etc). The player believes that he has a certain level of ability and is eager to prove it to himself and perhaps reinforce it to other people who are important. In tennis, according to this type of player, one of the only ways to show/achieve this goal is by winning/beating your opponent. Greater ability can only be shown by winning or not losing, because you don't get a mark out of 10 for serving/passing shots etc., only the winner seems to be rewarded by the game of tennis. Therefore, if the player doesn't win, he tends to be disappointed.

This type of goal can be called an 'outcome' or 'win' goal focus. If you have or used to have a 'win' goal focus for matches, we shall explore when you have used it, why you have used it and how it may have developed.

There is, however, another equally important goal focus that players can possess prior to tennis matches which is totally about 'bettering one's self' ; developing your mental/physical/technical and tactical skills in matches; trying to improve from performance to performance. Rather than thinking about winning or losing, the player has a goal focus which is satisfied by the quality of performance and effort levels that are experienced in the match. If the personal performance/effort is high, then after the match the player



will be satisfied by that performance, satisfied that improvements have been made and that ability is getting better and better. This satisfaction can occur despite losing the match. If he believes he has satisfied the goal focus, then he is satisfied that he has made strides in the development of his skills.

If a player has this type of 'performance' goal focus, then most, if not all, of these aspects/skills will be important for him to achieve in the match. Usually, the player or the coach has to rate the achievement of these skills in their own mind, because tennis doesn't give you a mark out of 10 for concentration etc. Sometimes you and your coach may have set specific goals such as these to achieve in the match and then you might be able to find out a score such as 1st serve % by the coach analysing the match. However, often it is simply whether you 'felt' that you performed well in these areas which gives you the satisfaction or not.

The main difference between these 2 goal focuses is that one cares about the winning and losing, whilst the other cares about the personal performance and getting better over time. In tennis, some players will have a definite tendency towards one goal focus over the other for most matches. Because of the nature of tennis, this is usually the 'outcome' goal focus. However some players are very performance goal focused only. Very many players are what can be called 'high' in both goal focuses because they use both at different times and for different matches. For some matches, they might have both goal focuses which they want to satisfy - it's important to them to win the match and perform well in all their personal areas.

**THERE IS NO RIGHT OR WRONG WAY TO BE.** Top players use both the performance goal focus (e.g., Jim Courier; Stefan Edberg; Andre Agassi) and the outcome goal focus (e.g., John McEnroe; Mats Wilander). All top players could probably be placed into both categories, although one might be more dominant, and for some matches the goal focus may switch completely.

What I want you to explore is what your goal focus is predominantly, how it has developed over time, why you think it has developed in that way; and finally what match situations change/have changed or reinforce your goal focus prior to matches. A certain match situation might make you more performance-focused than outcome-focused, or vice-versa.

It is important that you try to be **completely honest** in your responses and think very carefully about yourself as a player because there might be another goal focus which you have which I haven't thought about. To give an example, I have thought back to my days as a junior and realised that my goal focus has changed for my competitive tennis matches over the years. It is interesting for me to search for the reasons why I have ended up like this and when changes take place. I have learnt a lot about myself in the process. I now have a better understanding about the times when one goal focus is better than another. You too will have formed your own opinions whilst reading and thinking about this, I want you to approach the issues as truthfully as you can. I want you to think deeply about your thoughts and feelings as a player so that you can learn much more about yourself. We can also discuss what you have learnt after the interview



## APPENDIX 8

### Interview Guide for Study 2

#### ELITE JUNIOR TENNIS PLAYERS INTERVIEW GUIDE

Subject No: \_\_\_\_\_ Name: \_\_\_\_\_ Age: \_\_\_\_\_

Date: \_\_\_\_\_ Time Starting: \_\_\_\_\_ Time Ending: \_\_\_\_\_

#### SECTION 1

##### INTRODUCTION (not recorded):

Hello, I'm Chris Harwood from the Dept. of Physical Education, Sports Science and Recreation Management at Loughborough University. Thanks for agreeing to be one of the members of this interview study with elite junior tennis players. In this project, I want to get to know how you have progressed as a player over the past 5-10 years to your elite level now. I am particularly interested in investigating what you think 'achievement' means to you in tennis. The few pages that you read about goal focuses should relate to yourself as a player who has a certain goal before he steps out onto court. I shall be focusing the interview mainly on how your goal focus has developed as a player and what still influences or has influenced your goal focus as an elite player

The information in this study will be used in 2 ways: First, the information will be used for my own PhD. research thesis. Second, the general findings will be reported in scientific journals so that other sport scientists, coaches and tennis players can benefit from them.

I want to emphasise that all of this information will remain **completely confidential**. The results and information will be presented in the form of selected quotes from the interview but these will remain strictly anonymous. You will simply be given a subject number. I am using a tape recorder so that the information brought out of the interview is clear and accurate. The tape recorder is also necessary so that I can make a typed transcript for later scrutiny and reference.



As a participant in the study, you have several very definite rights. Your participation in the interview is entirely voluntary, you are free to decline to answer any questions or to stop the interview at any point. There are no right or wrong answers to the questions I will be asking. I am keen to find out what you have to say as an elite junior tennis player. I hope therefore that you will answer the questions in an honest and straightforward manner. If there are any questions that you do not feel comfortable answering, I would rather you declined to comment than to tell me what you think or what you think I or others would want to hear. Let me reinforce that it's you I'm interested in, so please answer the questions as honestly as possible.

If you have any questions as we go along, please ask them and please ask for clarification, if at any time you don't understand what I'm saying.

**ORIENTING INSTRUCTIONS:** There are two things to keep in mind throughout this interview.

Firstly, we will spend some time talking about your early experiences as a player, how you became involved in the game before you started competing more seriously. Therefore, we will make a progression from the early days as a youngster, to becoming more committed and finally to the present day where you are playing a great deal. I will ask you to think back in time to these younger days when answering some of the questions. It might take a while to recall some of your past experiences and feelings at that age, but please take your time to remember; pauses are fine. For those questions, it's how you felt then, not how you feel now that counts. If you still can't remember, after trying to think back, then just let me know, but please don't guess

Secondly, when you are answering any of these questions, I want you to feel free to discuss your overall experiences as a player both on and off the court. The development of the tennis player's goal focus can be influenced and affected by many other things than just being on the court. In your answers, please be willing to draw on any aspects which you think have made you the player that you are now. This could include such things as lessons, examinations, relationships, interactions with other people or anything else which is important to your experience as a tennis player.

At the end of the interview, you will have the chance to add anything that you think is missing and also to offer advice to other young up and coming players.

Do you have any questions about what I've talked about so far? OK, then lets get started.

## **SECTION 2:**

### **PHASE 1: EARLY EXPERIENCES IN TENNIS:**

#### **Introduction:**

**In order to better understand your development and commitment to tennis, I have split the development and adoption of your goal focuses into 3 main phases. These phases take you from your early experiences as a player to the present day where you are a top junior who plays on a frequent basis.**

**This first section is all about your initial involvement in tennis, so please answer the questions thinking back to when you were in Phase 1 - your early experiences of the game.**

#### **Interview questions:**

1. How old were you when you first started playing tennis (lessons etc.)
2. Who got you involved in the game of tennis?  
**Probe:** Parents, school, brother/sister. Did other family members play?
3. Did you start with individual coaching or group sessions or both when you first began playing?
4. How many times per week did you have these coaching sessions?  
**Probe:** Location
5. Did you enjoy playing tennis at this early age?  
**Probe:** Yes/No - Why?
6. How did your coach reward you as a player? Was his/her philosophy about improvement and effort or winning and being better than other players  
**Probe:** Individual vs Group lesson differences
7. At this early age, what would you say was your major goal focus for tennis?  
Fun/improving skills -----competitive/wanting to be better than everybody else  
**Probe:** Reasons why?
8. Did you take part in any other activities at the same time?  
**Probe:** Competitively? Goal focus in these activities?

## **SECTION 3:**

### **PHASE 2: INCREASED COMMITMENT TO TENNIS:**

#### **Introduction:**

**Having discussed how you got involved in tennis and your early influences, we can now move to the more main areas of the interview. These next questions are going to be about when you became more committed to your tennis, between when you were about \_\_\_\_\_ to \_\_\_\_\_. These questions are about you in Phase 2, so when answering the questions, please think back as if you were in Phase 2, the time when**



you started to play a bit more seriously, so that I can hear your thoughts as a player who was at that age.

### Interview questions:

1. How old were you when you started playing competitive matches?  
**Probe:** Type of match; club junior matches; junior tournaments)
2. How often did you compete?  
**Probe:** Did you enjoy it?
3. How many coaching sessions per week were you attending at this stage?  
**Probe:** Same coach; What were his/her philosophies
4. Did your parents used to watch you play a lot/ show interest in your tennis?  
**Probe:** Yes/No - why?
5. At this stage, what kind of climate did your parents convey to you with regard to your competitive tennis - importance of improvement/development; trying your best or not to lose with disappointment/criticism when you should have won.  
**Probe:** Father and Mother differences; Examples of climate

### Sources and Meaning of Achievement

#### Introduction:

Now that we have talked a little bit about you in Phase 2, we are going to look more closely at what you think your goal focus was in this period. There seem to be two categories of goal focus which a player might have before a match - firstly, beating other players to reinforce ability and secondly, improving your skills, making progress through effort. Some players possess both goal focuses, but one may be more important than the other.

These next questions are about what you thought your goal focus was in Phase 2, in the period we've just talked about

### Interview questions:

1. Looking at the nature of tennis as a sport, in that period, what did you think the most important goal focus was to possess.  
**Probe:** Why?
2. What goal focuses do you think other players of your age group had in general ?  
**Probe:** Older vs Younger players
3. What would you say your goal focus was before most competitive matches during this period?  
**Probe:** Why?
4. Were you ever afraid of losing matches to opponents?  
**Probe:** Why? Why not?  
**Probe:** Worried about what others thought?
5. In general, do you think you had the same goal focus about school as you did in tennis (i.e., getting the best grades possible vs beating classmates)?

6. There could be quite a few reasons why at that age you thought your goal focus was.....What/Who do you think influenced you to possess this kind of goal focus.  
**Probe:** Parents; Coach; Teachers; Other players; Tennis; The System
7. What did you think about/do before/during matches, which showed that you were using this goal focus?
8. Thinking about this period only, were there any situations (tournaments, matches, opponents) before which the goal focus that you described might be even stronger.  
**Probe:** Self-confidence; rating of opponent; team; seeding; audience; importance of match; present form/performances; preparation
9. Are there any match situations where your goal focus might completely change, and the other goal focus may be more pre-dominant?  
**Probe:** Similar situational factors to Q. 8.
10. Many junior players are more focused on 'not losing the match' because they don't want to feel like they've failed, rather than focused on 'winning the match' because they want to beat the player and aren't too bothered about what others think?  
In being totally honest, what kind of player do you think you were in this period?

#### **SECTION 4:**

#### **PHASE 3: RECENT TIMES TO THE PRESENT DAY:**

##### **Subsection 1: Further Sources and Meanings of Achievement**

##### **Introduction:**

**Now that we have thoroughly discussed your feelings about what your goal focus was in Phase 2 and who/what might have influenced your feelings, I want to move on to ask you some very similar questions about you as the player in recent times. From now on, I want you to answer all of the questions as the player that you have been for the past year, competing and achieving at the highest level**

##### **Interview questions:**

**Over the past year, you have committed more fully to tennis, let me ask you a few questions about your experiences as a player now.**

1. How many coaching sessions per week do you have now?  
**Probe:** Same coach?  
**Probe:** Coaching philosophy - Performance/Outcome
2. Do you enjoy competing at this high level?  
**Probe:** Yes/No - Why?
3. What kinds of goal focus do other players in your age group have at the present time?  
**Probe:** All similar; a lot different
4. Which goal focus do you think is most important to Rover and to a Rover coach?  
**Probe:** How do they convey that message to you?  
**Probe:** Do you feel pressure? Is there education?



5. Looking at the nature of tennis as a sport at the present time, what do you think the most important goal focus is to possess.  
**Probe:** Why?
6. What has your goal focus for tennis matches been over the past few years up to now?  
**Probe:** Differences between Phase 2 and 3; within Phase 3
7. Are you ever afraid of losing matches to opponents?  
**Probe:** Why? Why not? Differences from Phase 2
8. Looking at school work now, do you have a similar goal focus at school as you have for tennis, or is it entirely different?
9. There could be quite a few reasons why in this phase you think your goal focus is.....Do those factors that influenced you in Phase 2 apply at present or are there any new factors, people, experiences or events that may have influenced the way that you view achievement over the past few years?  
**Probe:** Parents, Coach, Other players, Competition, The System; Experiences
10. What do you think about/do now before/during matches, which show that you were using this goal focus (e.g., thinking about winning/worried about losing; trying hard to perform as well as you can)?

#### **SECTION 4:**

#### **PHASE 3: RECENT TIMES TO THE PRESENT DAY:**

##### **Subsection 2: Situational Factors and Goal States**

##### **Introduction:**

**In the last few answers, you have given your thoughts about what your goal focus is now in general and, therefore, what you look to get out of matches which make you feel successful. One might argue, however, that every match is a different match and some tournaments/situations are different than others. For some players, if they are faced by certain match circumstances, their goal focus becomes even more important, it is reinforced; for other players, however, there are circumstances which cause them to change their goal focus, because they feel that it is important to achieve something else in the match**

**These next few questions explore whether this happens to you or not.**

##### **Interview questions:**

1. Thinking about this period only, are there any situations (tournaments, matches, opponents) before which your goal focus might be reinforced or strengthened? In other words, you'd be even more outcome or performance-focused? (choose relevant goals)  
**Probe:** Yes/No - why?  
**Probe:** self-confidence; rating of opponent; County/GB team; seeding; audience; parents/coach; importance of match; present form/performances; preparation
2. Are there any particular match circumstances or personal feelings which might change your goal focus completely?  
**Probe:** (as above)

(Only appropriate to players with clear ego orientation/involvement)

3. Do you feel in this phase that you are often focused on not losing matches as opposed going out to win them?  
**Probe:** Why/Why not?
4. Many players spend time thinking about the match/their opponent/the draw they might get in an upcoming tournament quite a few days before the actual match. How long before a match or tournament do you start thinking about it and what thoughts come into your mind?  
**Probe:** Frequency of thoughts of winning/losing vs personal performance; game plan  
**Probe:** Do they affect goal focus?
5. Having been through this interview and read the goal focus introduction, you will now have a better idea of what type of player you are at the moment. Thinking about the performance goal focus and the outcome goal focus. Can you sum up what kind of player you think you are currently?  
**Probe:** Change over time?

## **SECTION 5:**

### **ADVICE FOR OTHER YOUNG PLAYERS**

#### **Introduction:**

**As an elite player, you have a great deal of knowledge about competing in tennis and achieving at the highest level. These last couple of questions are about advice that you could offer to upcoming players**

#### **Interview questions:**

1. What advice or suggestions would you give to young tennis players starting out to help them to have the right goal focuses and to experience success the way that you have?
2. If you were a parent to a talented tennis player, what kind of encouragement, praise and rewards would you give the child in order for them to develop a positive attitude and goal focus for the game?

## **SECTION 6**

### **CONCLUSION:**

**Almost finished now and these last few quick questions will close up the interview.**

#### **Interview questions:**

1. Did you enjoy the interview?
2. Were you able to tell your story fully?
3. Did I lead you or influence your responses in anyway?



4. The interview was all about what you like to achieve in tennis; the goals that you set; who might have influenced you to have those goals; and in what circumstances your goals might change. Do you think we missed out on any important factors related to the above areas which you would like to add?
5. You have given alot of time to this interview, do you have any comments/suggestions about how the interview itself?

Many thanks for giving me your thoughts as such a talented player

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## APPENDIX 9

### Interview Transcript Example - Study 3: Subject No. 8

#### PHASE 1:

#### EARLY EXPERIENCES

CH: OK, so that I can better understand your development and commitment to tennis, I have split the development and adoption of your goal focuses into 3 main phases which you noted in your tennis progression questionnaire. These phases take you from your early experiences as a player to the present day where you are a top junior who plays on a frequent basis. These first questions are all about your initial involvement in tennis in Phase 1 - your early experiences of the game.

**S8: Right**

CH: OK, how old were you when you first started playing tennis about?

**S8: About 5 years old.**

CH: And who got you involved in the game of tennis?

**S8: My parents were really responsible for me starting**

CH: Did they play tennis?

**S8: Only my dad when he was young, but we used to play squash when I was younger and then we moved. We used to live in Darlington up North and we moved south to Basingstoke, and my parents saw an advert to play short tennis and then they knew I liked playing bat and ball games so they suggested that I go down there and try that and then it went from there really.**

CH: So thinking about you actual coaching, did you start off with short tennis sessions?

**S8: Yes, yes, it was just one day a week at the village hall just playing with loads of other kids, just getting a feel for the game really.**

CH: Was it all about fun then?

**S8: Yes, just about enjoying it and having some fun and maybe winning a prize for doing well, or getting picked out by the coach. If you did well today and won a prize, it made you feel good it made you want to play more.**

CH: Did proper tennis start later on in that phase, about 6 or 7 years old?

**S8: Yes, I was about 7 when I stopped playing short tennis and concentrated on the real stuff. But I still played about once or twice a week**

CH: So, thinking about the actual proper tennis game, was the individual coach more eager to reward improvement and effort, or was s/he more about winning and



competing with others? In other words, was it bettering yourself or bettering other players that come across as important to you?

**S8:** Well when I was at that age, I didn't really have that much individual coaching because my coach thought it would be better to have squads, so you're with other kids and you're having fun, a lot of the time, individuals at a young age you can maybe, you know, overdo it a little bit so you're not enjoying your individual lessons, but when you're in your group you're with others so it's about having fun, but obviously the winning is important to the coach because if you're doing well, he's pleased. At that age, you know, you're not playing that many tournaments, you're only playing one every month, so it's just about having fun and enjoying it and all that at that age.

**CH:** So at that early age, would you say that your main attitude as a person was about enjoying yourself and having fun, or was there an element of competitiveness, that you had to be the best?

**S8:** Well, there's always that, I'm very very competitive, I hate losing, I hate losing anything, you know, cards, even with my sister I hate losing, so whenever I played I wanted to win, so obviously I've got something in me that always wants to win, so whenever I played I was very competitive.

**CH:** Did you play other sports say from 6 to 9 years old?

**S8:** I played football. I played football and cricket.

**CH:** And were you very similar in those sports as well, just wanting to win all the time?

**S8:** Yes, yes, very much because it's a team game, it's different, you know, there's more emphasis on enjoying it in a team game, but in an individual sport it's you, it's all down to you, you want to be better than your opponent, you know, it's all down to you, but in a team game you can enjoy it slightly more, although as a team you all want to win together.

## PHASE 2:

### INCREASED COMMITMENT TO TENNIS

**CH:** OK, we've discussed how you got involved in tennis and your early experiences, so we can now move to the more main areas of the interview. These next questions are going to be about when you became more committed to your tennis, between when you were about 10 to 12. These questions are about you in that phase, Phase 2, so when answering the questions, please think back to when you were in Phase 2, the time when you started to play a bit more seriously.

**S8:** OK, I understand

**CH:** When did you start playing more competitive matches?

**S8:** About 10 years old, 9/10 years old.

**CH:** Were they like club matches or county matches or junior tournaments?



**S8:** There were club matches and county matches; but I also played VW ratings at that time, so they started off when I was about that age, got a rating and started playing tournaments all around local areas.

**CH:** Did you enjoy competing in matches a lot?

**S8:** Yes, I loved competing but there was a thing in me, you know, I got quite tight on the court because I wanted to win and I was more like a perfectionist and I hated doing things badly, always had that one thing to do everything well, so I got angry with myself when I was little, when I was younger on the court, when I was between 10 and 12 years old.

**CH:** How much coaching were you getting now, and what were the coach's philosophies at that stage?

**S8:** I had individual lessons twice a week and also some squad sessions. My coach was very much, do this now you'll be good later, so he always encouraged me to do things that other people didn't do. You know, guys that were just winning were just staying at the back and hacking, but he always made me want to come forward, you know, take the ball on and stuff, but I didn't always agree with him because I wanted to win. He said, 'well look, if you do this now, you'll be good later' and you can see, when you look at younger kids playing now you can see what he means, but when you're younger it's quite difficult to appreciate that, but you know, now I'm glad that I did listen to him and I did do things like that.

**CH:** So, what would you say your major goal focus was at that age, do you think it was all about winning and you didn't care how well you played, or.....?

**S8:** I think at that age I always wanted to win, I mean I like to play well, but at that age I just hated it, I didn't want to lose to guys the same age as me, maybe when we played older guys, yes I played well, I enjoyed it, it was fun, but you know, there's always that thing I wanted to win, but that was just change, you know, it's always important to you, it's the main thing in the game, but as you get older you begin to appreciate performance more .

**CH:** Do you think that other players of that same age group, from 10 to 12, were very similar to you, in their attitude or do you think you had more of a unique attitude to the game?

**S8:** I think everyone was the same, I mean, I probably stood out because I was probably the loudest but everyone, people, when you watch under 12's, it's always stressful, it's not the same mental composure, you know, things can go wrong when things aren't going well, so we all had a slightly different attitude in matches than the older guys.

**CH:** Did your parents get involved in your tennis quite a lot, were they quite interested in it?

**S8:** Yes, my parents were very interested in it because my dad played a lot when he was young, and they obviously played a lot of squash so they were very keen, they loved coming to watch me and they were always very keen, wanting me to be involved, getting me something to do, I met new people so they were very happy for me to do it.

**CH:** Did they convey the type of climate that was about importance of improvement and effort, playing your best or were they worried about you losing matches and wanted you to win all of the time



**S8:** No, they weren't worried about me losing, they were just happy if I enjoyed the match and I was pleased with my performance, winning for them was a bonus. You know, you see some people get told off or something because they've lost the match. I was never worried about that from my parents because my parents were never like that. I was lucky.

**CH:** Is there anything they did or say which brought their effort-based attitude across to you?

**S8:** Yes, when I was about 12, we sat down with my coach and he said, 'look if you want to be any good you've got to do this and this' and my parents always said to me that it was always what I want to do and that I was under no obligation to them to perform and, you know, it's just how things go for you, we're not going to add any pressure to you if you do well, that's great for us, but if you lose if you're not doing well, don't worry we'll always be there, you know, supporting you, so that always helped me when I was young.

## PHASE 2

### Sources and Meaning of Achievement

**CH:** OK, we have talked a lot about you in Phase 2, and already touched upon what you think your goal focus was in this period. You are aware of the two categories of goal focus which a player might have before a match - firstly, beating other players to reinforce ability and secondly, improving your skills or making progress through effort.

**S8:** Yes

**CH:** Well, now we are going to look at goal focuses in this phase in a little more depth.

**S8:** Right

**CH:** OK, thinking about the nature of tennis as a sport, and the demands it places on players at that age, what would you say that the most important goal focus was to possess? Do you think it would be all about winning or do you think it would be about improvement and development as a player?

**S8:** From 10 to 12 years old, I think you've got to be looking to improve, you know, because you're getting older and you're starting to develop a little bit you can't be looking just to play twenty feet behind the baseline and just loop the ball one hundred miles in the air and win because that's just not going to win in two years time, so I think you've got to start looking more at performance, what you're doing and how things are looking for the future.

**CH:** It is fairly clear that you had a high win goal focus at that time, was looking good to other people and impressing others important to you at that stage?

**S8:** I think it was then, yes, well obviously when I was younger I was a county player, I wasn't a national standard player so, you know, when you see national coaches you always wanted to look good, it's a natural thing when you're that age, because you want them to say 'look at him, he's a good player', so at that age I'd say looking good was important.

**CH:** Were there any particular parties or people that you wanted to look good in front of other than the national coaches, other players for example?



**S8:** Not really, no, if you looked good it was good for you, but I think as long as I won in front of them, that's all that mattered really at that age.

**CH:** Were you ever afraid of losing matches to opponents?

**S8:** Yes, I think I was at that age

**CH:** Why do you think that was?

**S8:** Well, at that age, you know, you want to get better and, you know, if things aren't going your way you're afraid. At 12 years old, you know, you start to understand more and you're starting to know people. Your coach knows people and you're afraid what they're going to say if you lose to a certain people- regional coaches and people that you know. It's obviously what people are going to say - you want people to say, 'well he's doing well', not 'look who he's just lost to, he's not going to be any good.'

**CH:** Was that a sort of pressure for you and did you feel a bit nervous before matches?

**S8:** Feeling nervous is natural, isn't it, it's just when you're playing you start to get tight inside yourself, and yes I always have that against people you always know you should beat rather than those who you shouldn't beat - so you know, if you're 5 or 6 all in the first set you're not enjoying it, you know, you just want to win the set and get into the next one and relax more. That was always a big thing when I was young. I'd always have it, you know, against guys maybe rated one or so below me, I always have a tight first set but once I won the first set, I relax and I played and it's always about relaxing and playing which is something that I didn't always do, because I got so uptight and stuff like that. Just a fear of losing then.

**CH:** At school at that stage, from 10 to 12, would you say you had a similar attitude towards school work? Did you want to be, perhaps not best in the class, but better than people around you, rather than just focusing on just getting the best personal marks you could?

**S8:** Well, obviously, I wanted to get the best marks I could but I didn't really have the same sort of attitude at school. When you're at junior school you don't really see work as that important, you know you just see it as something that you've got to do, so you know I wouldn't really say I had the same attitude, no.

**CH:** Now, there could be quite a few reasons why at that age, 10 to 12, you had a high win goal focus- you didn't want to lose at all. What would you say were the major reasons why you had that type of attitude? Was it something within yourself or do you think there were other people or other experiences which influenced you?

**S8:** No, I think it was just to do with myself that age, you know, it was the person I was in that period. I just hated losing really, that was it I would think.

**CH:** Is there anything that you did during matches, or before matches, in terms of behaviour which would show that you had very much a win attitude and didn't want to lose the match on court?

**S8:** Yes, well on court I'd say there was a lot of pieces showing that because, you know, I did show what I was feeling when I was that age, I wasn't one to hold it back, you know, I would say what I felt, just that looking back it's stupid



really, but you just want to do it when you're that age, you want to get it out, you know, you want to feel better inside yourself.

CH: So you'd shout negative things, self-condemning things, like 'that's crap' and things like that?

S8: Yes, well not at that age, I wouldn't quite use that, but a lot of words similar to that along with a few racquets against the fence!

CH: We've touched upon this a little, but thinking again about that period, were there any match situations where your goal focus, the win attitude, would be much more reinforced, in other words, you definitely wouldn't want to lose that match? So you'd go on with an even stronger desire not to lose or to win the match, in certain match situations or opponents that you came across.

S8: Certain matches where you felt more pressure like, at that age, like inter-region and things like that used to happen and you always wanted to perform well and win so that you tried extra hard so you felt more nervous in yourself because you didn't want to let the other people in your team down. When you're playing for yourself, I was always fairly confident with myself that I could just step up whenever I needed to, hopefully, and beat the guy, so I'd say self confidence made a big difference if I did or didn't have it.

CH: Are there any match situations where your goal focus would be completely changed, in other words, where you'd go out on court and just to try to perform well and improve shots against an opponent - where winning, or the desire not to lose wouldn't be really be as strong?

S8: Yes, I think so, but whenever I played I always tried my best, that was one thing that I've always had in me, I always give 101% , but there were obviously times when I played guys maybe two years older than me, who you know are good. Then I was looking for a good performance. Okay, you go into the match hoping to win, but thinking realistically you know that there are times that you're just not going to win, it's in those sort of matches that I looked for a good performance and looked at ways that you're going to improve. I just like relaxed and played the best I could to see ways that I had to play in order to beat the better players. So there were sometimes that I looked and said, 'hey this guys good, I may not beat this guy, but how can I beat him the next time I play him, in a year or so's time'; 'what am I going to be doing that's better than what he's doing', so it was learning from him as well really.

CH: Many players as juniors at that age are, what I would call, more focused on not losing the match, because they don't want to feel like they've failed or face the consequences of what other people think of them. Few players, I would argue, go on court focused on winning the match, whilst not being bothered about what other people think. In being honest, in this phase from 10-12, which type of player would you say you were?

S8: I think it's really that I didn't want to lose. I was never worried about the consequences from my parents, but I wanted to impress people and I really didn't enjoy losing because, you know, I felt as if I'd been knocked back and maybe I wasn't as good as I hoped I would be. I didn't want to feel in myself that I wasn't as good as a person because you aim to be as good, you know, the best in the country obviously at that age. That's what you want to be, so just to be knocked back, you know, I didn't want my enthusiasm to go, I didn't want to lose my interest in the game because I wanted to be good, I didn't want to be, you know, just another player.....



### PHASE 3:

#### RECENT TIMES TO THE PRESENT DAY:

#### Further Sources and Meanings of Achievement

CH: Now that you have thoroughly discussed your feelings about what your goal focus was in Phase 2 and the reasons behind this, I want us to move on to some similar questions about you as the player and your experiences in recent times. From now on, I want you to answer all of the questions as the player that you have been from 13 years old.

How many coaching and hitting sessions would you say you had per week?

**S8: Over the past 2 years, it has generally been 4 - two coaching and two hitting.**

CH: And does the coach you have now have the same philosophy as previous coaches?

**S8: I've always had the same coach so we've always really got on very well together, so we know each other as individuals. I know what he wants me to do and I know what I want to do. We have now come together in what is important to achieve from the game.**

CH: So what kind of philosophies do you both have now in the game of tennis, and what do you want to achieve out of the game?

**S8: To obviously have a good performance, you know, just to attack and go forward and not be afraid really, on the court, and not to be afraid of losing really. If things aren't going too well, just stepping an extra two foot behind the base line and not go forward just take it back, just try and go forward and being attacking and being aggressive.**

CH: So would you say that your goal focus in the last two or three years has changed from what it was when you were a youngster then?

**S8: I think it's changed slightly but it will always be in me not to lose, you know, you can understand performances a lot more as you get older as I am now..... it's just not fun losing. There's a bit of both, you know, there's some of that, you know, when I was reading, and some of the other**

CH: Are you now of the opinion that, being more mature towards performance, you recognise that playing well in these areas will help you out to achieve the outcome?

**S8: Yes, definitely, that's exactly how I would put it. Before I wasn't old enough, I was a different person**

CH: What kind of goal focus do you think other players around your age group have? Do you think they are very similar to other players or do you think there are players of different extremes?

**S8: I think there are some people that just love playing the game and they don't care if they win or lose, but as you get more towards the top of the age group I think you find a lot of people who are very win-related as well. I'm sure they must be because you can tell when people play on the court, you know, players always find that they want to win, they don't want to lose, but a lot of people, as you get older, do become more performance-related.**



- CH: Do you think that the ones who are win-related recognise the way that a performance goal focus has helped achieve the win or do you think not?
- S8: **I think the better players do. I think the better players appreciate performance and that's why they're probably the better players because when they've been 14/15 they've said 'look, okay, I've lost to a guy who's two years older than me and a much better player now, what's he doing to make him a good player'. So they've been able to sit down and assess why and they use this philosophy as they grow older. I mean, I played a match last year against Alex Osterreith and we were just both doing exactly the same and he wasn't hurting me and I wasn't hurting him. So you look at that situation, and say 'look when I'm that age I don't want to be doing that'. As a player three years younger than him, I almost beat a guy who's maybe ranked two or three in the country, three years older than me. If I start doing something better now, then I'm going to be better than him when I'm at that age. There's just little things like sitting down and looking, sitting down with your coach and saying that's not what I want to be, I want to be something else.**
- CH: What goal focus do you think is important to Rover or the Rover coach?
- S8: **As you grow older it's much more win-related, but when you're younger, well, it depends on the coach I think. To be honest, different coaches have different opinions of the game, but the Rover coach I had always wanted me to play well, if I lost, well, okay, why did you lose, what are you going to do different next time, but as you grow older and as you turn full time, people look at your winning performances and if you're not achieving you're not going to be selected for teams, etc. You know you won't be selected if you don't perform, so they've got to look at it and say as a performance we pick people that win, which they've got to do, otherwise it's unfair. You can't pick somebody who has obviously lost 5 tournaments in a row.**
- CH: Do you think they actually educate players towards the understanding that to win you've got to perform well, or do you think that because that doesn't come across that players just think they've got to win and that puts pressure on players to win?
- S8: **Well, I mean I can't speak for all the coaches obviously, but the one I had he was always emphasising performance, so that's how I really began to appreciate the performance a lot more than when I was younger.**
- CH: What about the actual Rover label. Do you think the scheme and the environment puts pressure on players?
- S8: **I think the Rover environment can put pressure on players definitely, I mean when I was young I wasn't really as involved. I have only been involved in Rover over the past 2 years and when I was young I could tell people were under pressure. You saw people swarming around one player, and I think when you're young you don't need that pressure, you just want your own pressure, only the pressure that you're putting on yourself. Only the pressure that you expect from yourself when you're that age. You just want to have fun and well play, you know, just playing for yourself you don't want to have to be worrying about what other people are saying about you. You don't need the pressure. Obviously I didn't feel at that time that I was better off not being on the scheme, I hated it because everyone else was and I wasn't, but when you can look back now you can see that pressure wasn't there so that you could improve yourself more, behind the closed door if you like. People aren't looking at you the whole time, you're with your own coach. It's not like the Bisham environment where you've got people**



swarming on you the whole time. At home you can just progress naturally and you haven't got the pressure to perform from other people, as well as yourself.

CH: Do you enjoy competing at the high level you are at now?

S8: Love it, yes, I love it, it's good, yes, I'd miss it definitely, it's just, you know, competing now is part of me. I hate not competing, you know, if you were not playing, if you're injured I hate it, you know, because you're sitting there, you can't get out there and play, so yes I love playing in international tournaments and I love the competing, you know, when you're playing for your country, there's an extra thing on you, there's always another buzz just playing the national championships, and if you win tournaments you get an even bigger buzz, you want to play more, you know, you want to be on the court all day, it's great, I love it.

CH: So, before when you stated that you were more afraid of losing to opponents in Phase Two, do you think you've lost that fear of losing?

S8: No, it's still there, it's definitely still there, you know. When you look through the draw you can always say 'well I don't want to play him because you're afraid that you're going to lose to him'; 'I'm glad he's in the other half, can't play him until the final', you know, just things like that but I think every player's got to have that, every player in the world has got to have it.

CH: And do you find you cope well with that fear that you have?

S8: Yes, it's just about getting out there and playing really, isn't it. I mean you're not going to have every match where you've got nothing to lose, it's part of improving, playing with pressure, playing because you're expected to beat a person but you know, he's capable of beating you, I mean if you don't have it if you're just playing like adult tournaments all the time there's no one you're afraid of and you're just not going to be able to play under pressure, so to have that fear is good within yourself because you demand more of yourself when you're playing.

CH: Do you think the higher performance goal focus that you've sort of developed a bit helps you to handle that fear because you know that you have attitude to go on court and play as well as you can?

S8: I think that you can look at that afterwards, not during the match, you know, if you're playing someone that you should beat, but things aren't going too well, it's difficult to assess that during the match. You can do it but it's much more difficult. You can't suddenly realise at 3-6, 1-3 down that you're playing well, you know it's not something that's going to come into your head during the match, you just want to work out a way of how you're going to get back in to the match, but afterwards you know, for half an hour you can sit down and assess your performance and say okay I lost but my performance was okay, if it's bad, then that's when things aren't looking so good.

CH: Thinking about school work in this phase, do you have the same opinion that your attitude to school work and playing tennis are different, or have you developed a competitive edge at school over the past two or three years?

S8: I just wanted to do my best, if I'd been at school the whole time I'd have probably have been more of that way, but because I've taken a lot of time off to travel, you know, I've been able to assess and say 'Okay I could have done



better', but because I've been away and I've been doing other things I've got to look at it and set my own standards. What I expect in myself is more important because I haven't been there to do a lot of the work, so, you know, I just wanted to do the best that I could with what I've done, touch wood, my results will be OK.

CH: Now, there could be quite a few reasons why at this age now you've still maintained quite a competitive and win goal focus but you've recognised performance is more important for you to develop. Again, do you want to try and elaborate what kind of events, experiences or people have influenced you to mature a bit more over those three years?

S8: I think it happens when you're growing up. You can assess more when you've seen it, you know, when you're young you're just seeing your first tournaments and you want people to say 'he's good', but, well, it's just like developing in life, isn't it, you can appreciate more things. Obviously there is the influence of others - you come off court to your coach and say 'I was awful,' but your coach says 'Yes, but you did this well, this well, this well and at that time you say 'Oh yes' . But when your older, you know, you can appreciate things more, I think that's just the main reason.

CH: Is there anything you do during matches or think and do before matches which would demonstrate that you have a sort of win goal focus but with a performance tint to it?

S8: Well, only probably when I'm on the court I try my best and I'll be running all day if I have to, if that's how I'm going to win the match, you know I'll be fighting, I'll be trying to do anything I can to win the match, and you can see it in a person, you're always got that fight in you, you want to get back into the match so you can bring the world down, and I think that's the thing that I can really show.

### PHASE 3:

#### RECENT TIMES TO THE PRESENT DAY:

##### Situational Factors and Goal States

CH: Right, we have looked closely at what your goal focus is now in general and, therefore, what you look to get out of matches which make you feel successful. As in Phase 2, every match is a different match and some tournaments/situations are different than others. For some players, if they are faced by certain match circumstances, their goal focus becomes even more important, it is reinforced; for other players, however, there are circumstances which cause them to change their goal focus, because they feel satisfied by achieving something else in the match. These next few questions are aimed at finding out in what circumstances your focus on performance and winning might change or be stronger.

S8: OK, I understand.

CH: Are there any types of match circumstances in these last 3 years which reinforce the importance of satisfying your need to win?

S8: Lower rated players where you are expected to win. It's important to beat any player who you are expected to beat. Also I'd say it's playing for the



team. It's different playing for your region and then playing for Great Britain, you feel more pressure because you know everyone's going to see the results. You want to win and you want to do well, you don't just want to be another person playing but not winning, you know, when you're playing for your country you want your country to do well, so there's that extra pressure and obviously the pressure of playing players below you. I don't think much really changes, you're still going to feel the same natural pressure when you're playing, but things have just gone upwards and the pressure may be a little bit higher, but you can learn to deal with it more than when you were little.

CH: What about the times when your focus on performance may be more important than outcome. Do those situations still occur and when are they?

S8: Yes, they still occur, but they're normally when playing guys like Jeremy Bates and people like that who you know you're going to look good against. It's only the top senior players that you don't feel realistically you're going to beat. I mean I've played Paul Hand and I went on the court thinking he's going to beat me easily, I lost six in the third, but I went on just to enjoy it and that was obvious in the match that I played because I played unbelievable because I was relaxed and I was just willing to experiment, you know, and I played probably the best match I've ever played, so there is definitely still that thing but it just doesn't happen so often.

CH: Some players spend time thinking about their draw before their matches and before they go on court. What kind of thoughts come into your mind and how do you prepare for a match?

S8: Well, thoughts of not losing, definitely thoughts of not losing, but I think I've never been one to sit down, and draw up a game plan. I'd always go on and go out and obviously if the guy is renowned for a weakness you'll exploit that, but I would just go out and play my own game and as things became obvious during the match then I'd do that more. I'd sit down and take note, but I wouldn't sit down with my pen and paper and write out a match plan, I just liked to take things how they came, look at it more that way.

CH: Finally, having been through the interview and read the goal focus introduction, you will probably have a better idea of what type of player you are at the moment. Thinking about the performance and outcome goal focus, could you try to sum up the kind of player you are currently and also how you might have changed over the years.?

S8: Currently, I'd say I'm a player who always gives the best try, try as hard as I can every time I play, to achieve the win, but if I don't win I can have a wider view of things like how I've played, and how he's played but everything is still geared towards winning. It was much more when I was younger, I was more arrogant wanting to win and didn't care what happened or how I played, just wanted to win, but I've always given 100%, always want to win, always try my best to do whatever I can to win a match, and that's obviously how I play on court.

### ADVICE FOR OTHER YOUNG PLAYERS

CH: OK, as an elite junior, you have a great deal of knowledge about competing in tennis and achieving at the highest level. These last couple of questions are about the advice that you could offer to upcoming players



**S8: Right**

**CH:** So what advice or suggestions might you give to young tennis players who are coming up so that they have the right goal focuses as they develop as players, and so that they become elite like you have?

**S8:** **Just to enjoy it, when you're young - enjoy it, don't get too heavily involved too young, so when you play matches you've got to want to win, but you've also got to listen to coaches, got to look at the future. If you do want to be an outstanding elite who's going to make it in the game of tennis, you've got to listen to people. Coaches don't say it for fun, they say it because they know what they're talking about, they've seen how the games developed over maybe 15 years that they've been involved with the game, but really it's just to have fun and love playing.**

**CH:** If you were a parent to a talented tennis player, what kind of encouragement, praise and rewards would you give the child in order for them to develop a positive attitude and goal focus for the game.

**S8:** **Not to put pressure on them, just to let them play, if they have lost and they are down in themselves, don't always try and pick them up straight away, because they just want to think to themselves, just give them some time by themselves, let them just reflect and then speak to them- say 'oh bad luck but this happened, and you did this right'. I think it's mainly not to put too much pressure on the kid, let them do what they want.**

**CH:** One final question, obviously you're the kind of player who has quite a good level of self confidence; if you were the kind of player who went into a match with lower confidence, do you think that a win goal focus is still the right thing to possess or do you think that you should simply focus on getting the best performance out of yourself given the circumstances? What's your viewpoint on that?

**S8:** **Depends on the person really, I mean if I think that if you want to be one of the best players, you've always got to have a win instinct in you, I mean I don't think you can make it in the game and not be involved in the winning and losing because there comes a point where you've got to win. You can't just go on losing but playing well. I think you've always got to have that winner instinct in you.**

## CONCLUSION

**CH:** OK, last few questions to wrap -up. Did you enjoy the interview?

**S8:** **Yes, it was good, yes it brought out quite a few things, definitely.**

**CH:** Were you able to tell your story fully?

**S8:** **Yes.**

**CH:** Did I lead you or influence your responses in any way?

**S8:** **No.**

**CH:** The interview was all about what you like to achieve in the game of tennis; the goals that you set; what might have influenced you to have those goals; and in

what circumstances your goals might change. Is there anything we've missed out or any important factors related to that area which you'd like to add at all?

**S8: Only the fact, I'd say that when I was young, Rover was the big thing, it was the big target, because it was when I was young there weren't so many people involved on the Rover scheme. It wasn't as wide as it is now, you know, regional level players weren't Rover players, so it was a really really big goal of mine to get on the Rover scheme so achieving that obviously helped me to develop. When I achieved that, you know, it gave me a boost and I was a young challenger but I wanted to be a scholar. That is originally what I think gave me the main boost in the game, the fact that I was under the Rover wagon so much at that time because it was such an elite thing at that time, so that was the main thing I would say.**



## APPENDIX 10

### The Perceptions of Success Questionnaire

This is a questionnaire which asks you to express your perception of what success in tennis means to you. **There are no right or wrong answers.** We ask you to circle the number that best reflects how you feel about that question.

When playing **tennis** I feel most successful when:

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	Strongly Agree		Neutral		Strongly Disagree
I beat other people	A	B	C	D	E
I am clearly superior	A	B	C	D	E
I am the best	A	B	C	D	E
I work hard	A	B	C	D	E
I show clear personal improvement	A	B	C	D	E
I outperform my opponents	A	B	C	D	E
I accomplish something others can't do	A	B	C	D	E
I reach a goal	A	B	C	D	E
I overcome difficulties	A	B	C	D	E
I master something I couldn't do before	A	B	C	D	E
I show other people I am the best	A	B	C	D	E
I perform to the best of my ability	A	B	C	D	E

## APPENDIX 11

### The Sub-Components of Self-Referent Tennis Performance Questionnaire (SSTPO)

The following set of questions ask you about the importance of achieving in different aspects of your game. All of these questions apply to your thoughts and feelings prior to this next match against your opponent.

On a scale of 1-10, WITH REGARD TO WHAT YOU WANT TO ACHIEVE FROM THIS NEXT MATCH - please rate how important it is for you to feel satisfied and successful with the following TECHNICAL elements/skills of your game:

#### GROUNDSTROKES:

Not at all important		Slightly important		Fairly important		Very important		Extremely important	
1	2	3	4	5	6	7	8	9	10

To what extent would you personally assess the quality of your groundstrokes in this next match?

Not at all		A little		A fair amount		Quite a lot		Very much so	
1	2	3	4	5	6	7	8	9	10

(Note: assessment in this context can mean how much you actually monitor or think about the quality of your groundstrokes between points or after the match)

Balancing up everything that you want to achieve in this match, how much does success and satisfaction in groundstrokes **actually** mean to you?

No meaning whatsoever		Of slight meaning		Fairly meaningful		Very meaningful		Of great meaning to me	
1	2	3	4	5	6	7	8	9	10

#### VOLLEYS:

Not at all important		Slightly important		Fairly important		Very important		Extremely important	
1	2	3	4	5	6	7	8	9	10

To what extent would you personally assess the quality of your volleys in this next match?

Not at all		A little		A fair amount		Quite a lot		Very much so	
1	2	3	4	5	6	7	8	9	10

(Note: assessment in this context can mean how much you actually monitor or think about the quality of your volleys between points or after the match)

Balancing up everything that you want to achieve in this match, how much does success and satisfaction in your volleying **actually** mean to you?

No meaning whatsoever		Of slight meaning		Fairly meaningful		Very meaningful		Of great meaning to me	
1	2	3	4	5	6	7	8	9	10



**SERVE:**

Not at all important		Slightly important		Fairly important		Very important		Extremely important	
1	2	3	4	5	6	7	8	9	10

To what extent would you personally assess the quality of your serve in this next match?

Not at all		A little		A fair amount		Quite a lot		Very much so	
1	2	3	4	5	6	7	8	9	10

(Note: assessment in this context can mean how much you actually monitor or think about the quality of your serve between points or after the match)

Balancing up everything that you want to achieve in this match, how much does success and satisfaction in your serving ability **actually** mean to you?

No meaning whatsoever		Of slight meaning		Fairly meaningful		Very meaningful		Of great meaning to me	
1	2	3	4	5	6	7	8	9	10

On a scale of 1-10, WITH REGARD TO WHAT YOU WANT TO ACHIEVE FROM THIS NEXT MATCH, - please rate how important it is for you to feel satisfied and successful with the following PHYSICAL aspects of your performance.

**SPEED/AGILITY:**

Not at all important		Slightly important		Fairly important		Very important		Extremely important	
1	2	3	4	5	6	7	8	9	10

To what extent would you personally assess the quality of your speed/agility in this next match?

Not at all		A little		A fair amount		Quite a lot		Very much so	
1	2	3	4	5	6	7	8	9	10

(Note: assessment in this context can mean how much you actually monitor or think about the quality of your speed/agility between points or after the match)

Balancing up everything that you want to achieve in this match, how much does success and satisfaction in speed/agility **actually** mean to you?

No meaning whatsoever		Of slight meaning		Fairly meaningful		Very meaningful		Of great meaning to me	
1	2	3	4	5	6	7	8	9	10

**STAMINA:**

Not at all important		Slightly important		Fairly important		Very important		Extremely important	
1	2	3	4	5	6	7	8	9	10

To what extent would you personally assess the quality of your stamina/endurance in this next match?

Not at all		A little		A fair amount		Quite a lot		Very much so	
1	2	3	4	5	6	7	8	9	10

(Note: assessment in this context can mean how much you actually monitor or think about the quality of your stamina/endurance levels between points or after the match)

Balancing up everything that you want to achieve in this match, how much does success and satisfaction in your stamina **actually** mean to you?

No meaning whatsoever		Of slight meaning		Fairly meaningful		Very meaningful		Of great meaning to me	
1	2	3	4	5	6	7	8	9	10

**POWER (in shotmaking):**

Not at all important		Slightly important		Fairly important		Very important		Extremely important	
1	2	3	4	5	6	7	8	9	10

To what extent would you personally assess the quality of your power in this next match?

Not at all		A little		A fair amount		Quite a lot		Very much so	
1	2	3	4	5	6	7	8	9	10

(Note: assessment in this context can mean how much you actually monitor or think about the quality of your power between points or after the match)

Balancing up everything that you want to achieve in this match, how much does success and satisfaction in power **actually** mean to you?

No meaning whatsoever		Of slight meaning		Fairly meaningful		Very meaningful		Of great meaning to me	
1	2	3	4	5	6	7	8	9	10



On a scale of 1-10, WITH REGARD TO WHAT YOU WANT TO ACHIEVE FROM THIS NEXT MATCH, - please rate how important it is for you to feel satisfied and successful with the following TACTICAL elements of your performance:

**ATTACKING ELEMENTS (e.g., short ball attack):**

Not at all important		Slightly important		Fairly important		Very important		Extremely important	
1	2	3	4	5	6	7	8	9	10

To what extent would you personally assess the quality of your attacking tactics in this next match?

Not at all		A little		A fair amount		Quite a lot		Very much so	
1	2	3	4	5	6	7	8	9	10

(Note: assessment in this context can mean how much you actually monitor or think about the quality of the attacking element of your game between points or after the match)

Balancing up everything that you want to achieve in this match, how much does success and satisfaction in the attacking elements of your game **actually** mean to you?

No meaning whatsoever		Of slight meaning		Fairly meaningful		Very meaningful		Of great meaning to me	
1	2	3	4	5	6	7	8	9	10

**DEFENSIVE PLAY:**

Not at all important		Slightly important		Fairly important		Very important		Extremely important	
1	2	3	4	5	6	7	8	9	10

To what extent would you personally assess the quality of your defensive play in this next match?

Not at all		A little		A fair amount		Quite a lot		Very much so	
1	2	3	4	5	6	7	8	9	10

(Note: assessment in this context can mean how much you actually monitor or think about the quality of your defensive play between points or after the match)

Balancing up everything that you want to achieve in this match, how much does success and satisfaction in your ability to defend **actually** mean to you?

No meaning whatsoever		Of slight meaning		Fairly meaningful		Very meaningful		Of great meaning to me	
1	2	3	4	5	6	7	8	9	10

**COUNTERATTACKING PLAY:**

Not at all important		Slightly important		Fairly important		Very important		Extremely important	
1	2	3	4	5	6	7	8	9	10

To what extent would you personally assess the quality of your counterattacking play in this next match?

Not at all		A little		A fair amount		Quite a lot		Very much so	
1	2	3	4	5	6	7	8	9	10

(Note: assessment in this context can mean how much you actually monitor or think about the quality of your counterattacking play between points or after the match)

Balancing up everything that you want to achieve in this match, how much does success and satisfaction in your counterattacking play **actually** mean to you?

No meaning whatsoever		Of slight meaning		Fairly meaningful		Very meaningful		Of great meaning to me	
1	2	3	4	5	6	7	8	9	10

On a scale of 1-10, WITH REGARD TO WHAT YOU WANT TO ACHIEVE FROM THIS NEXT MATCH, - please rate how important it is for you to feel satisfied and successful with the following MENTAL aspects of your game:

**CONCENTRATION DURING AND BETWEEN POINTS:**

Not at all important		Slightly important		Fairly important		Very important		Extremely important	
1	2	3	4	5	6	7	8	9	10

Balancing up everything that you want to achieve in this match, how much does success and satisfaction in your ability to concentrate **actually** mean to you?

No meaning whatsoever		Of slight meaning		Fairly meaningful		Very meaningful		Of great meaning to me	
1	2	3	4	5	6	7	8	9	10

**POSITIVE THOUGHTS ABOUT PERFORMANCE:**

Not at all important		Slightly important		Fairly important		Very important		Extremely important	
1	2	3	4	5	6	7	8	9	10

Balancing up everything that you want to achieve in this match, how much does success and satisfaction in your ability to think positively **actually** mean to you?

No meaning whatsoever		Of slight meaning		Fairly meaningful		Very meaningful		Of great meaning to me	
1	2	3	4	5	6	7	8	9	10



**GOAL SETTING BEFORE POINTS:**

Not at all important		Slightly important		Fairly important		Very important		Extremely important	
1	2	3	4	5	6	7	8	9	10

Balancing up everything that you want to achieve in this match, how much does success and satisfaction in your goal setting **actually** mean to you?

No meaning whatsoever		Of slight meaning		Fairly meaningful		Very meaningful		Of great meaning to me	
1	2	3	4	5	6	7	8	9	10

## APPENDIX 12

### The Locus of Goal Involvement Questionnaire (LGIQ)

Each of the following statements reflect something that might be achieved in a match which would make players feel successful and satisfied. However, different players feel successful and satisfied by achieving different things. Therefore, a factor that might be important to achieve for one player might not be important to another. I would like you to rank each of these following statements from (1) being the 'most important'.... to (12) being the 'least important'..... goal to achieve for this **next match**.

To help you do this, you may first of all label your three most important statements to achieve as Category 1; your next three most important as Category 2; your next three most important as Category 3; and finally, your three least important statements of the group as Category 4.

Having done this you can then rank each statement from 1 to 3 within each category to produce ranks from 1-12. This means that Category 1 will contain ranks 1-3; Category 2 - ranks 4-6; Category 3 - ranks 7-9; and Category 4 - ranks 10-12.

(For information purposes only:

Items 1, 7, & 11 reflect Personal Ego Involvement

Items 2, 5, & 9 reflect Personal Task Involvement

Items 3, 6, & 10 reflect Social Approval Ego Involvement

Items 4, 8, & 12 reflect Social Approval Task Involvement )



**Below is a list of statements reflecting what might be important for you to achieve in the match**

**First of all, place a total of three statements in each of the four categories (1-4) of importance. Then rank from 1-3 within each category to help you rank the list from 1-12.**

1. proving to yourself that you can beat the opponent

**Category :** \_\_\_\_\_ **Rank:** \_\_\_\_\_

2. mastering a shot/stroke that you have been working on

**Category :** \_\_\_\_\_ **Rank:** \_\_\_\_\_

3. reinforcing to other people that your game skills are superior to your opponent's

**Category :** \_\_\_\_\_ **Rank:** \_\_\_\_\_

4. showing others how you get the best out of yourself

**Category :** \_\_\_\_\_ **Rank:** \_\_\_\_\_

5. playing to a level which reflects personal improvements in your game

**Category :** \_\_\_\_\_ **Rank:** \_\_\_\_\_

6. showing other people your ability to win the match

**Category :** \_\_\_\_\_ **Rank:** \_\_\_\_\_

7. putting in a performance that is better than your opponent's

**Category :** \_\_\_\_\_ **Rank:** \_\_\_\_\_

8. proving to other people how well you solve problems during the match

**Category :** \_\_\_\_\_ **Rank:** \_\_\_\_\_

9. making progress in the execution of your skills

**Category :** \_\_\_\_\_ **Rank:** \_\_\_\_\_

10. proving to others that you are better than your opponent

**Category :** \_\_\_\_\_ **Rank:** \_\_\_\_\_

11. showing a higher level of skill than your opponent

**Category :** \_\_\_\_\_ **Rank:** \_\_\_\_\_

12. proving to others how hard you work to play well

**Category :** \_\_\_\_\_ **Rank:** \_\_\_\_\_

APPENDIX 13a

Social Validation Questionnaire - Players

Part 1 followed by Part 2

SOME QUESTIONS ABOUT THE LAST 3 MONTHS

Directions:

You have now been part of the project for 3 months and I would like to ask you some questions relating to your thoughts and feelings about the project. It is important that you are as honest as possible when answering these questions. Some of the questions require you to write your answer in your own words, others simply ask you to respond by circling a number from 1 to 7 which reflects the way that you feel. If you wish to add anything to the answers where you have simply circled a response, you may do so in the space provided. Please do not feel that you have to respond in a certain manner - be totally honest and provide as much information as you can.

**PART 1**

1) Did you know what the purpose of the study was? (Please tick one)

Yes \_\_\_ No \_\_\_ Unsure \_\_\_

If you answered 'Yes', in your own words, what do you think that the purpose of the study was?

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2) Why do you think that you were selected for the study and asked to participate?

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3) Did you fully understand what was expected of you in the study?

Not at all Very much so  
1 2 3 4 5 6 7

4) Did you feel that you stuck to the job of carrying out all the tasks in the project

Not at all Very much so  
1 2 3 4 5 6 7



5) Do you feel that you were fully committed to the project throughout the study?

Not at all Very much so  
1 2 3 4 5 6 7

6) Do you feel that your tennis performance or ability to play tennis as a whole has changed over the past 3 months of this project?

Decreased Stayed the same Improved  
-3 -2 -1 0 +1 +2 +3

7) Do you feel that the changes to your performance as a player (or ability to play) have been significant?

Not at all Very much so  
1 2 3 4 5 6 7

8) Have the tasks that you have completed and the procedure that I followed been acceptable to you?

Not at all Very much so  
1 2 3 4 5 6 7

9) Have the tools/sheets that you have used (and the content of information of given to you) been useful to you as a player?

Not at all Very much so  
1 2 3 4 5 6 7

10) Do you think that you will continue to complete the training and competition 'tasks'?

Not at all Very much so  
1 2 3 4 5 6 7

11) Do you feel that you have benefitted from the project? (Please tick)

Yes \_\_\_ No \_\_\_

12) If YES, how do you feel that you have benefitted?

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13) If NO, why do you feel that you have not benefitted?

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14) If you thought that the content of the project and it's tasks contributed to enhancing your performance and improving yourself as a player, could you comment on **why** you believed this to be the case?

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I would now like to ask you some questions relating to your thoughts and feelings about your **parents, coach and myself** in the project. It is important that you are as honest as possible when answering these questions. Please do not feel that you have to respond in a certain manner - be totally honest and provide as much information as you can.

**PARENTS:**

15) Do you feel that your parents have made a valuable contribution to the project?

Not at all Very much so  
1 2 3 4 5 6 7

16) Do you feel that they have supported you over the past 3 months in a way which has been positive to your improvement as a player?

Not at all Very much so  
1 2 3 4 5 6 7

If positive, briefly elaborate on the ways in which they have been supportive and what they have done to help you?

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- 17) Though the relationship with your parents is good in general terms, do you think that your relationship with your parents in terms of your tennis and their understanding of your game has changed or improved as a result of the project? (Please tick)

Yes \_\_\_ No \_\_\_

If YES, how and why do you feel that it has changed?

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- 18) Do you feel that you have benefitted with your parents being part of the project?

Not at all Very much so  
1 2 3 4 5 6 7

- 19) Do you feel that your parents have benefitted from being part of the project?

Not at all Very much so  
1 2 3 4 5 6 7

The following questions now ask about your thoughts and feelings about your individual coach

**INDIVIDUAL COACH:**

- 20) Do you feel that your coach has made a valuable contribution to the project?

Not at all Very much so  
1 2 3 4 5 6 7

- 21) Do you feel that s/he has supported you over the past 3 months in a way which has been positive to your improvement as a player?

Not at all Very much so  
1 2 3 4 5 6 7

If positive, briefly elaborate on the ways that s/he has been supportive and what s/he has done to help you?

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22) Do you think that your relationship with your coach in terms of your tennis and their understanding of your game changed or improved as a result of the project? (Please tick)

Yes \_\_\_ No \_\_\_

If YES, how and why do you feel that it has changed?

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23) Do you feel that you have benefitted with your coach being part of the project?

Not at all				Very much so		
1	2	3	4	5	6	7

The following questions ask about your thoughts and feelings about myself as an outside educator. Please be as honest as possible.

**EDUCATOR (myself):**

24) Do you feel that the educator has made a valuable contribution to the project?

Not at all				Very much so		
1	2	3	4	5	6	7

25) Do you feel that he has supported you over the past 3 months in a way which has been positive to your improvement as a player?

Not at all				Very much so		
1	2	3	4	5	6	7

If positive, briefly elaborate on the ways in which he has been supportive and what he has done to help you?

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\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

26) The educator wasn't a person you knew well prior to the project. Do you think that your relationship with the educator in terms of your tennis and their understanding of your game changed or improved as a result of the project? (Please tick)

Yes \_\_\_ No \_\_\_\_

If YES, how and why do you feel that it has changed?

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

27) Do you feel that you have benefitted with the educator being part of the project?

Not at all Very much so  
1      2      3      4      5      6      7

28) If more players could get help from 'educators' like myself, as you have done for your tennis, do you think this would be a good idea?

Yes \_\_\_\_ No \_\_\_\_

If YES, tell me why you think it is a good idea?

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## PART 2:

### Study Purpose

You were chosen for this study from the questionnaires that you completed for me in the past. These questionnaires tried to examine how much winning and personal performance were important to you in tennis. The scores showed that although personal performance was important to you, your attitude regarding the importance of performance may not have been as strong as it could have been. Winning or not losing were also important to you and this was particularly the case in matches where there was a higher degree of expectation placed on you to win. Usually, you viewed these matches as threats rather than challenges

I examined the importance you placed on personal performance and the skills of the game which 'make up' a tennis performance (e.g., groundstrokes, concentration). This showed that although the skills were important to you, the true meaning that you gave to achieving success in those skills and the time that you spent assessing/monitoring the quality of the skills was actually quite low.

The purpose of the project was therefore to educate you and help you to develop a more appropriate attitude towards your tennis. It endeavoured to help you understand that personal performance is the most important factor in terms of how you look at success and whether you feel that you have achieved or not in tennis. Parents, coaches and an educator were there to help in different ways. The sheets and file of information that you are familiar with were designed to help you develop a more appropriate attitude as a competitive performance player.

You completed the three questionnaires before and then after the project where you responded to questions having been placed in 3 similar 'pressure' match situations against 3 different opponents. These situations reflected important matches where there was pressure to win from rival players who you may have expected to beat with lower ratings and seedings. The object was to see if you had developed a stronger performance attitude towards these matches which showed that achievement in the match depended on the quality of your competitive personal performance.

Bearing these points in mind, please answer the following questions as **honestly** as possible.

1. Do you feel that the meaning and value that you place on your personal performance in matches has changed following the project?

Yes \_\_\_\_ No \_\_\_\_

If YES, how do you think it has changed?

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2. Has the **importance** or **meaning** of winning tennis matches remained the same to you throughout the project?

Yes \_\_\_\_ No \_\_\_\_

If NO, how has it changed?

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3. Do you feel that you are more performance-focused (i.e., focused on self-challenge) during the matches where you are expected and put under more pressure to win?

Yes \_\_\_\_ No \_\_\_\_

If YES, what do you do which ensures or shows that you are focussing on the importance of your performance and the self-challenge?

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4. You answered questions about an upcoming match against three different opponents in June. Three months later, you answered the same questions about the same match situations. Could you briefly comment on how your approach or attitude to those matches/opponents might have changed as a result of the project?

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5. Related to those three match situations, to what extent were you able to imagine yourself in the competitive situations which were described to you?

Not at all						Very much so
1	2	3	4	5	6	7

6. Do you feel that the match situations to which you responded were typical of of 'pressure' situations that you face in competitive tennis?

Not at all						Very much so
1	2	3	4	5	6	7

7. In relation to actually being involved in these types of situation, how realistic was it to answer the questions whilst imagining the situation?

Not at all realistic						Highly realistic
1	2	3	4	5	6	7

8. From the list below, which of the tasks or information from either myself, coach or your parents do you think have been most useful in helping to develop a performance, self-challenge-based attitude to training and matches over the past three months? (You may mention more than one useful element if you wish)

- The educational file of information about Competitive Performance and Resistance
- The Player Log books
- Performance segmenting sheets
- Performance review sheets
- Competitive Performance match reports
- Competitive Performance scores
- Parent match analysis and flow charts
- Individual purposeful hit sheet
- Physical session sheet
- Coaching session messages sheet

You may tick any element and write any comments on why it was useful below

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9. Is there anything which you felt was irrelevant and/or not particularly helpful in the project.

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10. Finally, is there anything about the study which you would like to say?

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(use a separate page if required)



**APPENDIX 13b**

**Social Validation Questionnaire - Parents**

1. Do you feel that you have benefitted from being part of the project?  
Not at all Very much so  
1 2 3 4 5 6 7

2. Do you feel that you have made a valuable contribution to the project?  
Not at all Very much so  
1 2 3 4 5 6 7

3. What do you feel that you have learnt from being part of the project?

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4. How do you feel that your relationship with your son/daughter has changed (with respect to their tennis) as a result of the project?

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5. Which aspects of the project do you think are most relevant to your role as a tennis parent (education about competitive performance, pre-match tasks, verbal behaviour log books, match analysis, performance review sheets, after match information, competitive personal performance score etc)?

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6. What aspects of the project did you find irrelevant and/or which tasks do you think could be improved?

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Please continue any answers on separate sheets if necessary

**Thankyou for your comments**

APPENDIX 13c

Social Validation Questionnaire - Coaches

1. Do you feel that you have benefitted from being part of the project?

Not at all Very much so  
1 2 3 4 5 6 7

2. Do you feel that the "motivational lesson" structure helped create the appropriate "performance-related" lesson for the player and aided your role as a "Competitive Performance" coach.

Not at all Very much so  
1 2 3 4 5 6 7

3. Did you feel that you were able to convey messages in the 4 performance factors which the player could write down after the lesson

Not at all Very much so  
1 2 3 4 5 6 7

4. Did you feel that the player's attitude to their tennis, understanding of the game, or their overall performance has improved over the past 3 months of the project

Not at all Very much so  
1 2 3 4 5 6 7

If so, what improvements have you noticed?

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5. What aspects of the project did you find irrelevant and/or what elements of the project do you think could be improved

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Please continue any answers on separate sheets if necessary

Thankyou for your comments





APPENDIX 15

A Completed Example of a Performance Review Sheet - Study 3: Subject 1

PERFORMANCE REVIEW SHEET

Date: 25/7/95 Tournament event: Reics pontins open Round: quarter 16's

Surface: hard Opponent: Laura Peaty

Opponents style of play: attacking baselines

PERFORMANCE SELF CHALLENGE GOALS:

RATING OF ACHIEVEMENT

<u>Keep ball deep to backhand</u>	<u>90</u> /100 eventually (much problem solving action)
<u>Vary ball-use dropshots &amp; angled ball</u>	<u>80</u> /100
<u>approach net when appropriate-not impatient</u>	<u>70</u> /100
<u>positive serves. Vary &amp; use topspin on 2nds- bounce high on hard court</u>	<u>75</u> /100

MENTAL PERFORMANCE HELPERS:

RATING OF ACHIEVEMENT

<u>don't worry, be happy-R.E.S.I.S.T.A.N.C.E</u> <small>goes about importance</small>	<u>90</u> /100
<u>100% focused-plan the next point before it starts</u>	<u>80</u> /100
<u>1st point of each game, then 2nd &amp; 3rd point etc</u>	<u>70</u> /100
<u>run every ball down. Never give up</u>	<u>80</u> /100

DURING MATCH PROBLEM SOLVING ACTIONS:

RATING OF ACHIEVEMENT

<u>Slowed the pace-more topspin &amp;</u>	<u>    </u> /100
<u>keeping the ball deeper to backhand side</u>	<u>    </u> /100
<u>side</u>	<u>80</u> /100

RATING OF COMPETITIVENESS TO MEET GAME CHALLENGE: 80 /100

RATING OF SELF-CHALLENGE SATISFACTION: 80 /100

WAS THE GAME CHALLENGE MET: YES: NO SCORE: 6-4, 6-2

6 PERFORMANCE POSITIVES FROM THE CHALLENGES:

1. good backhand depth
2. didn't worry-enjoyed match
3. focused well
4. good movement-chased everything
5. attacked well & kept her on the move.
6. defended well. This was helped by the way I ran everything down. By making her play extra shots I caused her to make more errors.

3 PERFORMANCE TRAINERS FROM THE CHALLENGES:

1. more aggressive. I was dominated early on.
2. Consistent. Still cut down on errors due to impatience.
3. better net approaches-don't come in on balls that do not put opponent under pressure.



## APPENDIX 16

### A Completed Example of a Competitive Performance Report - Study 3: Subject 1

#### COMPETITIVE PERFORMANCE REPORT

Date: 25/7/96

Opponent: Laura Peaty

"HEADLINE"

PEATY PUTS UP GOOD PERFORMANCE

#### The course or flow of the match:

I took an early lead in the match but felt that I was quite lucky because it was my opponent's errors, rather than my good play that gave me the lead. Then, Laura cut out the mistakes and we had lots of long baseline, flat, rallies which resulted in Laura usually making a stunning winner! At 4-3 down, I decided that I must slow the ball down slightly, because she was thriving off the pace I gave her. As soon as I did this Laura started to drop the ball short a lot more, and I was able to attack. When I won the 1st set 6-4, the 2nd set was comfortable.

#### Your thoughts, feelings and behaviour during the match:

I was actually quite worried during most of the 1st set because my opponent was playing so well - better than she ever has done before. I did not think I was playing particularly badly, but she would come out with the winner. I feel that if I had not changed my game, her performance would have continued to improve. However, I felt my 'self-challenge to meet the game-challenge,' meant I was able to slow down the ball and use a lot more topspin which she could not cope with. I was very focused throughout the match and never showed

The skills that were on form which satisfied you: any visible signs of anxiety.

My ability to assess the situation and realize in which ways I needed to change my game to improve my performance and ensure that the game challenge was met. I used my new tactic well and effectively and when given the opportunity to attack, I did so successfully. I also varied the ball a lot in the 2nd set to ensure my performance did not drop.

### Observations on the errors that you made:

In the first set when the games were very tight, I felt my errors and lack of intelligence forced me to concede the games. I hit the ball flat and did not put Laura under enough pressure. Subsequently she made some winners or made me commit forced errors. I got impatient and tried to make a winner early on in the rally, when I was not in a good position and made some mistakes. In that 1st set, impatience was my problem.

### The opponents performance and skills that put you under pressure:

Laura was feeding off my pace in the 1st set and her performance during the powerful rallies eventually exceeded mine. However the longer the rallies were, the harder she found it to maintain pace and depth and so she ended the rallies, usually with a winner. I did not want to necessarily cut down the length of the rally, as I thought she was getting weary but I wanted her to have to put the pace on the ball, if that is what she wanted to do.

I have learnt how to assess my opponent's game and when necessary change my game to cause difficulties for them. If my game is hard hitting and theirs is the same and their performance is greater than mine, I must change the pattern and make the style suit me. Against other opponents I would not necessarily <sup>have</sup> to change the game in this particular way, but would need to individually assess them.



## APPENDIX 17

### Competitive Performance Score: Scoring Instructions

#### COMPETITIVE PERFORMANCE SCORES

Competitive Performance scores are a method of giving you a total score for your competitive performance in every tennis match that you play. The score that you calculate will help you evaluate how good your own personal performance was, as well as your competitiveness against different standards of player. The score depends on the quality of personal performance in the 4 areas (the self-challenge), your perceived competitiveness to overcome the opponent, and on your actual ability to overcome the challenge of the match (the game challenge). Points for self-challenge and game challenge are administered dependent on the quality of the opposition and, more pertinently, your own personal expectation of the test:

First, judge the star \* of the opponent. Would meeting the game challenge in this next match be a 1\* win, a 2\*\* win, a 3\*\*\* win or 4\*\*\*\* win.

- \* 1 star win (player lower rated; good record against; would expect to game challenge comfortably). If the opponent is 1\*, the following points are available for each element.

<b>Game Challenge</b> <b>60 points (40/20)</b>	<b>Self-Challenge Review</b> <b>15 points</b>	<b>Mental behaviour</b> <b>15 points</b>	<b>Preparation</b> <b>10 points</b>
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- \*\* 2 star win (player similar rating; could be close, but would expect to game challenge). If the opponent is 2\*\*, the following points are available for each element.

<b>Game Challenge</b> <b>50 points (33/17)</b>	<b>Self-Challenge Review</b> <b>20 points</b>	<b>Mental behaviour</b> <b>20 points</b>	<b>Preparation</b> <b>10 points</b>
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- \*\*\* 3 star win (player similar/higher rated; lost close before; opponent might expect to game challenge but could be very tight). If the opponent is 3\*\*\*, the following points are available for each element.

<b>Game Challenge</b> <b>40 points (26/14)</b>	<b>Self-Challenge Review</b> <b>25 points</b>	<b>Mental behaviour</b> <b>25 points</b>	<b>Preparation</b> <b>10 points</b>
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- \*\*\*\* 4 star win (player higher rated; tough match; opponent would expect to game challenge comfortably). If the opponent is 4\*\*\*\*, the following points are available for each element.

<b>Game Challenge</b> <b>30 points (20/10)</b>	<b>Self-Challenge Review</b> <b>35 points</b>	<b>Mental behaviour</b> <b>25 points</b>	<b>Preparation</b> <b>10 points</b>
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Notes:

**Self-challenge Review** is your evaluation of personal performance. Use your percentages of goal achievement from the Performance Review sheet and your ratings of other basic qualities of performance. Also consider parental match analysis and any other analysis techniques that examined your role in the match.

**Mental Behaviour** - calculate from Mental Performance helpers; subjective opinion on the positive thoughts/body language and consistency of behaviour on court; Match analysis

**Preparation** is your rating of pre-match preparation. How well did you complete the pre-match routine?

**Game challenge** points are divided into 2 units. 1/3rd of the points available are given for winning the match. If you meet the game challenge, you earn all of these points immediately. The remaining 2/3rds is a competitiveness to game challenge 'rating'. How competitive were you to secure the match? Apportion yourself a number of points accordingly for your competitiveness against all standards of opposition. This score can be calculated from the relevant section in the Performance Review sheet.

**Example:** Match vs 3 \*\* player. Preparation = 7 pts out of 10pts available. Mental Behaviour = 20 pts (consistent and positive) out of 25 pts available. Self-Challenge Review = 20 pts (performed well) out of 25 points available. Game Challenge = 0 pts (lost match 4-6, 5-7); 22 pts (competed and hustled) out of 26 points available). Total = 7 + 20 + 20 + 22 = **69 points are scored for this match.** Still room for improvement!

APPENDIX 18

A Completed Example of a Competitive Performance Score Sheet - Study 3:

Subject 3

1/2 for planning  
2/3 for competitive to win

COMPETITIVE PERFORMANCE INDEX

Opponent	Preparation	Mental behaviour	Performance Review	Game challenge <del>Outcome</del> I	
*1. M Drucker	9	8	10	20/25	72
**2. F Harvey	9	15	14	34/15	87
**3. S ROSS	9	10	10	0/8	47
AVERAGE:	9	N/A	N/A	-	68
*1. M Irwin	9	14	12	40/15	90
***2. A White	9	22	25	0/18	64
**3. R Freeman	9	17	18	17/29	90
AVERAGE:	9	N/A	N/A	-	81
***1. D Hutchinson	9	18	18	13/22	80
***2. A Bowditch	9	10	10	0/10	39
***3. O Ford	9	22	20	0/20	71
AVERAGE:	9	N/A	N/A	-	63

FOCUS ON INCREASING THE AVERAGES EACH TIME



APPENDIX 19

Completed Examples of a Performance Factor File Sheets - Study 3: Subjects 1 & 2

PHYSICAL PERFORMANCE LOG SHEET

Date: 21/7/96 Time: 9pm Duration of session: 35 mins

SESSION GOALS: (PLEASE CIRCLE)

STAMINA : POWER : SPEED : **STRENGTH** : MUSCULAR ENDURANCE


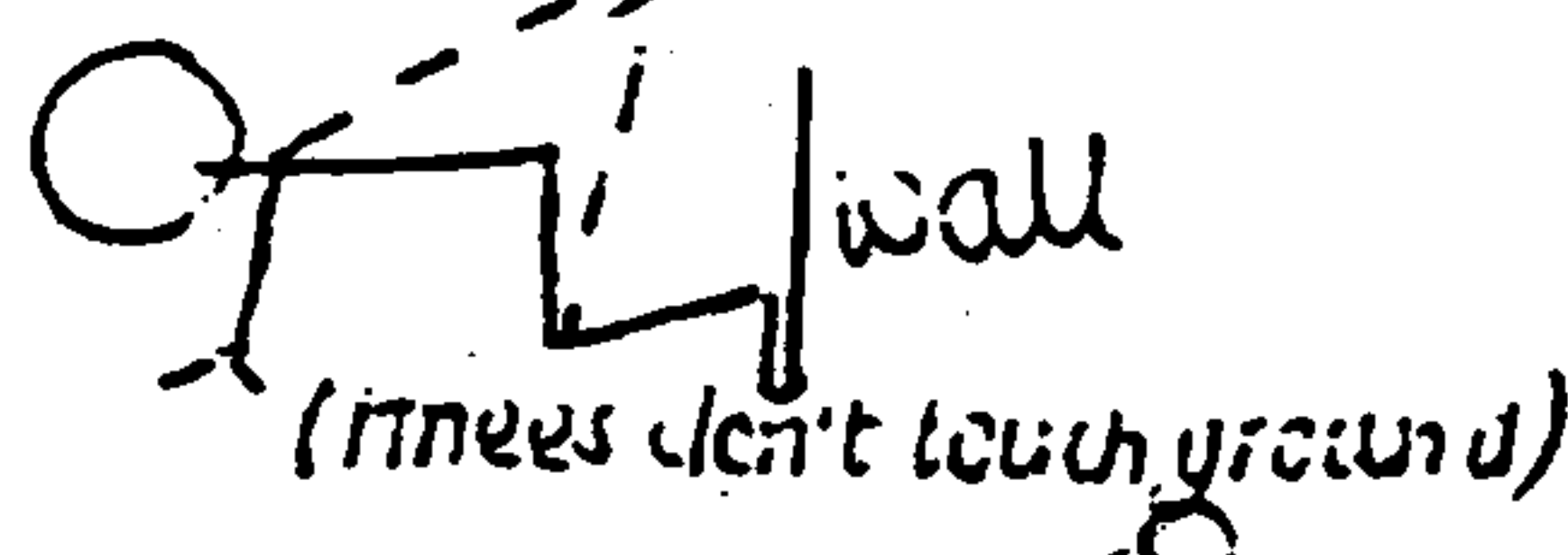
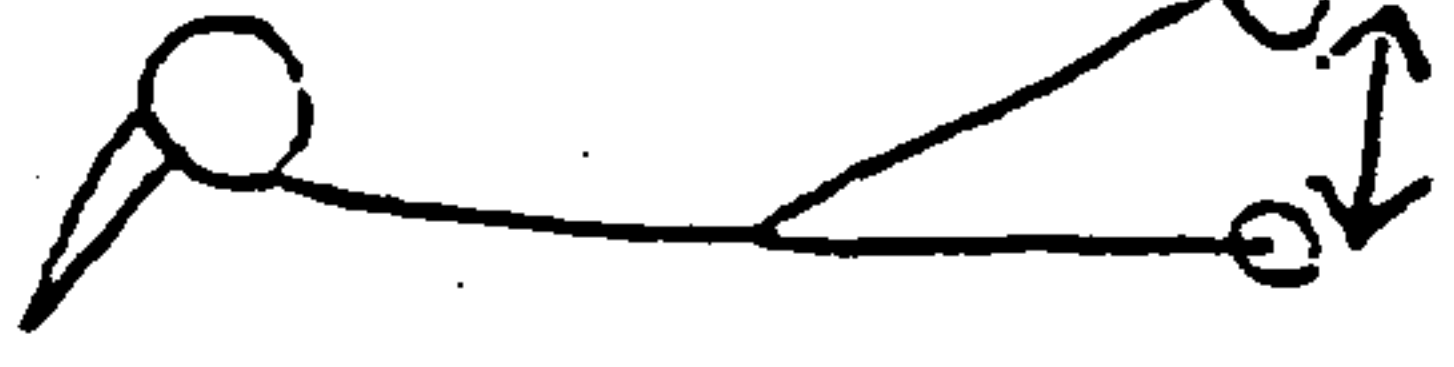
RECOVERY : TAPER

Content of session:

Warm-up = 0 mins. Action: \_\_\_\_\_

Stretching = 10 mins. Action: loosen muscles

MAIN BLOCK:

	DISTANCE/WEIGHT.	REPS.	SETS	TIME
1. press-ups		30	2	
2. arm rotations 		10	5	
3.  (knees don't touch ground)		20	2	
4. 		30	2 (1 per each leg)	
5. sit ups		20	2	
6.				

Warm down = \_\_\_\_\_ mins. Action: \_\_\_\_\_

Stretching = 10 mins. Action: \_\_\_\_\_

How motivated were you before the session? 1 (not at all) 2 3 (moderately) 4 **5** (extremely)

How did you feel during the session? 1 (awful) 2 **3** (OK) 4 5 (buzzing!)

How satisfied do you feel after the session? 1 (not at all) 2 3 (moderately) 4 **5** (extremely)

## APPENDIX 19

### Completed Examples of a Performance Factor File Sheets - Study 3: Subjects 1 & 2

#### COACHING SESSION SHEET

#### PERFORMANCE TIPS AND LEARNING MESSAGES

DATE: 27/9/96

SESSION THEME(S): maintaining depth

**What the coach did to support me:**

When I was confused, Paula demonstrated to me how the action should look. I practised without the ball firstly while Paula instructed what I should move (parts of me!) and what should keep still.

**How I felt I performed:**

Once I had been told what I was doing incorrectly + how to improve it, my performance benefited greatly.

#### WHAT MESSAGES I LEARNED TODAY THAT WILL HELP MY '4 FACTOR PERFORMANCES'

##### MENTAL:

1. have a key word every time. up! hit the ball - SWING to ensure a follow through
2. focus on one shot at a time
3. be calm + don't rush - remember to take time

##### TECHNICAL:

1. make sure racket head leads - not your wrist
2. ensure an 'early take back' - give yourself time to hit
3. rotate hips + then 'go into' the ball

##### PHYSICAL:

1. always get 'weight behind the ball' to keep power
2. keep feet moving - ready to anticipate next shot
3. take time when see ball coming - don't rush so fast that you get too close.

##### TACTICAL:

1. when struggling put up high topspin lob - give yourself time
2. change pace - don't be too predictable... but,
3. have the ability to keep on the pressure if they change pace - don't mind their shots



APPENDIX 19

Completed Examples of a Performance Factor File Sheets - Study 3: Subjects 1 & 2

"INDIVIDUAL PURPOSEFUL HIT"  
SHEET

Date: 11/8/96

Time: 10am Duration: 10-3pm all day

Hitting Partners - Ben Cramp Liz Braches, Nick Rose.

Content of session:

Warm-up gentle jog, skipping, stretching, hitting in service box

Exercise 1  
cross court,  
down line

Purpose hitting, running drives - keeping depth, power + consistency.

Content 1 player hits cross court (singles court). Other player hits down line. After 6 shots, point is played out.

Exercise 2

Purpose to rally consistently + wait for right shot to attack on - patience.

Content both players hit cross-court until one particular player chooses to go down line + approach (if possible). Point then played out.

Exercise 3

Purpose making sure you keep rally going, + don't make silly mistakes early on.

Content Same as exercise 2. If a player makes mistake while rallying cross-court, opponent has 1 point. If a player makes a mistake when court is open, (or winner) opponent receives two points.

Matchplay points:

best of 3 set match (match practice for materials) v. Ben Cramp 4-3, 6-4

APPENDIX 20

A Completed Page of a Parental Verbal Behaviour Log Book - Study 3

'VERBAL BEHAVIOUR' EXERCISE

BM = Before match    AM = After match    H = Home    C = In the car  
 BT = Before training    AT = After training

Tally of Competitive Performance Comments    Date: 15/7/96

1 C 2 BT 3 H 4 \_\_\_ 5 \_\_\_ 6 \_\_\_ 7 \_\_\_ 8 \_\_\_ 9 \_\_\_ 10 \_\_\_

Tally of Competitive Performance Comments    Date: 16/7/96

1 H 2 AM 3 C 4 H 5 \_\_\_ 6 \_\_\_ 7 \_\_\_ 8 \_\_\_ 9 \_\_\_ 10 \_\_\_

Tally of Competitive Performance Comments    Date: 17/7/96

1 H 2 BM 3 AM 4 C 5 H 6 \_\_\_ 7 \_\_\_ 8 \_\_\_ 9 \_\_\_ 10 \_\_\_

Tally of Competitive Performance Comments    Date: ~~17/7/96~~

1 H 2 C 3 AT 4 H 5 \_\_\_ 6 \_\_\_ 7 \_\_\_ 8 \_\_\_ 9 \_\_\_ 10 \_\_\_

Tally of Competitive Performance Comments    Date: 23/7/96

1 H 2 BT 3 AT 4 \_\_\_ 5 \_\_\_ 6 \_\_\_ 7 \_\_\_ 8 \_\_\_ 9 \_\_\_ 10 \_\_\_

Tally of Competitive Performance Comments    Date: 24/7/96

1 C 2 BT 3 C 4 \_\_\_ 5 \_\_\_ 6 \_\_\_ 7 \_\_\_ 8 \_\_\_ 9 \_\_\_ 10 \_\_\_

Tally of Competitive Performance Comments    Date: 25/7/96

1 H 2 AM 3 AM 4 C 5 \_\_\_ 6 \_\_\_ 7 \_\_\_ 8 \_\_\_ 9 \_\_\_ 10 \_\_\_

Tally of Competitive Performance Comments    Date: 27/7/96

1 H 2 C 3 BT 4 AT 5 C 6 H 7 \_\_\_ 8 \_\_\_ 9 \_\_\_ 10 \_\_\_

Tally of Competitive Performance Comments    Date: 1/8/96

1 H 2 BT 3 AT 4 C 5 \_\_\_ 6 \_\_\_ 7 \_\_\_ 8 \_\_\_ 9 \_\_\_ 10 \_\_\_

Tally of Competitive Performance Comments    Date: 1/8/96

1 H 2 BT 3 AT 4 C 5 BT 6 \_\_\_ 7 \_\_\_ 8 \_\_\_ 9 \_\_\_ 10 \_\_\_

Tally of Competitive Performance Comments    Date: 1/8/96

1 H 2 BT 3 C 4 AM 5 C 6 \_\_\_ 7 \_\_\_ 8 \_\_\_ 9 \_\_\_ 10 \_\_\_

Tally of Competitive Performance Comments    Date: 2/8/96

1 H 2 C 3 AM 4 \_\_\_ 5 \_\_\_ 6 \_\_\_ 7 \_\_\_ 8 \_\_\_ 9 \_\_\_ 10 \_\_\_

Tally of Competitive Performance Comments    Date: 3/8/96

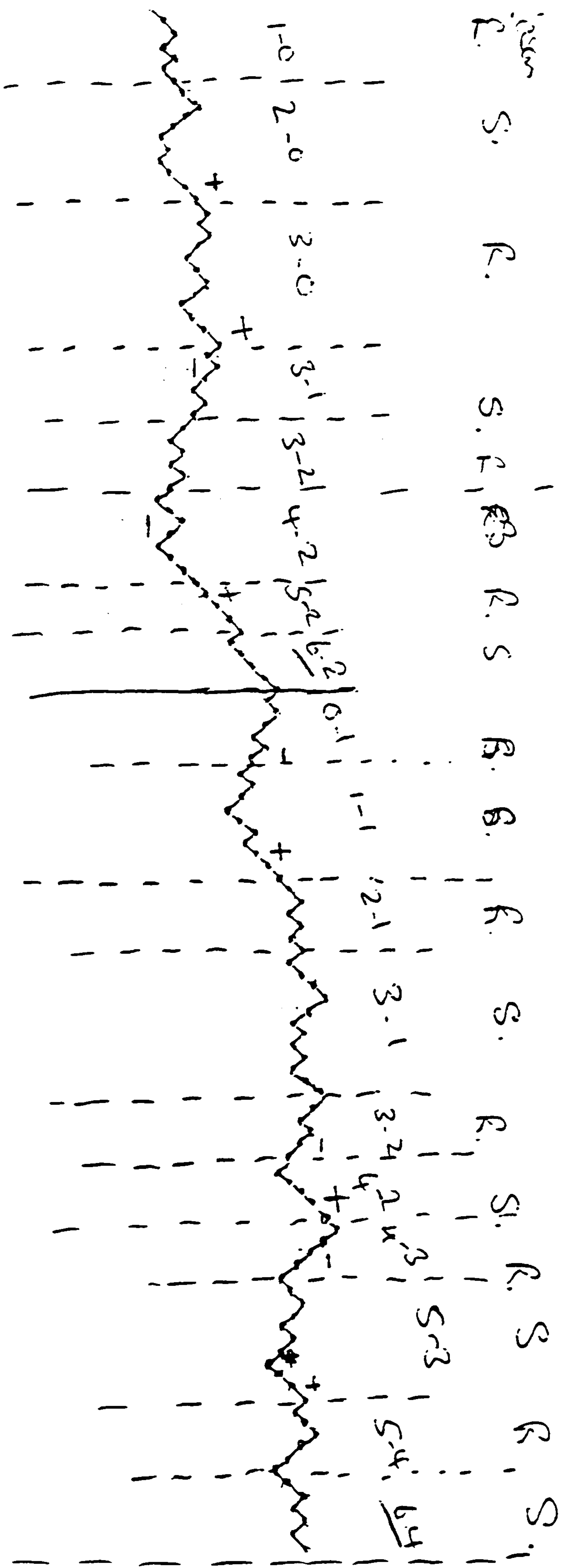
1 H 2 BT 3 \_\_\_ 4 \_\_\_ 5 \_\_\_ 6 \_\_\_ 7 \_\_\_ 8 \_\_\_ 9 \_\_\_ 10 \_\_\_



APPENDIX 21

An Example of Match Analysis and Charting by Parents of Subject 3 - Study 3

F = Fouls  
S = Score



Key: Fouls

No of 1st Points won 8  
No of games played. 18  
44%

No of Goals in a row won 3  
54%

No of 3 points in a row won 9  
50%

S  
6. Neg Points

## APPENDIX 22

### A Completed Motivational Lesson Sheet - Study 3

#### THE MOTIVATIONAL LESSON

Date: 30.7.96 Time: 5pm Player: JASON ROBERTS.

Pre-lesson verbal interaction: (think about TARGET; performance comments/game challenge)

Discussed weekend's match - Jason more at ease with his game  
Forehand) To be continued) on WITH CONCENTRATION ON HITTING THROUGH THE BALL.

Warm-up: PERFORMANCE COMMENTS? (elite player role models: elite performance skills)

Exercise/Drill 1: Understanding and Education (where are we at & why do this drill?)

JASON CURRENTLY HITTING TOO MUCH TOPSPIN - SHOTS FALLING TOO SHORT JUST INSIDE  
BASKET FEEDING RECOGNISING HIM TO HIT THROUGH THE BALL KEEPING  
HIS SHOTS 1-2 FT OVER THE NET (A FEW BALLS EXPECTED) TO GO INTO THE NET  
INITIALLY BUT FELT IT WOULD HELP HIM TO CURB THIS OVER EXAGGERATION OF TOPSPIN

Exercise/Drill 1: Content of drill

HITTING DOWN THE LINE - 1 BASKET.  
HITTING DOWN CROSSCOURT - 1 BASKET.

Exercise/Drill 1: Performance goals (direction to motivate the player) & performance helpers

TO HIT THROUGH THE BALL - KEEPING DEPTH ON SHOT WITH EXAGGERATED  
TOPSPIN. SUGGESTED) REDUCE EXAGGERATED BRUSH UP BACK OF BALL.

LET RACKET HEAD LOAD DOWN THE COURT & LEFT FOLLOW THROUGH ONLY.

Exercise/Drill 1: Rating of goals and performance feedback

Progressions: Content of exercises

PROGRESSING TO RALLYING WITH PUPIL - IMPROVEMENT SHOWN IN POINTS SCORING  
SITUATION.  
NOTE) BALANCE PROBLEM ON PUPIL OPEN STANCE POSITION.  
WEIGHT DISTRIBUTION INCORRECT AT TIMES CAUSING NUMEROUS  
MISQUES. (SUGGESTED) WE WORK ON THIS NEXT SESSION).

Coach behaviour Checklist: Understanding & Education : Performance goals/helpers set

Verbal references to self-challenge and game challenge : Feedback and rating

Messages from 4 performance factors delivered

Personal rating of quality of session in Competitive Performance terms (1-10): 7 (player)

: 7 (coach)



Triangular Contracts for Player, Parent and Coach - Study 3

**PLAYER CONTRACT**

**Terms and Conditions:**

1. The player will endeavour to give full commitment and effort to the achievement of their performance potential and to commit to this player/coach/parent programme
2. The player will always be eager to tell the coach and parent about any feeling, thought, idea or event that occurs whilst playing tennis which would help the development of potential
3. The player will be competitive on court, use their performance to win matches and meet the game challenge, but always remember that performance and development are the self-challenge keys to success
4. The player will always STOP, LOOK, LISTEN during matches:  
  
Stop.....thinking about the outcome and.....  
  
Look....at your performance and what you have achieved so far in the match, then.....  
  
Listen....to the tactics or goals that your mind thinks are going to help you maintain or raise your performance level to exceed the opponent's performance
5. The player will always STOP, LOOK, LISTEN after matches:  
  
Stop.....thinking about whether you've won or lost for a second and.....  
  
Look....at your performance, give it a mark out of 10 in all of the factors, and work out what was positive and what you've learnt from your opponent in the match to help you improve, then.....  
  
Listen....to the praise from your coach and parents and the information and comments that they have about both performances in the match.
6. The player will follow the philosophy of "every ball" - it never needs to bounce twice!
7. The player will always think about enjoying the game of tennis -- it's there to be loved!
8. The player will strive to get the best out of him/herself - challenging yourself is the best way of becoming a great player and a great person.
9. The player will always recognise that they have maximum encouragement and support from all the close people around them - if we are not there 'in body', we'll always be with you 'in mind' on the court.
10. The player will be alert for the challenges and obstacles that 'tennis' sets the player - together we 3 are there to meet the challenge and overcome the obstacle

Parental agreement:

\_\_\_\_\_

Coach agreement:

\_\_\_\_\_

Player agreement: \_\_\_\_\_



## PARENT CONTRACT

### Terms and Conditions:

1. Both parents will endeavour to give full commitment and support to the player in the achievement of their potential and to commit to the player/coach/parent programme
2. Both parents will judge the player on their *competitive performance* which means rewarding competitiveness, effort, good behaviour during the match and disciplined performance
3. Both parents will give feedback to the player in terms of their competitive performance only which starts well before the match and finishes after the performance review
4. Both parents are reminded to **STOP, LOOK, LISTEN** during matches:  
  
Stop....thinking about the outcome and focus on supporting the players performance  
  
Look....at their competitive performance and realise that it's them on the court not you!  
  
Listen....for any negative talking that the player says and when they say it so that you can feedback to the player and the coach
5. Both parents are reminded to **STOP, LOOK, LISTEN** after matches:  
  
Stop.....thinking about whether they've won or lost for a second and  
  
Look....at the 2 players performances before you construct your review of your players performance, then  
  
Listen.....to what the player has to say before you smake your contribution and after you have given them a support statement and greeting
6. A parent should try to analyse the match using a recognised system from the coach and make sure the player has a competitive performance score
7. Both parents should feel proud of their player. If you're about to sign this they must have some potential. Always remember that but never forget that you are not them!
8. Encourage the player to challenge themselves to the best of their competitive abilities. Support but never push them
9. Always tell the player that you love them and that you'll be there 'in mind' if not 'in body' when they are in a crisis situation, battling away!
10. Never be influenced by lower quality 'tennis parents' - you are part of this triangle!

Parental agreement:

\_\_\_\_\_

Coach agreement:

\_\_\_\_\_

Player agreement:

\_\_\_\_\_



## COACH CONTRACT

### Terms and Conditions:

1. The coach will endeavour to provide full commitment and support to the player within the goal of reaching their potential and commit to this player/coach/parent programme
2. The coach will work with the player on developing their potential in the 4 performance factors - working on technical, physical, tactical and mental performance skills
3. The coach will reinforce the importance of a competitive performance mentality, providing performance feedback in their coaching sessions, and rewarding the player whenever they self-challenge
4. The coach will review performances in matches with attention to detail and give the player some quality direction on the development of their skills
5. Players will be evaluated in matches by the coach on a basis of the quality of their competitive performance - the effort they put into the self challenge of personal performance, and the game challenge of beating the opponent
6. Coaches will use performance review sheets and work out competitive performance scores with the player
7. The coach should liaise with parents on a regular basis during the programme
8. The coach will be a supporter and a friend
9. The coach will encourage the player to speak first about his/her performance and allow the player to develop into an independent thinker
10. The coach should try to be a 'teacher or 'tutor' to the player with the subject being 'tennis education'

Parental agreement:

\_\_\_\_\_

Coach agreement:

\_\_\_\_\_

Player agreement:

\_\_\_\_\_