

This item is held in Loughborough University's Institutional Repository (<https://dspace.lboro.ac.uk/>) and was harvested from the British Library's EThOS service (<http://www.ethos.bl.uk/>). It is made available under the following Creative Commons Licence conditions.



creative
commons
C O M M O N S D E E D

Attribution-NonCommercial-NoDerivs 2.5

You are free:

- to copy, distribute, display, and perform the work

Under the following conditions:

 **BY:** **Attribution.** You must attribute the work in the manner specified by the author or licensor.

 **Noncommercial.** You may not use this work for commercial purposes.

 **No Derivative Works.** You may not alter, transform, or build upon this work.

- For any reuse or distribution, you must make clear to others the license terms of this work.
- Any of these conditions can be waived if you get permission from the copyright holder.

Your fair use and other rights are in no way affected by the above.

This is a human-readable summary of the [Legal Code \(the full license\)](#).

[Disclaimer](#) 

For the full text of this licence, please go to:
<http://creativecommons.org/licenses/by-nc-nd/2.5/>

**Stress and Coping
in
Wheelchair Sport Participants**

by

Elizabeth Campbell

A Doctoral Thesis

**Submitted in Partial Fulfilment of the Requirements for the Award of
Doctor of Philosophy of the Loughborough University**

January, 1997

© E. Campbell, 1997

ABSTRACT

Top level sport for people with a disability is becoming more competitive, creating an environment in which the rewards for success and the disappointments associated with failure are often great. These are factors which clearly have the potential to place extreme psychological demands on sport performers with a disability. However, few investigations have specifically examined how athletes with a disability respond in highly stressful sporting situations. This thesis, therefore, reports 3 separate studies to investigate stress and coping in wheelchair sport participants. Study 1 examined pre-competition temporal patterning of anxiety and self-confidence in 103 wheelchair sport participants at 3 time periods preceding competition (1 week, 2 hours and 30 minutes before). The findings suggested that wheelchair sport participants show a similar pre-competition anxiety response to non-disabled sport participants. However, there were some differences, particularly in the reduction in self-confidence immediately prior to competition. The purpose of Study 2, therefore, was to explore possible reasons as to why self-confidence may decrease in wheelchair sport participants immediately prior to competition. Specifically, Study 2 considered the influence of disability status (i.e., possessing and not possessing a disability) on appraisal of a specific important competitive event, and how appraisal may be influenced by various psychosocial factors. The sample comprised of 75 wheelchair and 44 able-bodied sport participants. The findings showed that wheelchair and able-bodied sport participants had similar psychosocial resources and appraisal patterns; however, different factors predicted an important competitive event as challenging. Study 3 explored this further by investigating, via in-depth qualitative interviews, the sources of stress and coping responses in 10 elite male wheelchair basketball players. Qualitative and quantitative methods were employed in combination to enable examination of stress source characteristics (degree of challenge, threat, harm, severity, control and frequency) and coping details (effectiveness and frequency). Whilst many of the findings were similar to those previously reported for elite able-bodied figure skaters, there were some differences. These differences appeared to relate to various disability factors and also the fact that the study was unique in examining team sport participants. Furthermore, the unique nature of the study obtaining information on stress source characteristics, and effectiveness and extent of use of coping strategies, proved to be extremely useful in gaining a more in-depth understanding of the complex stress-coping process. Finally, the findings from the three studies reported in this thesis enabled a model of stress and coping for wheelchair sport participants to be developed. In summary, the studies presented used a range of methodologies to enable an in-depth understanding of stress and coping in wheelchair sport, whilst simultaneously supporting and extending previous research in the sport domain.

PUBLICATIONS AND CONFERENCE COMMUNICATIONS RESULTING FROM THE THESIS

Publications

Campbell, E. and Jones, J.G. (1995). Pre-competition anxiety and self-confidence in elite and non-elite wheelchair sport participants. In Atkinson and Reilly (Eds.), Sport, Leisure and Ergonomics (pp 61 - 66). Spon, London.

Campbell, E. and Jones, J.G. (in press). Pre-competition anxiety and self-confidence responses in wheelchair sport participants. Adapted Physical Activity Quarterly.

Campbell, E. and Jones J.G. (in press). Interpretation of pre-competition anxiety symptoms in wheelchair sport participants. British Association of Sport and Exercise Sciences, Annual Conference, Lilleshall, England. Journal of Sport Sciences (abstract).

Papers in preparation

Campbell, E. and Jones, J.G. Sources of stress in elite male wheelchair basketball players.

Campbell, E. and Jones, J.G. Coping strategies used by elite male wheelchair basketball players.

Conference Communications

Campbell, E. and Jones, J.G. Temporal patterning of anxiety and self-confidence responses in wheelchair sport participants. Presentation made at the International Conference in Adapted Physical Activity, Norway, May 1995.

Campbell, E. and Jones, J.G. Pre-competition anxiety and self-confidence in elite and non-elite wheelchair sport participants. Presentation made at the Third International Conference on Sport, Leisure and Ergonomics, Liverpool, England, July 1995.

Campbell, E. and Jones, J.G. Predispositions to experience facilitative and debilitating anxiety in elite and non-elite wheelchair sport participants. Presentation made at the Third Paralympic Congress, Atlanta, August 1996.

Campbell, E. and Jones J.G. Pre-competition anxiety and self-confidence in wheelchair sport participants. British Association of Sport and Exercise Sciences, Annual Conference, Lilleshall, England, September 1996.

This thesis is dedicated to my Brother, Ian

ACKNOWLEDGEMENTS

I would like to express my deepest gratitude to my supervisor, Dr Graham Jones, for his expert advice and guidance. Furthermore, I would like to acknowledge the tireless and professional nature of his support throughout the duration of this thesis: Thank you.

I would also like to extend my gratitude to the rest of the Sport Psychology Research Group at Loughborough, Austin Swain, Sheldon Hanton, Chris Harwood and Lindsay Bradley, for their continual support and encouragement over the last 4 years.

I wish to thank all the athletes who supported my research, and in particular the Great Britain Wheelchair Basketball Association for their continual support over the last 4 years.

I also wish to express my heartfelt thanks to my Mum, Dad and Jane for their unwavering support and encouragement throughout my time in Higher Education.

Finally, I would like to thank Ian for always believing in me and making me smile even in my darkest hour.

TABLE OF CONTENTS

Page Number

CHAPTER 1: INTRODUCTION

1.1	INTRODUCTION	1
1.2	HISTORICAL DEVELOPMENT OF DISABILITY SPORT	1
1.3	STRESS AND COPING IN DISABILITY SPORT: A PRACTICAL PERSPECTIVE	5
1.4	STRESS AND COPING IN SPORT: A THEORETICAL PERSPECTIVE	7
1.5	PURPOSE	8
1.6	DEFINITION OF TERMS RELATED TO DISABILITY	8
1.7	STRUCTURE OF THE THESIS	9

CHAPTER 2: STUDY 1

PRE-COMPETITION ANXIETY AND SELF-CONFIDENCE IN WHEELCHAIR SPORT PARTICIPANTS

2.1	INTRODUCTION	11
2.2	REVIEW OF RELEVANT LITERATURE	11
2.2.1	GENERAL ANXIETY-BASED APPROACHES	12
2.2.2	MULTIDIMENSIONAL ANXIETY-BASED APPROACHES	13
2.2.2.1	Nature of the Multidimensional Anxiety Response	13
2.2.2.2	Temporal Patterning of Multidimensional Anxiety	14
2.2.2.3	Frequency of Cognitive Intrusions	17
2.2.2.4	Debilitative and Facilitative Competitive Anxiety States	18
2.2.3	NORMATIVE RESPONSES	20
2.3	PURPOSE AND HYPOTHESES	22
2.3.1	PURPOSE	22
2.3.2	HYPOTHESES	22
2.4	METHOD	23
2.4.1	SUBJECTS	23
2.4.2	INSTRUMENTATION: MODIFIED VERSION OF THE COMPETITIVE TRAIT ANXIETY INVENTORY	24
2.4.3	PROCEDURE	24
2.5	RESULTS	24
2.5.1	INTENSITY	25
2.5.2	FREQUENCY	25
2.5.3	DIRECTION	26
2.6	DISCUSSION	27

CHAPTER 3: STUDY 2
THE INFLUENCE OF PSYCHOSOCIAL RESOURCES ON THE
APPRAISAL OF AN IMPORTANT COMPETITIVE EVENT

3.1	INTRODUCTION	31
3.2	REVIEW OF RELEVANT LITERATURE	32
3.2.1	COGNITIVE APPRAISAL: A DEFINITION	32
3.2.2	PERSONAL FACTORS INFLUENCING COGNITIVE APPRAISAL	35
3.2.3	SITUATIONAL FACTORS INFLUENCING COGNITIVE APPRAISAL	38
3.2.4	VULNERABILITIES TO APPRAISAL	41
3.2.4.1	Vulnerability Research: Introduction	41
3.2.4.2	Sport Vulnerability Research	42
3.2.4.3	Disability as a Vulnerability	42
3.2.5	PERSONAL CHARACTERISTICS AND APPRAISAL PATTERNS OF SPORT PARTICIPANTS WITH A DISABILITY	44
3.2.5.1	Personal Characteristics of Sport Participants with a Disability	44
3.2.5.2	Appraisal Patterns of Sport Participants with a Disability	45
3.3	PURPOSE AND HYPOTHESES	47
3.3.1	PURPOSE	47
3.3.2	HYPOTHESES	48
3.4	METHOD	49
3.4.1	SUBJECTS	49
3.4.2	MEASURES	51
3.4.2.1	Coping	51
3.4.2.2	Self-control	51
3.4.2.3	Social support	52
3.4.2.4	Appraisal	52
3.4.3	PROCEDURE	53
3.5	RESULTS	54
3.5.1	CONGENITAL vs. ACQUIRED	54
3.5.1.1	Personal Factors	55
3.5.1.2	Situational Factors	56
3.5.1.3	Primary and Secondary Appraisal	56
3.5.2	WHEELCHAIR SPORT PARTICIPANTS vs. ABLE-BODIED SPORT PARTICIPANTS	58
3.5.2.1	Personal Factors	58
3.5.2.2	Situational Factors	58
3.5.2.3	Primary and Secondary Appraisal	60
3.5.3	PSYCHOSOCIAL PREDICTORS OF PRIMARY APPRAISAL	61
3.5.3.1	Correlation Analyses	61
3.5.3.2	Step-wise Multiple Regression Analyses	61
3.6	DISCUSSION	64
3.6.1	INFLUENCE OF CAUSE OF DISABILITY ON PSYCHOSOCIAL VARIABLES (CONGENITAL vs. ACQUIRED)	64
3.6.2	INFLUENCE OF DISABILITY STATUS ON PSYCHOSOCIAL VARIABLES - PURPOSE 1	65

3.6.3	INFLUENCE OF DISABILITY STATUS ON APPRAISAL OF IMPORTANT COMPETITIVE EVENTS - PURPOSE 2	67
3.6.4	PSYCHOSOCIAL PREDICTORS OF CHALLENGE AND THREAT APPRAISALS - PURPOSE 3	68
3.6.5	SUMMARY	69

**CHAPTER 4: STUDY 3
SOURCES OF STRESS AND COPING IN SPORT: LITERATURE REVIEW AND METHODOLOGY**

4.1	INTRODUCTION	71
4.2	REVIEW OF RELEVANT LITERATURE	73
4.2.1	DEFINITION OF STRESS	73
4.2.2	SOURCES OF STRESS IN SPORT	76
4.2.3	COPING: AN INTRODUCTION	79
4.2.4	GENERAL PSYCHOLOGY COPING LITERATURE	79
4.2.4.1	Definition	79
4.2.4.2	Categories of Coping	80
4.2.4.3	Situational Determinants of Coping	81
4.2.4.4	Interpersonal Aspects of Coping	83
4.2.4.5	Coping Effectiveness	84
4.2.5	SPORT PSYCHOLOGY COPING LITERATURE	86
4.2.5.1	Quantitative Sport Coping Studies	86
4.2.5.2	Qualitative Studies of Coping in Sport	90
4.2.6	DISABILITY AND COPING WITH PHYSICAL ACTIVITY	93
4.3	RATIONALE FOR STUDY 3	96
4.3.1	THEORETICAL RATIONALE	96
4.3.2	QUALITATIVE RESEARCH METHODS	98
4.3.2.1	Qualitative and Quantitative Research Paradigms	98
4.3.2.2	Structured Retrospective Interviews	99
4.3.2.3	Qualitative Data Analysis	100
4.4	PURPOSES AND HYPOTHESES	101
4.4.1	PURPOSES	101
4.4.2	HYPOTHESES	102
4.5	METHOD	103
4.5.1	SUBJECTS	103
4.5.2	INSTRUMENTS AND PROCEDURES	103
4.5.2.1	Involvement Progression Questionnaire	103
4.5.2.2	Interview Guide	104
4.5.3	PROCEDURE	105
4.5.3.1	The Interview	105
4.5.4	INTERVIEWER BIAS	108
4.5.5	DATA ANALYSIS	109

**CHAPTER 5: STUDY 3 (RESULTS - i)
SOURCES OF STRESS OF ELITE WHEELCHAIR BASKETBALL PLAYERS**

5.1	INTRODUCTION	111
5.2	RESULTS	112
5.2.1	INDUCTIVE CONTENT ANALYSIS	112

		Page Number
5.2.2	STRESS SOURCE CHARACTERISTICS	125
5.2.3	RELATIONSHIP BETWEEN STRESS SOURCE CHARACTERISTICS	128
5.3	DISCUSSION	133
5.3.1	SOURCES OF STRESS OF ELITE WHEELCHAIR BASKETBALL PLAYERS	133
5.3.2	STRESS SOURCE CHARACTERISTICS	138
5.3.3	SUMMARY	139

CHAPTER 6: STUDY 3 (RESULTS - ii) COPING STRATEGIES OF ELITE WHEELCHAIR BASKETBALL PLAYERS

6.1	INTRODUCTION	141
6.1.1	NATURE OF COPING (PURPOSE 2)	141
6.1.2	RELATIONSHIP BETWEEN COPING AND STRESS SOURCE DIMENSIONS (PURPOSE 3)	142
6.2	RESULTS	143
6.2.1	NATURE OF COPING STRATEGIES	144
6.2.2	RELATIONSHIP BETWEEN COPING STRATEGIES AND STRESS SOURCE DIMENSIONS	164
6.2.2.1	Range of Coping Strategies used with Specific Sources of Stress	165
6.2.2.2	Specificity and Generality of Coping Strategy Dimensions	169
6.3	DISCUSSION	173
6.3.1	NATURE OF COPING (PURPOSE 2)	174
6.3.2	RELATIONSHIP BETWEEN COPING STRATEGIES AND STRESS SOURCE DIMENSIONS (PURPOSE 3)	177
6.3.2.1	Range of Coping Strategies used with Specific Sources of Stress	178
6.3.2.2	Generality and Specificity of Coping Strategies	181
6.3.3	SUMMARY	183

CHAPTER 7: SUMMARY, DISCUSSION AND CONCLUSIONS

7.1	SUMMARY	185
7.1.1	STUDY 1	185
7.1.2	STUDY 2	186
7.1.3	STUDY 3	187
7.1.3.1	Sources of Stress	188
7.1.3.2	Coping	188
7.1.3.3	Relationship Between Stress Sources and Coping	189
7.2	DISCUSSION	189
7.2.1	STRESS AND COPING IN WHEELCHAIR SPORT PARTICIPANTS: A DYNAMIC PROCESS	189
7.2.1.1	Sources of Stress	190
7.2.1.2	Appraisal	191
7.2.1.3	Coping	191

7.2.1.4	Emotion: anxiety	193
7.2.1.5	Summary	193
7.2.2	PRACTICAL IMPLICATIONS	193
7.2.2.1	Sources of Stress	195
7.2.2.2	Appraisal	195
7.2.2.3	Coping	196
7.2.2.4	General	197
7.2.3	METHODOLOGICAL CONSIDERATIONS	198
7.2.3.1	Strengths	198
7.2.3.2	Limitations	199
7.2.4	FUTURE RESEARCH DIRECTIONS	199
7.2.4.1	Wheelchair Sport Participants	200
7.2.4.2	Sport Participants	200
7.2.4.2.1	<i>Stress</i>	201
7.2.4.2.2	<i>Coping</i>	201
7.2.4.2.3	<i>Emotions (anxiety)</i>	202
7.2.4.2.4	<i>Personal and Environmental Factors</i>	202
7.2.4.2.5	<i>Methodological and Measurement Considerations</i>	202
7.4	CONCLUSIONS	203
	REFERENCES	204
	APPENDICES	
	APPENDIX A	221
	APPENDIX B	238
	APPENDIX C	257
	APPENDIX D	274
	APPENDIX E	304

LIST FIGURES

	Page Number
1.1 Medical Model and Social Minority Model Underlying Disability Sport Philosophy (Sherrill, 1993)	4
2.1 Theoretical Predictions of the Temporal Changes in CSAI-2 Components (Adapted from Martens et al., 1990)	15
3.1 The Appraisal Model of Coping (Gage, 1992)	34
4.1 Transactional Model of Stress and Coping (Lazarus & Folkman, 1984)	75
4.2 Data Analysis Procedures	110
5.1 Pre-event Concerns Inductive Content Analysis	115
5.2 Negative Pre-match Concerns Inductive Content Analysis	117
5.3 On-court Concerns Inductive Content Analysis	119
5.4 Post-match Performance Concerns Inductive Content Analysis	120
5.5 Negative Aspects Major Event Inductive Content Analysis	122
5.6 Poor Group Interaction and Communication Inductive Content Analysis	124
5.7 Negative Coaching Style/Behaviour Inductive Content Analysis	126
5.8 Relationship Issues Inductive Content Analysis	126
5.9 Demands or Costs of Wheelchair Basketball Inductive Content Analysis	127
5.10 Lack of Disability Awareness Inductive Content Analysis	127
5.11 Mean Challenge, Threat and Harm/Loss Rating Scores for the Ten Stress Source Dimensions	129
5.12 Mean Control, Severity and Frequency Rating Scores for the Ten Stress Source Dimensions	130
5.13 Relationship Between Challenging and Controllability Ranks	134
5.14 Relationship Between Severity and Frequency Ranks	134
6.1 Active Coping Off Court Inductive Content Analysis	147
6.2 Time Management and Prioritisation Inductive Content Analysis	149
6.3 Intra-Squad Communication Inductive Content Analysis	150
6.4 Analysis and Planning Inductive Content Analysis	152
6.5 Pre-competition Mental Preparation and Anxiety Management Inductive Content Analysis	153
6.6 Vent Thought and Emotions Inductive Content Analysis	155
6.7 On-court Strategies Inductive Content Analysis	156
6.8 Seek Social Support Inductive Content Analysis	158
6.9 Provide Support Inductive Content Analysis	159
6.10 Positive Thinking and Self-Talk Inductive Content Analysis	161
6.11 Acceptance and Rationalisation Inductive Content Analysis	162
6.12 Active No Coping Inductive Content Analysis	163
6.13 Mental Disengagement Inductive Content Analysis	163
7.1 Relationship Between Stress Source Characteristics, Appraisal and Coping Categories	192
7.2 Stress and Coping Model for Wheelchair Sport Participants	194

LIST OF TABLES

	Page Number	
1.1	Venue, Number of Nations and Number of Athletes Competing in Paralympic Games Since 1960 to 1996	3
2.1	Study 1 - Means, Standard Deviations, and F-ratios for Intensity Subscales	25
2.2	Study 1 - Means, Standard Deviations, and F-ratios for Frequency Subscales	26
2.3	Study 1 - Means, Standard Deviations, and F-ratios for Direction Subscales	26
3.1	Study 2 - Mean Age, Sex Distribution and Employment Status of the Able-Bodied and Wheelchair Sport Participant Groups	49
3.2	Study 2 - Personal Details and Self-Perceptions of Mobility and Severity of Disability for the Congenital and Acquired Wheelchair Sport Participant Groups	50
3.3	Study 2 - Means, Standard Deviations and F-values for the COPE Factors and Self-control (Personal Factors) for the Congenital and Acquired Wheelchair Sport Participant Groups	55
3.4	Study 2 - Means, Standard Deviations and F-values for the SSI Need and Supply Factors (Situational Factors) for the Congenital and Acquired Wheelchair Sport Participant Groups	56
3.5	Study 2 - Means, Standard Deviations and F-values for the Primary and Secondary Appraisal Variables for the Congenital and Acquired Wheelchair Sport Participant Groups	57
3.6	Study 2 - Means, Standard Deviations and F-values for the COPE Factors and Self-control (Personal Factors) of the Able-Bodied and Wheelchair Sport Participant Groups	59
3.7	Study 2 - Means, Standard Deviations and F-values for the SSI Need and Supply Factors for the Able-Bodied and Wheelchair Sport Participant Groups	59
3.8	Study 2 - Means, Standard Deviations and F-values for the Primary and Secondary Appraisal Variables for the Able-Bodied and Wheelchair Sport Participant Groups	60
3.9	Study 2 - Correlations of Psychosocial Variables with the Primary Appraisal Variables Challenge and Threat for the Able-Bodied and Wheelchair Sport Participant Groups	62
3.10	Study 2 - Stepwise Multiple Regression Summary: Significant Predictors of Challenge Appraisal for Wheelchair and Able-Bodied Sport Participants	63
4.1	Study 3 - Descriptive Background Information of the Sample	104
5.1	Study 3 - Number of Raw Data Themes Falling into Major Categories	113
5.2	Study 3 - Mean, Range and Rank Number of the Stress Source Characteristics for Each of the Stress Source Dimensions	132
6.1	Study 3 - Number of Raw Data Themes Falling into Major Categories	145
6.2	Study 3 - General Dimensions Falling into Major Coping Categories	146
6.3	Study 3 - Most Frequently Cited Coping Strategy General Dimension	166
6.4	Study 3 - Most Frequently Cited Sources of Stress Associated with Each Coping Strategy General Dimension	170

CHAPTER 1

INTRODUCTION

1.1 INTRODUCTION

Opportunities for individuals with a disability to participate in sport have increased dramatically over the last ten years (Compton, Eisenman & Henderson, 1989). As a consequence, top level sport for people with a disability is becoming more competitive and the rewards for success, and the disappointments associated with failure, are often great. These are factors which clearly create a need for sport participants with a disability to deal effectively with highly stressful sporting situations. At a personal level, my attention has been drawn to these factors due to several National Disability Sport Associations asking me to provide sport psychology services to elite squads in preparation for major championships. This need was further acknowledged when the British Paralympic Association (BPA) asked me to provide sport psychology services to the Great Britain team at the Paralympics in Atlanta, this summer. This was the first time that the BPA had decided to include a Sport Psychologist as part of the support team available to athletes at a Paralympic Games. Although sport participants with a disability would appear to need sport psychology services, little sport psychology research has considered how sport performers with a disability operate within stressful sporting environments (Crocker, 1992). Therefore, this thesis, via three separate studies, attempted a detailed examination of stress and coping in wheelchair sport participants.

This chapter presents pertinent background information which aims to highlight the need for the empirical studies reported within this thesis. Specifically, the background information covered includes: historical development of disability sport; stress and coping in disability sport - a practical perspective; and stress and coping in sport - a theoretical perspective; definition of key disability terms. The chapter concludes by detailing the structure of the thesis.

1.2 HISTORICAL DEVELOPMENT OF DISABILITY SPORT

Half a century ago, Sir Ludwig Guttmann, an eminent neurologist, began using sport as a vital ingredient in the rehabilitation of spinal-cord injured Second World War veterans at Stoke Mandeville hospital in Aylesbury, England. The reason for this was the increased medical knowledge of the deteriorating effects of inactivity (Compton, et al., 1989). The aim was to use physical activity in rehabilitation programmes to prevent the

degenerative process characteristic of sedentary life (Brandmeyer & McBee, 1984; Compton et al., 1989; Guttmann, 1976). Guttmann realised, however, that as well as being a therapeutic tool which challenges a patient not to accept physical obstacles as inevitable limitations, sport is also a means of pursuing excellence. The remainder of this section briefly describes the chronological development of elite disability sport to the present day.

In 1948 Sir Ludwig Guttmann organised the first competition for individuals with a spinal cord injury between different hospitals and sports clubs to coincide with the Olympic Games held in London that year. From this meagre start, the first Paralympic Games (i.e., parallel Olympic Games for individuals with a disability; see Table 1.1) was held in Rome, Italy (1960) and involved 400 individuals with a spinal cord injury from 23 nations. Until the 1960's, sporting opportunities were limited to individuals with a spinal cord injury. Sir Ludwig Guttmann believed, however, that the increasing opportunities to participate should be available to athletes with all disabilities. As a consequence, he founded the International Sports Organisation for the Disabled in an attempt to facilitate the inclusion in sport of individuals with all disabilities. The first Paralympic Games to include sport participants with disabilities other than a spinal cord injury were in Canada in 1976, where events for blind and amputee athletes were added to the programme. A significant landmark in the development of elite disability sport occurred at the Paralympics in Seoul, Korea in 1988. Korean logic dictated that the Paralympics should be truly parallel to the Olympics; therefore, they organised a games which was on the same scale and lines as the Olympic Games. These games had the impact of showing to society, and in particular the sporting community at large, that disability sport should be taken seriously and that individuals with a disability were elite athletes.

Up to the late 1980's, elite disability sport had been influenced by the medical establishment with 'disability' and 'rehabilitation' very much at the centre. In 1989 the International Paralympic Committee (IPC) decided that if disability sport was to continue to develop it needed to move away from the medical model of disability. Consequently, IPC introduced a sport-based model (social-minority model) (see Figure 1.1). The sport-based model meant that athletes competed based on sport rather than disability. The result of IPC's action was the development of classification systems that enabled different disability groups to compete together; for example, athletes with a spinal cord injury could compete alongside athletes with lower limb amputations and cerebral palsy. This move ensured that the focus was on athleticism and sporting excellence, rather than disability and rehabilitation (DePauw & Gavron, 1995; Sherrill & Williams, 1996; Steadward, 1996).

The Paralympic Games in Barcelona (1992) made a major step forward in terms of atmosphere and crowd attendance; 3,500 athletes from 82 countries were watched by

1.3 million spectators who packed the main stadia everyday. Disability sport appeared to be being accepted as elite sport by demonstrating that it had the capabilities of attracting large crowds and media interest. These factors (i.e., spectators and media interest) are essential if sponsors are to be attracted to assist in the financial funding of major games. The most recent Paralympic Games in Atlanta this summer involved 4000 athletes from 127 countries; an increase of 45 countries from the Barcelona Paralympics. This statistic illustrates that sporting opportunities for people with a disability are developing world-wide.


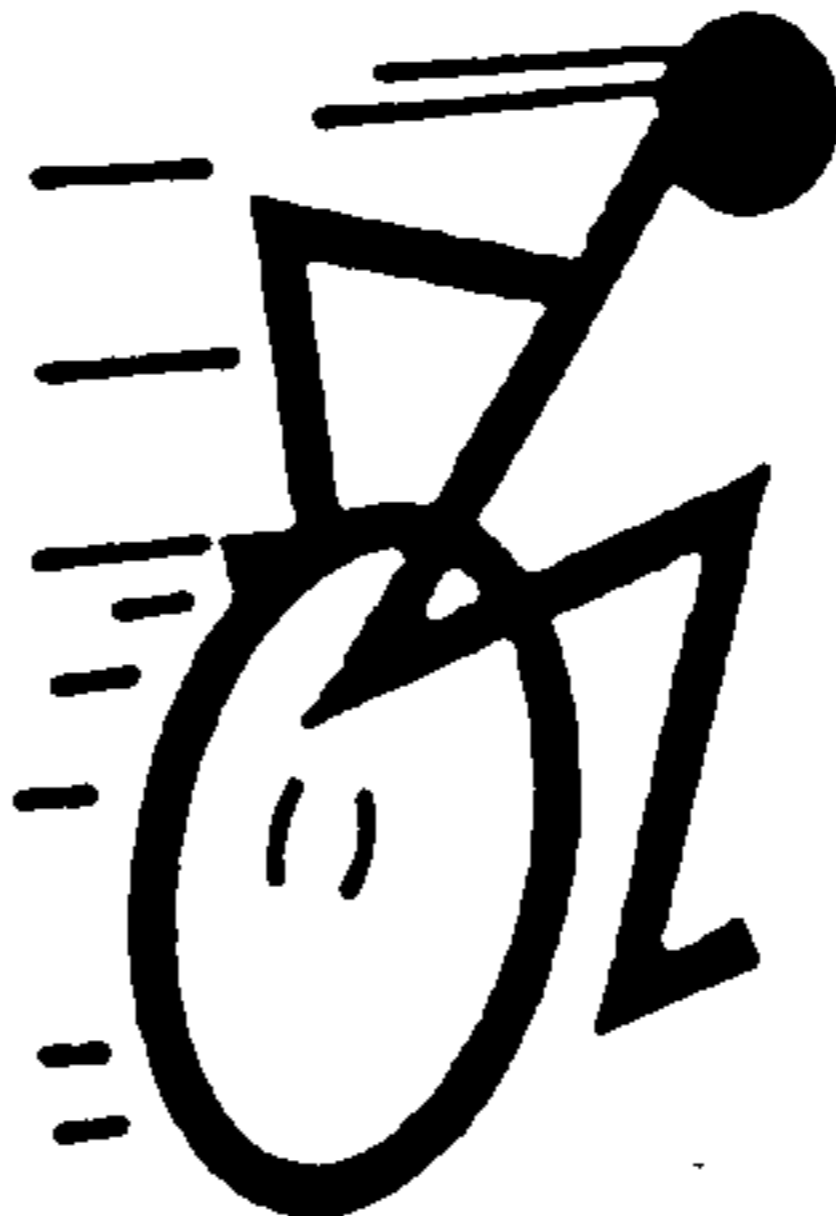
Table 1.1 Venue, Number of Nations and Number of Athletes Competing in Paralympic Games since 1960 to 1996.

Year	Venue	Number of Nations	Number of Athletes
1960	Rome	23	400
1964	Tokyo	22	390
1968	Tel-Aviv	29	750
1972	Heidelberg	42	1004
1976	Toronto	40	1560
1980	Amham	42	2000
1984	New York	45	1750
1984	Aylesbury	41	1100
1988	Seoul	61	3050
1992	Barcelona	82	3500
1996	Atlanta	127	4000

This brief historical overview demonstrates that elite disability sport has developed at a phenomenal pace with the Paralympic Games being one of the largest sporting events, second only to the Olympics (Steadward, 1996). Furthermore, the development illustrates that sport for people with a disability is no longer just a rehabilitation tool, but an arena for individuals to demonstrate their sporting prowess. The limited amount of sport psychology research on individuals with a disability does not appear to mirror the developments in disability sport, with research predominantly considering the role of physical activity in enhancing psychological well-being, and little

if any research investigating performance enhancement (Crocker, 1992). The focus of this thesis, therefore, is to investigate psychological aspects of performance enhancement (i.e., sport excellence) for sport participants with a disability. Specifically, the thesis examines how sport participants with a disability react and cope with stress that is inherent within sport.

Figure 1.1 Medical Model and Social Minority Model Underlying Disability Sport Inclusion Philosophy (Sherrill, 1993)

Medical Model	Social Minority Model
<ul style="list-style-type: none"> Disability is equated with being defective, inferior, or less than. 	<ul style="list-style-type: none"> Disability is equated with being different; different is <i>not</i> less than, it is simply being different.
<ul style="list-style-type: none"> A wide spectrum of biological/psychological anomalies and deficits exists. 	<ul style="list-style-type: none"> There is only one shared experience: social stigma.
<ul style="list-style-type: none"> Terminology tends to be very negative. 	<ul style="list-style-type: none"> Terminology tends to be positive or neutral with person-first emphasized.
<ul style="list-style-type: none"> Discussion is about defects, problems, or characteristics. 	<ul style="list-style-type: none"> Discussion is about individual assessment data, personal strengths and weaknesses.
<ul style="list-style-type: none"> Goal is to give advice/prescription to patient. 	<ul style="list-style-type: none"> Goal is to empower individual to assume active role in self-actualization.
<ul style="list-style-type: none"> Graphics are passive. 	<ul style="list-style-type: none"> Graphics are active. 

1.3 STRESS AND COPING IN DISABILITY SPORT: A PRACTICAL PERSPECTIVE

The ability to deal with stress is accepted as necessary to compete successfully in sport (Hardy, Jones & Gould, 1996; Patmore, 1986). At the top level, in events such as World championships, Olympics and Paralympics, the pressure is on individuals to perform to the best of their ability if they are to be successful. The sport performers who are successful are those who cope with the pressure of the situation. Patmore (1986) described how sport evolves around stress and that a major motivational factor for athletes is the desire to confront, withstand and overcome stress. She described an 'experiment' in which the central determining factor in performance is the individual's ability to cope:

"The technical skills of the contestants, if the experiment has been set up correctly, cancel each other out. The sport experiment is not concerned with the particular technical skills that a subject has brought with him to the contest. His skill is not really an issue - although he feverently believes it is - since his fellow contestants also have it; they have been screened and selected very carefully indeed to ensure that their skill compares with his. The deciding factor is not his skill but his ability to perform under stress." (p.13).

The ability to deal with stress is applicable to all sport participants, both with and without disabilities, who are competing in events that are important to them. On a personal level, as the Sport Psychologist to the 1996 British Paralympic Team I have witnessed and been actively involved with sport performers with a disability attempting to deal with stressful sporting situations. The following four examples aim to give an insight into some of my own personal experiences^{1.1}.

EXAMPLE 1 (Female swimmer): A swimmer at her first major games recounted her experience of being in the 'call up room' immediately prior to going out to swim. She said that prior to going into the 'call-up room' she had felt nervous yet excited. On arriving at the call-up room she stated that she was totally unprepared for the environment she encountered; she vividly described a small room with white walls that had a false silence about it. Furthermore, several of her rivals were eyeing her up and down in what she perceived to be a superior manner. She recalls being called to go out on to the poolside and feeling completely 'psyched out'. Seconds before the gun went to start her race she described feeling petrified, totally lacking self-confidence and feeling completely exhausted. She swam well below her personal best, finishing in fifth place.

1.1 For reasons of confidentiality the names of the sport participants in the examples are not provided.

EXAMPLE 2 (Male wheelchair racer): A wheelchair racer described to me his persistent pre-marathon state over a period of two years. Specifically, he described feeling sick, and 90% of the time being physically sick approximately one hour before racing. He stated that he was now in a situation where if he was not physically sick before his race he would get concerned. Logic told him, however, that being sick was not good for him and that it was not assisting him in fulfilling his marathon potential. He wanted to know if I could help him.

EXAMPLE 3 (Male sprint athlete): At the Paralympics in Atlanta this summer, an athlete came to seek advice from me between his 200m and 400m finals. It materialised that at the Paralympics in Barcelona he had won gold medals in both the 200 and 400m sprints, at the age of 17. As a consequence of his success in Barcelona he had gained a lot of media attention and subsequent sponsorship to assist him prepare for the Paralympics in Atlanta. During our conversation it became evident that prior to his 200m final he had experienced a lot of negative self-doubts and concerns about letting his sponsors, family and friends down. It appeared that he perceived huge expectations from his family, friends, media and himself, to repeat his achievements in Barcelona. In his words, "my 200m final was a complete nightmare .. I've lost it, I can't run anymore: Can you help - I've got my 400m final tomorrow."

EXAMPLE 4 (Male wheelchair basketball player) As Sport Psychologist to the Great Britain Men's wheelchair basketball team, I was fortunate to be on the 'bench' when they won the European championships in Paris, 1995. I recall one particular instance during the semi-final against France when Great Britain were 4 points down with 2 minutes left on the clock. At this particular point one of the French players fouled a Great Britain player who was awarded two free throws (equivalent of 2 points). The Great Britain coach immediately called a time out and said "assuming 'X' you get both your free-throws then we need to". 'X', with such conviction and obvious self-belief said "the shots are in, what do we do next ?". As 'X' went to the free-throw line the atmosphere was electric with a partisan home crowd making as much noise as possible to put 'X' off his shots. In conversation with 'X' after the game, he told me that on approaching the line he felt that he was in a trance, fully aware of what was happening around him, yet at the same time totally consumed with what he had to do. The outcome was that 'X' scored both baskets and Great Britain went on to win the game by one point.

These examples appear to suggest that stress can be appraised as both challenging and threatening, and may have a positive and negative effect on performance. Furthermore, they illustrate that it is paramount for sport participants with a disability to cope with extremely stressful situations if they are to be successful in elite level sport.

Consequently, the purpose of this thesis was driven by a personal desire, both as a practitioner and researcher, to understand how sport participants with a disability cope with stress in sport.

1.4 STRESS AND COPING IN SPORT: A THEORETICAL PERSPECTIVE

As stated previously, little sport psychology research has considered how individuals with a disability operate in stressful sporting environments. The three studies reported in this thesis were, therefore, guided by previous research of stress and coping in the general sport domain. Consequently, this section highlights some of the previous research of stress and coping which influenced the programme of research presented in this thesis.

The study of stress in sport has been a prominent research topic from the very beginnings of contemporary sport psychology. The vast majority of research, until recently, has considered sport performers' anxiety response to stressful sporting situations. The theoretical basis for much of this empirical work has been based on Martens, Burton, Vealey, Bump and Smith's (1990) Multidimensional Anxiety Theory (MDAT). Specifically, MDAT makes predictions about sport performers' pre-competition temporal patterning of anxiety and self-confidence responses. Martens and colleagues, and other researchers, have tended to acknowledge anxiety as a debilitating construct that always has a negative effect on performance. Interestingly, a small amount of recent research has demonstrated that this may not always be the case and that anxiety can be facilitative and have positive performance consequences. Consequently, new directions have been proposed to the anxiety response including the notion of 'direction' which refers to the interpretation of anxiety 'intensity' levels as either facilitative or debilitating towards forthcoming performance (Jones 1991, 1995).

Whilst much research into stress in sport has considered sport performers' emotional (anxiety) response, little research has examined the nature of the sources of stress experienced and the coping strategies used to deal with them (Hardy et al., 1996). Some recent research, however, has adopted Lazarus and Folkman's Transactional Model of Stress and Coping and applied it to the sport domain (Crocker & Graham, 1995; Gould, Eklund & Jackson, 1993a; Gould, Finch & Jackson, 1993b). Lazarus and Folkman's model adopts a process orientation which views stress, appraisal and coping as being inextricably linked (Lazarus, 1993). The model highlights the importance of considering, not just sport participants' emotional response, but the nature of sources of stress, how stressors are appraised and the coping strategies used to deal with sources of stress.

The large majority of stress and coping research within sport psychology has tended to use quantitative methods. However, several recent studies of stress and coping in elite sport performers have adopted qualitative methods, in the format of in-depth qualitative interviews (Gould et al., 1993 a,b). The use of qualitative interviews has enabled researchers to gain an in-depth understanding of the sources of stress and coping responses of elite sport performers from the subjects own perspective. The studies reported in this thesis use a combination of methodological approaches, including in-depth qualitative interviews and also the more traditional quantitative questionnaire-based approach.

In summary, little sport psychology research has considered sport participants with a disability. Consequently, the studies reported in this thesis focused primarily on two previous theories used in the general sport domain; MDAT (Martens et al. 1990) and Folkman and Lazarus' (1984) Transactional Model of Stress and Coping. Reid (1989) advocated that sport participants with a disability should be included in research designs to further the understanding of disability, and also to consider the influence of disability status (i.e., possessing and not possessing a disability) on previous empirical findings. The outcome of such research may provide additional support and thereby strengthen previous empirical findings.

1.5 PURPOSE

The purpose of this thesis was to investigate stress and coping in wheelchair sport participants. Specifically, the three studies reported examined: 1) pre-competition anxiety and self-confidence responses in wheelchair sport participants; 2) the influence of disability status (i.e., possessing and not possessing a disability) on psychosocial variables and appraisal of an important competitive event; and 3) sources of stress and coping responses in elite wheelchair basketball players. The thesis purely considered wheelchair sport participants because wheelchair sports encompass a wide variety of sports (e.g., archery, athletics, basketball, boccia, bowls, fencing, rugby, sailing, shooting, swimming, table-tennis and tennis), and involve individuals with a range of disabilities (see section 1.4).

1.6 DEFINITION OF TERMS RELATED TO DISABILITY

Many terms have been used to describe individuals we do not view as conforming to society's norms; for example impairment, disability and handicap. To eradicate any misnomers in this thesis, these terms are now defined:

Impairment: "Loss or abnormality of psychological, physiological or anatomical structure or function."

Disability: "Is any restrictions or lack (resulting from an impairment) of ability to perform an activity in the manner or within the range considered normal for a human being."

Handicap: "Is a disadvantage for a given individual from an impairment or a disability, that limits or prevents the fulfilment of a role that is normal (depending on age, sex and social and cultural factors) for that individual."

(European Charter For Sport for All: Disabled Persons, 1987; p12)

A disability originates from a physical, sensory or mental impairment within the individual (intra-personal). The handicap an individual faces is extra-personal, and is not produced by an impairment or disability but by the attitudes of society and/or environmental limitations (Fine & Asch, 1988; Hahn, 1988; Meyerson, 1988; Price, 1985; Wright, 1983). Therefore, the terms disability and handicap are not synonymous. The present thesis is concerned with physical disabilities which result in individuals participating in wheelchair sport (e.g., spinal lesion, lower limb amputations, cerebral palsy, spina bifida, polio and multiple sclerosis). The disability may affect any part of the body and may be progressive (e.g., multiple sclerosis) or stable (e.g., amputee), congenital (present at birth; e.g., cerebral palsy) or adventitious (acquired during life due to an accident or disease; e.g., spinal lesion).

1.7 STRUCTURE OF THE THESIS

The remainder of this thesis comprises 6 chapters which address the three main research questions highlighted in this chapter. Due to the programme of research covering a broad literature base, it was believed appropriate, for the sake of coherency, to review relevant research associated with each area of study. Therefore, literature is reviewed in chapters 2, 3 and 4. The specific outline of the thesis is as follows:

Chapter 2 (Study 1) examines normative pre-competition anxiety and self-confidence responses of wheelchair sport participants. The purpose was to determine if the wheelchair sport participants supported predictions made by Multidimensional Anxiety Theory (Martens et al., 1990) and previous empirical research of able-bodied sport participants.

Chapter 3 (Study 2) investigates psychosocial variables and appraisal of important

competitive events of sport participants with and without disabilities. The purpose was to determine if psychosocial variables predict challenge and threat appraisals, and whether the nature of the predictors was influenced by disability status.

Chapter 4 (Study 3) reports a critical overview of research into sources of stress and coping in sport. The chapter then details the rationale and purpose of study 3 and outlines the structured interview technique used with 10 elite wheelchair basketball players.

Chapter 5 (Study 3: results i) reports and discusses the findings concerning sources of stress in elite wheelchair basketball players.

Chapter 6 (Study 3: results ii) reports and discusses the findings concerning the coping responses of elite wheelchair basketball players and the relationships between coping and the sources of stress reported in chapter 5.

Chapter 7 summarises the major findings of the research programme. The chapter also attempts to draw together the findings in a general discussion which presents a stress and coping model for wheelchair sport participants, makes practical implications and also suggestions for future research.

CHAPTER 2

STUDY 1

PRE-COMPETITION ANXIETY AND SELF-CONFIDENCE IN WHEELCHAIR SPORT PARTICIPANTS

2.1 INTRODUCTION

Top level sport for people with a disability is becoming more competitive and the rewards for success, and the disappointments associated with failure, are often great. These are factors which clearly have the potential to create anxiety in many who participate. However, few investigations have specifically examined how athletes with a disability respond in highly stressful sporting situations. Knowledge of these responses is vital if sport psychologists are to provide effective services to support and enhance the performance of athletes with a disability. Study 1 of this thesis, therefore, examined the normative competitive anxiety and self-confidence responses of wheelchair sport participants during the period preceding competition. The Chapter is structured in the following sections: review of relevant literature; purpose and hypotheses; method; results; and discussion.

2.2 REVIEW OF RELEVANT LITERATURE

The following review examines two conceptual approaches which have been adopted in competitive anxiety research; general anxiety-based and multidimensional anxiety-based approaches, with the major emphasis being on the multidimensional anxiety perspective. The literature review also considers normative competitive anxiety responses. Due to the paucity of work with sport participants with a disability in this area, it is necessary to examine some of the competitive anxiety literature on able-bodied athletes.

2.2.1 GENERAL ANXIETY-BASED APPROACHES

One of the early developments in competitive anxiety research was the adoption of Spielberger's (1966) state-trait approach, together with his measuring instrument, the State-Trait Anxiety Inventory (STAI) (Spielberger, Gorsuch & Lushene, 1970). Specifically, state anxiety is the immediate emotional state that an individual experiences at a specific point in time. Trait anxiety, however, is a predisposition to experience anxiety across a range of situations; that is, an individual's general response. Early empirical findings using the STAI to examine anxiety in sport were useful (e.g., Klavora, 1974; Martens & Gill, 1976; Rhodes, 1980; Tenenbaum & Milgram, 1978). Much of the early work adopting this approach in sport psychology used the state version of the STAI to measure a generalised, undifferentiated anxiety state. The general conclusion drawn was that high and low levels of state anxiety may interfere with performance, so that an inverted-U relationship would appear to best describe the relationship (Spielberger, 1989). Relative to the present thesis, two studies have used the trait version of the STAI to measure wheelchair sport participants' general anxiety response (Henschen, Horvat & French, 1984; Campbell & Jones, 1994). Henschen et al's (1984) findings showed that 33 wheelchair sport participants reported lower trait anxiety scores than adult and student norms. However, the study failed to employ tests of statistical significance and purely described results. Campbell and Jones' (1994) study investigated the influence of competitive level on the psychological well-being of 103 wheelchair sport participants. Campbell and Jones operationalised psychological well-being in the form of multiple dependent measures, one of which was trait anxiety. The findings demonstrated that international level wheelchair sport participants reported lower trait anxiety scores than wheelchair sport participants at lower competitive levels (i.e., regional and recreational level). A limitation of the two studies described, and previous studies of able-bodied sport participants using the STAI, is the non-sport-specific nature of the STAI. Specifically, evidence from other disciplines in psychology has suggested that anxiety measures should be sensitive to the unique characteristics of different situations (e.g., Mandler & Sarason, 1952; Mellstrom, Cicala & Zuckerman, 1976; Paivio & Lambert, 1959; Watson & Friend, 1969).

In response to the limitations of the STAI, Martens (1977) developed the Sport Competition Anxiety Test (SCAT), a measure of competitive trait anxiety. The SCAT demonstrated impressive psychometric properties in both laboratory and field settings and has been used extensively in subsequent competitive anxiety research. Martens and colleagues also developed a sport-specific state anxiety scale, the Competitive State Anxiety Inventory (CSAI; Martens, Burton, Rivikin & Simon, 1980). Subsequent research using the CSAI verified that it was a more sensitive scale in the sports context than the state version of the STAI. While the use of the CSAI has not been as extensive as

that of the SCAT, a number of studies have provided evidence of the significant relationship between competitive trait and state anxiety in competitive situations (e.g., Cooley, 1987; Scanlan & Lewthwaite, 1984).

A considerable amount of research has adopted the SCAT as a measure of competitive trait anxiety, which is surprising given the popularity and acceptance of the interactional paradigm. According to the interactional paradigm, competitive trait anxiety is not predicted to influence performance directly, since performance is the result of person and situation factors; hence, state anxiety should be a better predictor of performance. However, the sport-specific CSAI (Martens et al., 1980) has been relatively under-used and also discouraging in this context. These findings are perhaps not surprising given the vague conceptualisation of anxiety which underlies this approach. The next section attempts to address this by examining whether the multidimensional anxiety-approach can provide any stronger insight into the specific nature of the competitive anxiety response.

2.2.2 MULTIDIMENSIONAL ANXIETY-BASED APPROACHES

This section initially focuses on the nature of the multidimensional competitive anxiety response and then specifically examines; temporal patterning, frequency of cognitive intrusions, and debilitating and facilitative anxiety states.

2.2.2.1 Nature of the Multidimensional Anxiety Response

Recent research in competitive anxiety is based on developments in educational and clinical psychology which has demonstrated that anxiety should be conceptualised as multidimensional in nature, comprising of cognitive (worry) and somatic (emotionality) components (Davidson & Schwartz, 1976; Liebert & Morris, 1967). Morris, Davis and Hutchings (1981) defined worry as "the cognitive elements of anxiety, such as negative expectations and cognitive concerns about oneself, the situation at hand and potential consequences" (p.541); and emotionality was defined as "one's perception of the physiological-affective elements of the anxiety experience, that is, indications of autonomic arousal and unpleasant feeling states such as nervousness and tension" (p.541). Davidson and Schwartz (1976) identified similar dimensions and labelled them cognitive anxiety (worry) and somatic anxiety (emotionality). The terms advocated by Davidson and Schwartz (1976) are the ones adopted in the sport psychology literature.

There is considerable empirical evidence that supports the delineation into separate cognitive and somatic components. Morris and Liebert (1973) showed that the anxiety subcomponents were elicited by different antecedents, with failure feedback elevating cognitive anxiety but not somatic anxiety, and threat of an electric shock

elevating somatic anxiety and not cognitive anxiety. Furthermore, Morris et al. (1982) reported cognitive anxiety to be elevated by social evaluation but somatic anxiety was unaffected. In addition to anxiety subcomponents possessing different antecedents, they have also been reported to react differently to various interventions. For example, Schwartz, Davidson and Goleman (1978) showed that exercise was related to decreases in trait somatic anxiety but not cognitive anxiety; and meditation appeared to be related to decreases in trait cognitive anxiety and not somatic anxiety. Further evidence supporting the delineation of anxiety subcomponents has been shown in the form of different temporal characteristics; cognitive anxiety has generally been reported to be stable leading up to an important competitive event, whereas, somatic anxiety tends to increase rapidly prior to the start but then dissipates once an event commences (Doctor & Altman, 1969; Morris & Fulmer, 1976; Spiegler, Morris & Liebert, 1968).

The developments in educational and test anxiety stimulated sport psychology researchers to move towards a multidimensional conceptualisation and measurement of competitive state anxiety, culminating in the development of the Competitive State Anxiety Inventory-2 (CSAI-2) (Martens, Burton, Vealey, Bump and Smith (1982, 1990). The CSAI-2 was originally designed to measure cognitive and somatic components of anxiety. However, during the extensive validation work on the scale, a third dimension emerged which was later identified as self-confidence. Several empirical studies have shown the independence of the three CSAI-2 sub-components in terms of different antecedents (Gould, Petlichkoff & Weinberg, 1984; Jones, Swain & Cale, 1991); different temporal characteristics (Gould et al., 1984; Jones et al., 1991; Martens et al., 1990); different performance consequences (Burton, 1988; Gould, Petlichkoff, Simons & Vevera, 1987; Jones & Cale, 1989; Parfitt & Hardy, 1987, 1993); and also respond differently to interventions (Burton, 1990).

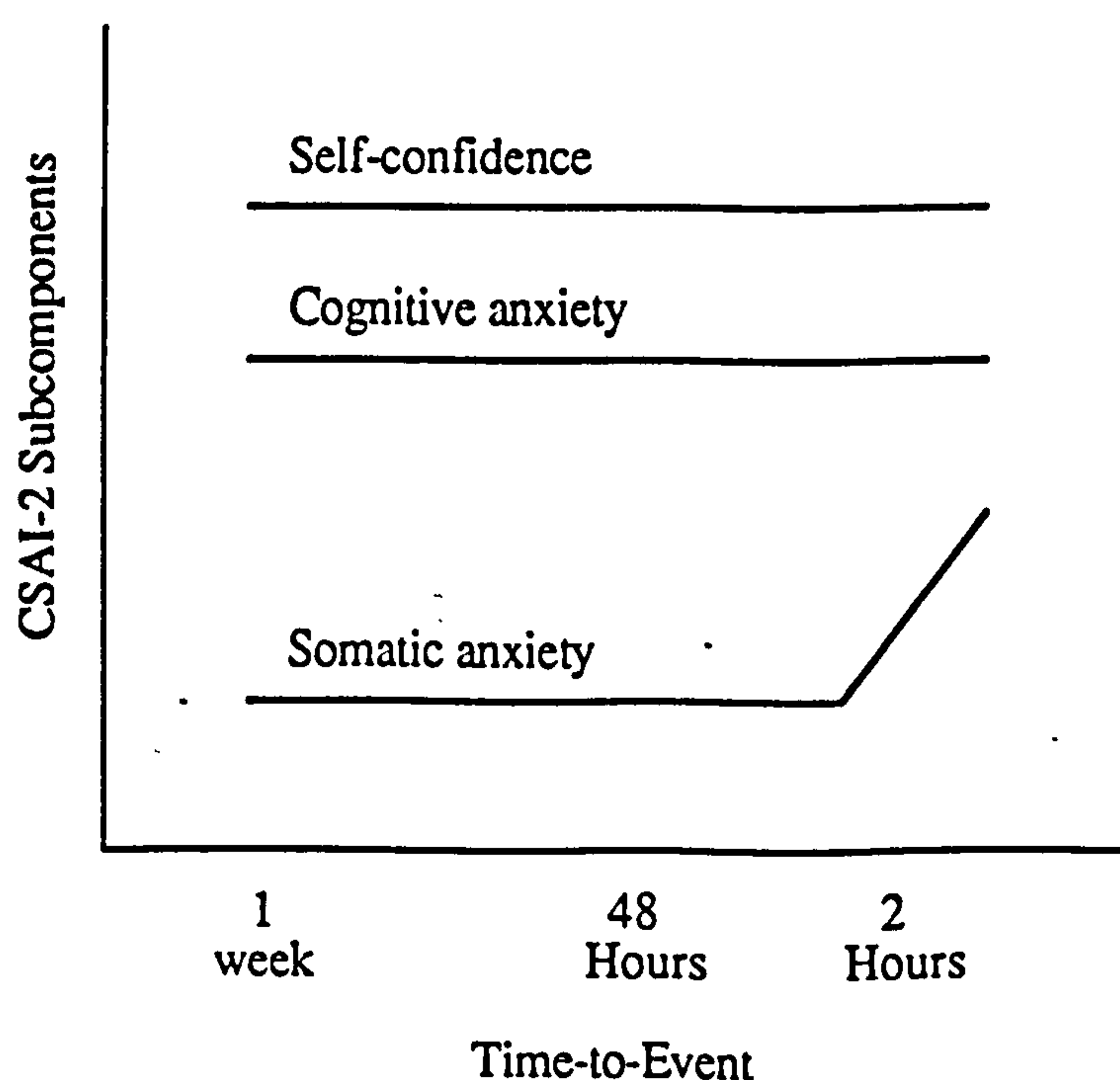
The CSAI-2 has been the major measuring instrument in competitive anxiety research since the mid-1980's. Recent work has been devoted to the development of a trait measure of multidimensional competitive anxiety, the Sport Anxiety Scale (SAS) (Smith, Smoll & Schutz, 1990). The SAS measures the tendency to experience worry, somatic reactions and concentration disruption in competitive situations. To date there is little published research which has employed the SAS (e.g., Krane, Joyce & Rafeld, 1994). However, the SAS has reported impressive psychometric properties which mean it is likely to figure prominently in future competitive anxiety research.

2.2.2.2 Temporal Patterning of Multidimensional Anxiety

A prominent line of research using the CSAI-2 has involved examination of fluctuations in anxiety and self-confidence levels during the period preceding competition. Silva and Hardy (1984) identified four reasons why the vast majority of

research has focused on the pre-competition time period: a) the assumption that the athlete's mental set prior to competition can affect subsequent performance; b) the assumption that the athlete has some control over his or her mental preparation during the pre-competition period; c) the pre-competition period is much more accessible to researchers than the period of competition itself; d) if pre-competition anxiety is a (negative) source of performance variance then the sport psychologist can assist in developing appropriate pre-competition states. The findings from studies using the CSAI-2 during the time period preceding competition have generally supported the predictions of Multidimensional Competitive Anxiety Theory (Martens et al., 1990) that cognitive anxiety remains relatively stable prior to competition while somatic anxiety tends to increase rapidly close to the start of the event (Jones & Cale, 1989; Parfitt, 1988; Parfitt & Hardy, 1987)(see Figure 2.1). Findings have shown self-confidence to be less consistent during the pre-competition period (Gould et al., 1984; Jones & Cale, 1989; Parfitt & Hardy, 1987). The dissociation of cognitive and somatic anxiety as the event approaches supports the partitioning of the two anxiety components. However, the majority of studies have shown moderate intercorrelations (Martens et al., 1990), indicating, as expected, some covariance. Some research has investigated this relationship as a function of proximity of competition and generally found the intercorrelations to be moderate throughout the pre-competition time period (Gould et al., 1984; Kareroliotis & Gill, 1987). A more recent study Swain, Jones & Cale (1990) has reported the relationship between cognitive and somatic anxiety as being low and non-significant one week before competition but becoming progressively greater as competition approached.

Figure 2.1 Theoretical Predictions of the Temporal Changes in CSAI-2 Components (Adapted from Martens et al. 1990)



The temporal patterning of competitive anxiety has been shown to vary as a function of individual difference variables such as sport type (Krane & Williams, 1987; Martens et al., 1990), skill level (Martens et al., 1990), competitiveness (Swain & Jones, 1992), and sex (Jones & Cale, 1989). Krane and Williams' (1987) study reported differential patterning between golfers and gymnasts, having administered the CSAI-2 to both groups 24 hours, 1 hour and 10 minutes prior to competition. Specifically, somatic anxiety increased during the pre-competition period in the gymnasts at both stages of testing but remained stable in the golfers. Both groups displayed changes in the patterning of cognitive anxiety and self-confidence but in the opposite direction; cognitive anxiety increased in the gymnasts but decreased in the golfers as the competition approached, and self-confidence decreased in the gymnasts but increased in the golfers as the event neared. Krane and Williams argued that a possible explanation for these findings may have been the difference in experience and skill levels between the two groups, with the gymnasts being both less skilful and less experienced than the golfers. However, having acknowledged the potential influence of experience, the findings from Krane and Williams (1987) supported Martens et al.'s (1990) predictions that subjectively-scored sport athletes (i.e., gymnasts) would be higher in cognitive and somatic state anxiety and lower in self-confidence than objectively-scored sport athletes (i.e., golfers). Martens et al. argued that this should be the case because of the increased uncertainty and lack of control over the outcome of an athlete's performance in subjectively-based sports.

Swain and Jones' (1992) study examined the relationship between 'competitiveness' and competitive state anxiety in a sample of 60 male university track and field athletes on five occasions in the period prior to an important competition. The results revealed that the patterning differed as a function of competitiveness, with the two groups (high and low competitiveness) reporting differential temporal patterning for cognitive and somatic anxiety. Specifically, cognitive anxiety remained stable in the high competitive group, but showed a progressive increase in the low competitive group. In the case of somatic anxiety, differential temporal patterning again emerged with the low competitive group reporting earlier elevation than the high competitive group. The temporal patterning of self-confidence revealed that both groups remained stable over the first three stages and then decreased on the day of competition.

A further interpersonal variable which has been shown to influence temporal patterning is sex. Jones and Cale's (1988) study of male and female students competing in the 1988 English and Welsh Universities' Athletic Union Championships showed that males conformed to multidimensional anxiety predictions with cognitive anxiety and self-confidence remaining relatively stable during the pre-competition period, and that somatic anxiety did not increase until just prior to competition (Martens et al., 1990). However, the temporal patterning for females' cognitive and somatic anxiety was contrary to these

findings, showing an increase in cognitive anxiety and a decrease in self-confidence. The results from this study have been suggested to be due to females experiencing a different sport socialisation to males, in that, males are taught a more competitive orientation to life than females (Anderson & Williams, 1987). Furthermore, Briscoe (1985) stated that maybe females are more willing than males to portray their feelings, particularly unpleasant feelings such as anxiety.

From the empirical studies detailed above, it would appear that various interpersonal variables may influence the temporal patterning of pre-competition multidimensional anxiety. The present chapter details a study which investigates the influence of an interpersonal variable previously not considered, disability.

2.2.2.3 Frequency of Cognitive Intrusions

Jones and associates' notion of 'cognitive intrusions' has assisted in throwing further light on pre-competition anxiety states (Jones, 1991, 1995; Parfitt, Jones & Hardy, 1990; Swain & Jones, 1993). This work was stimulated from these researchers' dissatisfaction with the intensity-alone approach which has dominated the anxiety literature. Jones and colleagues proposed that researchers may gain a greater understanding of competitive state anxiety from examination of additional dimensions to the 'intensity' of the response (i.e., the amount or level of anxiety) which self-report measures commonly assess. These authors argued for the need to incorporate a dimension which considered the 'frequency' of competition-related cognitive intrusions; that is, the amount of time which cognitions about a specific competitive event occupy a performer's thoughts. The notion that cognitive anxiety should remain stable during the pre-competition period has been subject to research attention. Jones and associates suggest that although the intensity of the cognitive anxiety response may be the same 1 week and 1 hour before, individuals are not necessarily experiencing the same cognitive state at the two time frames since the intrusions are probably occurring more frequently 1 hour before an important competition compared to 1 week before.

Swain and Jones (1993) reported empirical findings for 49 collegiate track and field athletes which demonstrated that although the intensity of cognitive anxiety symptoms remained relatively stable during the week preceding competition, the frequency with which they experienced the symptoms increased substantially and progressively during this period. Specifically, cognitive intrusions increased from 24.5 two days before an important competitive event to 40.1 thirty minutes before (minimum score = 9; maximum score = 63). Interestingly, the study did not report similar findings for somatic anxiety and self-confidence, with somatic anxiety intensity and frequency both increasing, and self-confidence intensity and frequency remaining stable.

It would appear, therefore, that the intensity-alone approach which is prevalent in the anxiety literature provides only a limited perspective on pre-competition anxiety states. The concept of frequency of cognitive intrusions provides an avenue for further work aimed at understanding the anxiety response. Furthermore, the notion of frequency of intrusions has important practical implications for consulting sport psychologists.

2.2.2.4 Debilitative and Facilitative Competitive Anxiety States

Anxiety has generally been viewed in the sport psychology literature to be negative and to have debilitative consequences for performance. This view is, however, at odds with literature emanating from other areas of psychology which suggests that anxiety can sometimes have positive consequences.

Researchers have tended to label an entire range of emotional responses as 'anxiety' and have not distinguished between facilitative and debilitative states. Anxiety has been used to describe what Sarason (1978) viewed as a broad continuum of states ranging from "virtual immobilisation in the face of potential criticism to exhilaration at the prospect of receiving accolades" (Sarason, 1978; p.193). Geen (1980) identified that the labelling of internal states in such situations is of crucial importance in predicting behaviour. As Schachter (1964) commented, "it could be anticipated that precisely the same state of physiological arousal could be labelled 'joy' or 'fury' or any great diversity of emotional labels, depending upon the cognitive aspects of the situation" (p.53). Recent work supports the need to differentiate the stress response to reflect positive (activation) and negative (anxiety) components (Apter, 1982; Carver & Scheier, 1986, 1988; Hardy & Whitehead, 1984; Mackay, Cox, Burrows & Lazzerini, 1978; Neiss, 1988; Thayer, 1967, 1978).

The concept of facilitative and debilitative dimensions have been apparent in the test anxiety literature since the 1960's. Alpert and Haber (1960) developed a measure to identify the presence of anxiety and also whether it was interpreted as positive or negative to performance (Anxiety Achievement; AAT). Furthermore, the AAT provided stronger predictions of academic performance than studies using conventional debilitation scales (e.g., Carrier, Higson, Klimoski & Peterson, 1984; Couch, Garber & Turner, 1983). The limitation of the research in the Test Anxiety area is that it considered anxiety as a unidimensional construct.

Little research in the sport domain has considered the possibility that anxiety may be positive. Mahoney and Avenier (1977) on examination of qualifiers and non-qualifiers for the 1976 American gymnastic team, showed that qualifiers perceived their anxiety as more positive and used it to facilitate forthcoming performance. The non-qualifiers, however, viewed their anxiety as negative and aroused themselves into near panic states by self-verbalisations and images which belied self-doubts and impending

tragedies about forthcoming performance. Furthermore, several recent empirical studies have identified that anxiety may have a positive effect on particular subcomponents of performance (e.g., Jones & Cale, 1989; Parfitt & Hardy, 1987, 1993). Specifically, Parfitt and Hardy (1987) showed that improvements in pattern search were associated with elevated cognitive anxiety in a sample of basketball players, and Jones and Cale (1989) reported a positive relationship between perceptual-motor speed and somatic anxiety in hockey players. Two theories which have recently been applied in the sport domain also support the concept of anxiety potentially having both a positive and negative impact on performance; Catastrophe Theory (Hardy, 1990) and Reversal Theory (Apter, 1982; Kerr, 1990). Hardy's (1990) Catastrophe Theory proposes that individuals can use elevated cognitive anxiety to enhance performance provided they can control the associated physiological arousal. Reversal Theory (Apter & Svebak, 1990), on the other hand, suggests that individuals may interpret the same physiological arousal as either positive (excitement) or negative (anxiety) depending on the metamotivational state (telic or paratelic) they are operating in. Consequently, it is possible that individuals may interpret the same level of arousal to be both positive and negative. A conceptual limitation of Reversal Theory, however, is that it is based upon unidimensional conceptualisations of arousal and anxiety.

Following on from work in educational psychology, Jones and associates (Jones, 1991; Jones & Swain, 1992) introduced the concept of 'direction' of anxiety into the sport psychology literature. Direction refers to how individuals interpret the cognitive and physiological symptoms they experience on a debilitating-facilitative continuum with respect to their forthcoming performance. For example, one performer might be "very concerned" about an upcoming event, to the extent of being in a near panic, debilitating state. Another performer, who is also "very concerned", might view such a state as signifying the importance of the event and therefore be motivated to invest effort in it, constituting a facilitative state. Similarly, two performers experiencing almost identical symptoms of physiological arousal might interpret those symptoms at opposite ends of the facilitative-debilitative continuum.

Support for the distinction between 'intensity' and 'direction' of competitive anxiety symptoms has been provided in several recent empirical investigations (Jones & Hanton, 1996; Jones, Hanton & Swain, 1994; Jones & Swain, 1992, 1995; Jones, Swain & Hardy, 1993). Most of the studies have used a modified version of the CSAI-2 to measure intensity and direction of symptoms in elite and non-elite athletes. Jones, Swain and Hardy's (1993) study of gymnasts performing in a beam competition showed that high performers reported their cognitive anxiety symptoms to be more facilitative and less debilitating to performance than the low performance group. Jones, Hanton and Swain (1994) showed similar findings with elite and non-elite swimmers. Specifically, no

differences were reported between elite and non-elite swimmers' cognitive and somatic anxiety intensity scores prior to competition. However, the elite swimmers reported that they interpreted both cognitive and somatic anxiety states as more facilitative to performance than non-elite performers. A study by Jones and Swain (1995) extended previous studies by examining cricketers' predispositions to interpret anxiety symptoms as positive. Specifically, Jones and Swain (1995) showed that elite cricketers demonstrated a tendency to interpret their anxiety symptoms as more facilitative to their forthcoming performance than non-elite cricketers^{2.1}. It would appear from empirical studies that elite and non-elite athletes generally report no differences on the intensity of pre-competition anxiety symptoms, but that elite performers interpret their anxiety states as being more facilitative to performance than non-elite performers.

In summary, it would appear that future research should acknowledge the limitations of purely assessing the intensity of anxiety symptoms (Burton, 1990; Jones, 1991, 1995a; Parfitt, et al., 1990), and consider examining Jones and colleagues' (Jones, 1991, 1995a,b; Jones & Swain, 1992; Swain & Jones, 1990, 1993) recently proposed dimensions of frequency and direction.

2.2.3 NORMATIVE RESPONSES

A recent study of able-bodied sports performers by Jones and Swain (1995) investigated anxiety and self-confidence responses in elite and non-elite cricketers by considering normative rather than state responses. Jones and Swain found this to be a less intrusive method as subjects, instead of completing a state questionnaire immediately prior to competition, were asked to complete a questionnaire enquiring about their normal pre-competition responses in their own time away from the competitive environment. Specifically, subjects were asked to complete the trait version of the CSAI-2 (CTAI-2; Albrecht & Feltz, 1987) based on how they normally felt immediately prior to going out to bat in a cricket game. The findings were similar to those of a previous study which considered state anxiety and self-confidence responses in swimmers (Jones, Hanton & Swain, 1994). It would appear that the CTAI-2, as well as being a less intrusive measure, is also capable of producing normative responses which are comparable to results previously reported for state responses.

Jones and Swain's study considered how cricketers normally respond in a specific environmental context; that is, immediately before the specific situation of batting in a cricket game rather than their normal response to a cricket game in general. This approach is distinct from the traditionally-used trait-oriented approach which

2.1 Jones and Swain's (1995) study of cricketers is detailed in section 2.4.

assumes an individual's response is primarily a property of the person, and variations in the stressful situation are of little importance. The approach used by Jones and Swain is similar to the process-oriented approach advocated by several researchers in the area of stress and coping. The process-oriented perspective, unlike the trait-oriented perspective, gives significance to the environmental context and personal dispositions in determining an individual's response (Bolger, 1990; Folkman, Lazarus, Dunkel-Schetter, DeLongis & Gruen, 1986).

Jones and Swain's study, while acknowledging the importance of the environmental context, only considered normative responses at one specific time period of a stressful encounter; that is, immediately prior to a batting performance in a cricket game. Lazarus, an eminent researcher in the area of stress and coping since the early 1950's, has suggested that it is important to examine stress as a process that unfolds over time (Lazarus, 1990, 1993). This is because the emotions experienced during a stressful encounter are characterised by change. Initially, an individual may feel anxious, then after a few moments of interchange angry, then guilty, then joyful (Folkman & Lazarus, 1985). The sequence of feelings experienced reflects the changing meaning or significance of what is happening as the stressful encounter unfolds. Therefore, to consider just one time period or combine together stages of a stressful encounter would give a limited picture of what is happening (Lazarus, 1990, 1993).

Previous research into pre-competition anxiety would support the importance of considering the dynamics of competitive situations since findings have shown consistent changes in state cognitive and somatic anxiety during the pre-competition time period. Martens et al. (1990) suggested that the consistent changes in anxiety responses during the pre-competition time period could be due to athletes using similar pre-event routines and coping strategies at particular time periods of the competition process. This would support Compas, Malcarne and Banez's (1992) idea of coping styles which implies that individuals show consistency in the coping strategies they use under certain circumstances, or with similar stressors. According to Lazarus and Folkman's (1984) conceptual model of stress and coping, how we cope directly influences the emotions we experience. Therefore, if individuals possess preferred ways of coping with certain stressful situations, we may expect to see consistency in the emotional responses they experience under similar situations. Based on the conceptual suggestions of Compas et al., (1992) and Lazarus and Folkman (1984), study 1 of the thesis attempted to extend Jones and Swain's study of cricketers by using the CTAI-2 to examine consistency of emotional responses (i.e., anxiety) at different time periods during the pre-competition time period. Study 1 was unique in that it was the first to examine pre-competition anxiety responses of athletes with a disability.

2.3 PURPOSE AND HYPOTHESES

2.3.1 PURPOSE

The purpose of the present study was to examine the pre-competition temporal patterning of competitive anxiety and self-confidence responses of wheelchair sport participants. Specifically, a modified version of the CTAI-2 (Albrecht & Feltz, 1987; Jones & Swain, 1995) was used to investigate the intensity, frequency and direction of normative anxiety and self-confidence responses of wheelchair sport participants at three time periods prior to an important competition: 1 week before; 2 hours before; and 30 minutes before. These time periods were selected based on previous research of pre-competition temporal patterning of state anxiety and self-confidence responses of non-disabled sport participants (Jones et al., 1991; Gould et al., 1984; Swain & Jones, 1992).

2.3.2 HYPOTHESES

To the author's knowledge, no previous research has considered normative pre-competition temporal patterning of anxiety and self-confidence responses. Thus, tentative hypotheses were formulated based on Martens et al's (1990) theoretical predictions of state responses and also previous research findings. The hypotheses proposed were:

- Cognitive anxiety intensity would remain stable during pre-competition.
- Self-confidence intensity would remain stable during pre-competition.
- Somatic anxiety intensity would increase as competition approached.
- Cognitive anxiety frequency would increase during pre-competition.
- Somatic anxiety frequency would increase during pre-competition.
- Self-confidence frequency would remain stable as competition approached.

Since no previous research has examined changes in direction of anxiety as a function of proximity of competition onset, no hypotheses were formulated for this variable.

2.4 METHOD

2.4.1 SUBJECTS

The subjects comprised 103 male ($n = 87$) and female ($n = 16$) wheelchair sport participants whose ages ranged from 19 to 46 years (mean = 31.01; SD = 7.54). All the subjects participated at national level or above in a variety of sports: wheelchair basketball ($n = 65$); track and field ($n = 21$); and swimming ($n = 17$). The subjects possessed a range of impairments from lower limb amputations to tetraplegia. Sixty-nine of the respondents had gained their disability as a result of a trauma and 34 were born with their disability. All participants volunteered to participate in the study.

2.4.2 INSTRUMENTATION: MODIFIED VERSION OF THE COMPETITIVE TRAIT ANXIETY INVENTORY (CTAI-2).

Previous authors (e.g. Albrecht & Feltz, 1987; Jones & Swain, 1995) have shown that the CSAI-2 can be adapted to measure normative competitive anxiety and self-confidence responses by altering the test instructions so that subjects can complete it based on how they 'normally' feel. Similar procedures of altering test instructions, so subjects can complete a questionnaire based on how they 'normally' feel or how they feel 'right now', have been used by other developers of state-trait measures (e.g., Carver, Scheier & Weintraub, 1989; Spielberger, Gorsuch & Lushene, 1970; Vealey, 1986). The CTAI-2 comprises 27 items with nine items in each of the cognitive anxiety, somatic anxiety, and self-confidence subscales. Examples of cognitive anxiety items include "I am concerned about this competition" and "I am concerned about performing poorly", while somatic anxiety items include "I feel nervous" and "my body feels tense". Self-confidence items include "I feel at ease" and "I am confident about performing well".

The CTAI-2 measures intensity of the anxiety response, but was modified to also measure frequency and direction dimensions of the response. The frequency subscale had previously been developed by Swain and Jones (1993) and the direction subscale by Jones and Swain (1992). Therefore, participants were asked to respond on three response scales (intensity, frequency, and direction) for each of the 27 items.

Intensity : The intensity response subscale asked each subject to rate the intensity with which each symptom was normally experienced on a scale from 1 ("not at all") to 4 ("very much so"). Thus possible intensity scores on each subscale ranged from 9 to 36.

Frequency : The frequency response subscale asked "How frequently do you experience this thought or feeling at this stage?". This was measured on a 7 point Likert-

type scale ranging from 1 ("not at all") to 7 ("all of the time"). Frequency scores were summed for cognitive anxiety, somatic anxiety, and self-confidence, with each subscale score ranging from 9 (low) to 63 (high).

Direction: The direction response subscale asked "Rate the degree to which the intensity of each symptom you experience is either facilitative or debilitating to your subsequent performance". This was assessed on a scale from -3 ("very debilitating") to +3 ("very facilitative"). Responses were scored only for the cognitive and somatic items and not for the self-confidence items, as previous research has shown a strong positive relationship between self-confidence intensity and direction (Jones et al., 1993). Possible direction scores on the cognitive and somatic subscales ranged from -27 to +27.

2.4.3 PROCEDURE

Permission was obtained from the appropriate sport governing bodies to approach individuals who competed at international or national level in the three sports sampled; basketball, track and field athletics, and swimming. All wheelchair sport participants were asked to complete the modified CTAI-2 based on how they normally felt at three points in time prior to an important competition: 1 week before; 2 hours before; and 30 minutes before. Individuals were asked to complete the modified CTAI-2 away from the competition environment and were presented with normative-oriented instructions modified from the recommendations of Martens et al. (1990). The instructions to each subject emphasised the need for honesty, and for an indication of his/her normal thoughts and feelings at the three points in time prior to an important competition. The subjects were also assured of confidentiality of these responses.

2.5 RESULTS

Separate repeated measures one-way multivariate analyses of variance (MANOVA) were conducted on each of the three subscales (i.e. intensity, frequency and direction) of the modified CTAI-2 in order to examine whether there were any changes across the three time points^{2.2}. Where MANOVAs were significant, univariate repeated measures analyses were carried out; differences between means were investigated by follow-up Tukey tests.

2.2 Separate repeated measures one-way multi-variate analyses of covariance (MANCOVA), with sex as the covariate, were conducted on each of the three subscales. These analyses showed sex had no influence on the findings; therefore, males and females were combined to form one participant group.

2.5.1 INTENSITY

The MANOVA for intensity was significant, Wilk's lambda = 0.23, $F(6, 97) = 54.88$, $p < 0.01$. Means, standard deviations, and F ratios for the follow-up univariate analyses are shown in Table 2.1. These analyses showed differences for all three of the intensity subscales. Tukey tests on the cognitive anxiety intensity means indicated an increase from 1 week to 2 hours ($p < 0.01$), and from 1 week to 30 minutes ($p < 0.01$) before competition. No difference was found in cognitive anxiety intensity from 2 hours to 30 minutes before competition. Somatic anxiety intensity increased ($p < 0.01$) from 1 week to 2 hours, and 2 hours to 30 minutes before competition. Tukey tests showed self-confidence to increase from 1 week to 2 hours before competition ($p < 0.01$), and then decrease from 2 hours to 30 minutes before competition ($p < 0.01$). The level of self-confidence at 30 minutes decreased to a similar value reported for 1 week before competition.

Table 2.1 Means, Standard Deviations, and F Ratios for Intensity Subscales

	1 week mean (SD)	2 hours mean (SD)	30 minutes mean (SD)	df	F
Cognitive Anxiety	19.18 (5.27)	20.68 (5.83)	21.65 (6.89)	2,204	13.47**
Somatic Anxiety	13.64 (4.46)	17.59 (5.12)	27.72 (13.0)	2,204	99.17**
Self-Confidence	24.81 (5.58)	26.85 (8.70)	23.33 (6.75)	2,204	12.61**

** $p < 0.01$

2.5.2 FREQUENCY

The MANOVA for frequency was significant, Wilk's lambda = 0.32, $F(6, 97) = 33.05$, $p < 0.01$. Means, standard deviations, and F ratios for the follow-up univariate analyses are shown in Table 2.2. These analyses showed differences for all three subscales. Cognitive and somatic anxiety frequency subscales showed the same temporal patterning with increases ($p < 0.01$) from 1 week to 2 hours, and 2 hours to 30 minutes before competition. Tukey tests showed self-confidence frequency to increase ($p < 0.01$) from 1 week to 30 minutes before competition. No increases in self-confidence frequency occurred between any other time points.

Table 2.2 Means, Standard Deviations, and F Ratios for Frequency Subscales

	1 week	2 hours	30 minutes	df	F
	mean (SD)	mean (SD)	mean (SD)		
Cognitive Anxiety	25.18 (9.23)	31.59 (10.76)	33.94 (13.48)	2,204	34.14**
Somatic Anxiety	20.26 (8.05)	26.68 (10.13)	32.26 (11.71)	2,204	65.93**
Self-Confidence	36.70 (10.57)	38.91 (10.41)	41.03 (10.65)	2,204	10.35**

** $p < 0.01$

2.5.3 DIRECTION

The MANOVA for direction was significant, Wilk's lambda = 0.86, $F(4, 99) = 3.90$, $p < 0.01$. Means, standard deviations, and F ratios for the follow-up tests are shown in Table 2.3. These analyses showed no differences between time periods for cognitive anxiety ($p = 0.07$), or somatic anxiety direction ($p = 0.15$). This suggests that direction differed across time as a function of the interaction between cognitive and somatic anxiety, but effects on the separate anxiety subcomponents were not evident.

Table 2.3 Means, Standard Deviations, and F Ratios for Direction Subscales

	1 week	2 hours	30 minutes	df	F
	mean (SD)	mean (SD)	mean (SD)		
Cognitive Anxiety	3.16 (8.47)	1.30 (10.26)	2.07 (11.34)	2,204	2.69
Somatic Anxiety	3.84 (7.40)	2.52 (7.93)	4.03 (10.36)	2,204	1.95

* $p < 0.05$

2.6 DISCUSSION

This study examined the normal pre-competition anxiety and self-confidence responses of wheelchair sport participants using a multidimensional competitive anxiety approach. The findings did not support the hypothesis that cognitive anxiety intensity would remain stable over the three pre-competition time periods. The results showed that cognitive anxiety intensity was stable on the day of competition, but that it increased from 1 week to 2 hours before competition. Although Multidimensional Anxiety Theory predicts that state cognitive anxiety intensity should remain stable before competition, some research with able-bodied athletes has shown that state cognitive anxiety intensity increased on the day of competition (Jones & Cale, 1989; Krane & Williams, 1987; Swain & Jones, 1993). It would appear that wheelchair sport participants may not conform to theoretical predictions but, at the same time, do not necessarily show a distinct cognitive anxiety intensity patterning to non-disabled sport participants.

Support was found for the hypothesis that somatic anxiety intensity increases as the competition approaches, thus supporting previous studies of non-disabled athletes (e.g., Gould et al., 1984; Jones et al., 1991; Swain & Jones, 1993). The somatic anxiety intensity mean scores, however, seem rather high when compared to Jones and Swain's (1995) study, which used the same normative measure of anxiety as in the study reported here. This difference is only evident for somatic anxiety since the cognitive anxiety intensity and self-confidence results are very similar to those reported by Jones and Swain. The present study showed a mean somatic anxiety intensity score, at 30 minutes before competition, of 27.22, compared to Jones and Swain's reported mean value of 19.22. Possible reasons for this discrepancy between the able-bodied sample of Jones and Swain and the disabled sample examined in this study could relate to individual difference variables within the disabled group (e.g., nature and severity of disability). This is supported by a large standard deviation reported for 30 minutes before competition (i.e., 13.0), whereas those reported for 1 week (4.46) and 2 hours (5.12) are comparable to standard deviations reported for cognitive anxiety and self-confidence.

The large variability in somatic anxiety intensity responses just prior to competition is interesting. Potentially, certain physical disabilities i.e., spinal cord injury, can disturb the autonomic nervous system (ANS) which is associated with the somatic anxiety response (Campbell, 1992). The ANS is innervated by spinal nerves between lumbar vertebrae 2 (L2) and thoracic vertebrae 1 (T1) (Guttmann, 1976). A spinal lesion, therefore, between L2 and T1 would cause varying degrees of disturbance to the ANS and, a lesion above T1 would cause no spinal nerve innervation of the ANS. As a consequence, lower levels of somatic anxiety symptoms would be expected (e.g., lower heart rate and sweating); however, in the present study unusually high levels of somatic

anxiety symptoms are reported. Subsequent inspection of the somatic anxiety intensity scores of the four subjects in the sample who had a lesion above T1 revealed a mean of 19.6. While this is substantially lower than the mean for the whole sample (27.22), these subjects still reported experiencing symptoms which, in theory, they should not have been aware of. However, it is important to emphasise that the somatic anxiety scale of the CTAI-2 measures *perceptions* of what is effectively physiological arousal, rather than the *actual* physiological response. Therefore, a possible explanation is that the disabled athletes may use coping strategies, such as imagery, in order to simulate somatic anxiety symptoms since these symptoms may be perceived to be necessary for optimal performance.

The results for self-confidence showed an inverted-U pattern with an increase from 1 week to 2 hours before competition, and then a decrease from 2 hours to 30 minutes before competition. Multidimensional Anxiety Theory predicts that self-confidence should remain stable during pre-competition unless expectations of success are changing. The hypothesis proposed concerning self-confidence intensity patterning was, therefore, rejected. However, the decrease in self-confidence immediately prior to competition was not necessarily unexpected since previous research has shown a similar patterning in female athletes (Jones & Cale, 1989; Jones et al., 1991). A possible explanation for females having a drop in self-confidence is that they experience a different sport socialisation to males (Jones & Cale, 1989) in that males are taught a more competitive orientation to life than females (Andersen & Williams, 1987). A study by Gill (1988) supported this with males showing a higher competitiveness and win orientation, and females a higher goal orientation. This could relate to the present study as Sherrill (1986) stated that sport socialisation for disabled athletes is different from non-disabled athletes. Possibly, as with females, individuals with disabilities are not taught a competitive orientation to life and as a consequence do not develop the personal dispositions and skills, such as competitiveness and coping strategies, to maintain self-confidence in a competitive situation. This is supported by Crocker and Bouffard's (1990) suggestion that individuals with physical disabilities should be taught appropriate coping strategies to function effectively in a physical activity setting. Research by Zoerink (1992) also suggests a difference in sport socialisation between individuals with acquired and congenital disabilities. Future research should identify factors which influence a disabled sport participant's ability to maintain self-confidence in a competitive situation. Research by Krane and Williams (1987) has identified that elite non-disabled athletes are more able to control their thoughts prior to competition and maintain high levels of self-confidence. Researchers may wish to consider whether the independent variable of skill level has the same influence on self-confidence patterning in disabled sport participants.

Support was found for the hypotheses concerning the patterning of cognitive and somatic anxiety frequency since both showed increases across each time period. This supports previous research of state responses with non-disabled sport participants (Swain & Jones, 1993). These findings are interesting when considering that Multidimensional Anxiety Theory proposes that cognitive anxiety intensity does not change pre-competition. In the present study cognitive anxiety intensity increased from 1 week to 2 hours before competition but remained stable from 2 hours to 30 minutes before competition. The frequency of the cognitive intrusions, however, increased progressively at each time point. This would suggest that although the intensity of cognitive anxiety remains stable on the day of competition the frequency of the cognitive intrusions is increasing, therefore, the nature of cognitive anxiety must change during the pre-competition time period. This provides further evidence that the intensity-alone approach to competitive anxiety is limited for disabled as well as non-disabled populations.

Contrary to the hypothesis proposed, self-confidence frequency did not remain stable during pre-competition but showed an increase from 1 week to 30 minutes before competition. This is interesting when considering that self-confidence intensity showed a decrease immediately prior to competition. The findings for intensity and frequency would appear to suggest that lower self-confidence cognitions are being experienced more frequently immediately prior to competition. Further research, therefore, is needed to examine potential factors that may influence the nature and frequency of self-confidence cognitions during pre-competition.

Finally, the results from the present study showed no change in directional perceptions of somatic and cognitive anxiety as the onset of competition approached. The mean results reported, for the three pre-competition time periods, were positive suggesting that wheelchair sport participants normally perceive the intensity of their pre-competition cognitive and somatic anxiety responses as facilitative to their subsequent performance. However, large standard deviations were reported suggesting a large between subject variability. Future research, therefore, may wish to consider the influence of individual difference variables on directional perceptions of cognitive and somatic anxiety, for example skill level.

In summary, the findings from the present study suggest that wheelchair sport participants' normative pre-competition anxiety and self-confidence responses change as a function of proximity of competition. The present study, therefore, supports the importance of adopting a process-oriented perspective that examines how individuals respond at different stages of a stressful encounter. The changes reported in pre-competition anxiety and self-confidence responses were similar to those previously reported for state responses of non-disabled sport participants. Consequently, the present study provides additional support, with normative anxiety and self-confidence responses,

for the importance of considering the dynamics of the pre-competition time period. The present study also provides further support, with a disabled sport population, for Jones' (1991, 1995) argument that the intensity-alone approach to competitive anxiety is limited. Two particular findings, however, would suggest that further research is needed to identify and understand how certain variables may influence the maintenance of wheelchair sport participants' self-confidence before competition, and why the somatic anxiety intensity reported was so high. A possible limitation of the present study is that in assessing normative responses no acknowledgement is given for the fact that individuals may appraise competitive situations differently due to changing personal and situational factors; for example match importance, opponent strength, and perceived ability. It should be noted, however, that particular factors which influence appraisal were controlled as individuals were asked how they would normally respond to a competitive event which they perceived as important, rather than a competitive event in general.

Study 2 of this thesis attempts to explore the drop in self-confidence reported by wheelchair sport participants immediately prior to competition. This is achieved by considering how individuals appraise important competitive events, that is whether they perceive events as challenging (positive) or threatening (negative). Study 2 focuses on appraisal as it is a vital factor in determining an individual's level of self-confidence. Specifically, Study 2 investigates how wheelchair and able-bodied sport participants cognitively appraise a specific important competitive event, and whether certain personal and situational factors predict the nature of appraisal.

CHAPTER 3

STUDY 2

THE INFLUENCE OF PSYCHOSOCIAL RESOURCES ON THE APPRAISAL OF AN IMPORTANT COMPETITIVE EVENT

3.1 INTRODUCTION

Little research to date has considered how disabled populations react and cope with stressful sporting situations. Study 1 of this thesis acknowledged this lack of research and specifically investigated wheelchair sport participants' normative pre-competition anxiety and self-confidence responses. The findings from Study 1 suggested that wheelchair sport participants show a similar pre-competition anxiety response to non-disabled sport participants. However, there were some differences, particularly in the intensity of somatic anxiety symptoms experienced, and the reduction in self-confidence immediately prior to competition. Therefore, the purpose of Study 2 of this thesis is to explore possible reasons why self-confidence may decrease in athletes with a physical disability immediately prior to competition.

To re-emphasise, Multidimensional Anxiety Theory (MDAT) (Martens et al., 1990) predicts that self-confidence should remain stable during pre-competition unless expectations of success are changing. However, previous research has shown that female athletes report a drop in self-confidence immediately prior to competition (Jones & Cale, 1989). Jones and Cale (1989) explained this as being due to males being taught a more competitive orientation to life than females (Anderson & Williams, 1987). In the discussion section of Chapter 2, it was suggested that wheelchair sport participants may also experience a different sport socialisation. That is, similar to females, individuals with a disability may not develop a competitive orientation to life and as a consequence do not develop the personal dispositions and skills, such as competitiveness and coping skills, to maintain self-confidence immediately prior to competition. It would appear that the findings of Study 1 warrant further investigation. Information in this area would be useful to coaches and sport psychologists in assisting wheelchair sport participants to develop appropriate mental skills, and also in extending current sport psychology theories.

Consequently, Study 2 of this thesis explores the findings from Study 1 by examining how individuals cognitively appraise important competitive events. As previously stated, MDAT (Martens et al., 1990) implies that self-confidence should remain stable unless expectations of success change. For expectations of success to change then an individual's cognitive appraisal of a situation must have altered due possibly to changes in situational and personal factors; for example, arriving at the competition venue, seeing the opposition, and concern over personal performance (Martens et al., 1990). Further to this, Lazarus and Folkman's (1984) model of stress and coping highlights that stress is only experienced following cognitive appraisal, and it is the nature of the appraisal which influences the coping and the emotions experienced^{3.1}. Therefore, appraisal of a situation is very important and obviously will influence an individual's self-confidence levels immediately prior to competition. The present study (Study 2) focuses on gaining an in-depth understanding of how wheelchair sport participants cognitively appraise a specific important competitive event, and the potential factors that may influence the appraisal.

The present chapter is structured as follows: a brief review of pertinent literature in the area; purpose and hypotheses of the study; methodology; analysis of results; and discussion and summary.

3.2 REVIEW OF RELEVANT LITERATURE

The following literature review is structured to examine pertinent literature which has considered how important events are appraised and factors that may influence appraisal. Specifically, it is structured to consider: a definition of cognitive appraisal; personal factors influencing cognitive appraisal; situational factors influencing cognitive appraisal; vulnerabilities to negative appraisal; personal characteristics of sport participants with a disability; cognitive appraisal of physical activity by individuals with physical disabilities.

3.2.1 COGNITIVE APPRAISAL: A DEFINITION

Cognitive appraisal is defined as the process by which individuals interpret what is happening in their environment and the implications it has for their personal well-being (Gage, 1992; Lazarus & Folkman, 1984, 1987; Smith & Lazarus, 1993). 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. A

3.1 Lazarus and Folkman's model is outlined in detail in Chapter 4 section 4.2.1

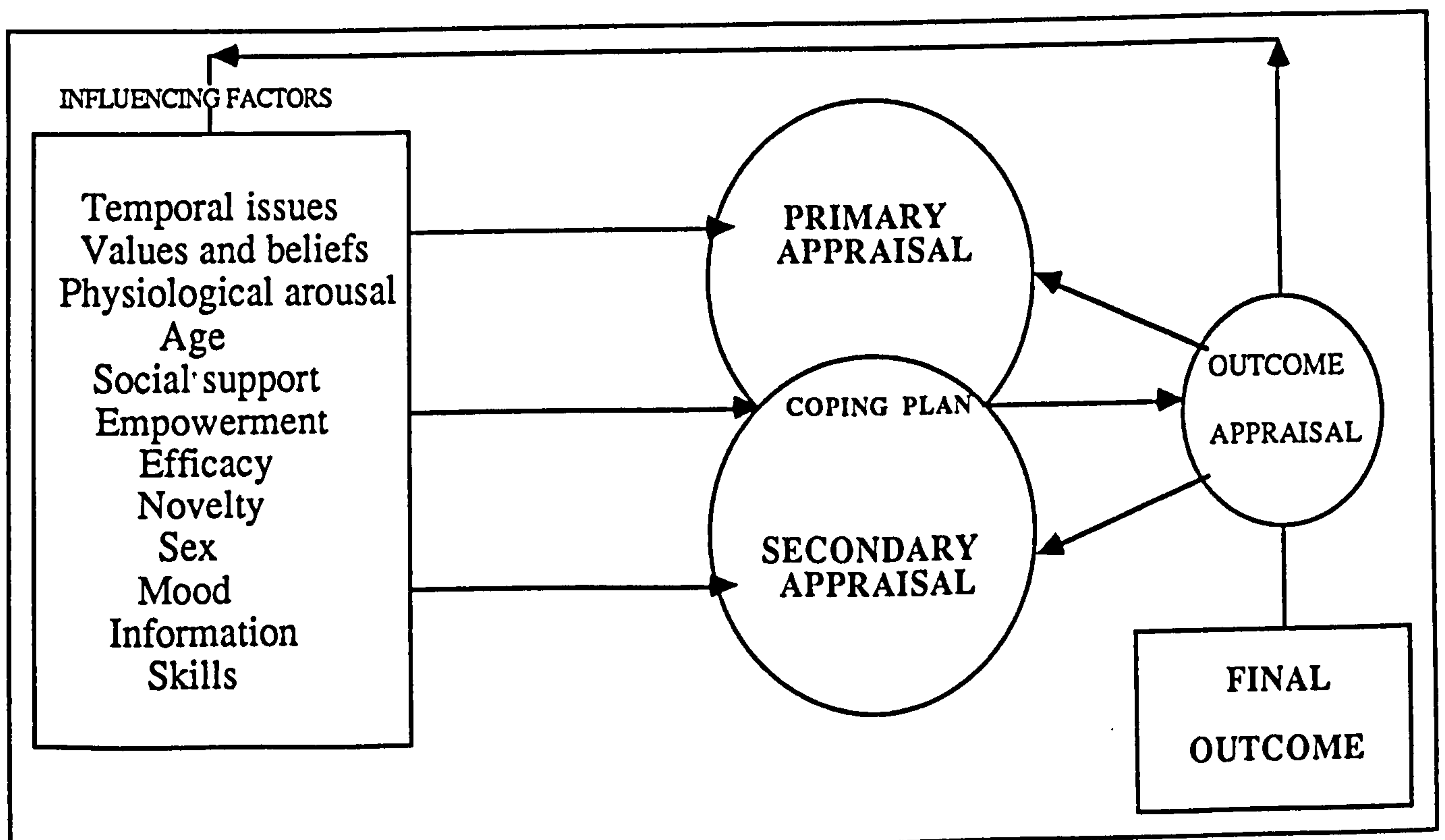
situation appraised as *challenging* would suggest that there is potential for benefit or the opportunity for growth and mastery, whereas a *threatening* appraisal involves anticipation of harm to personal well-being. Both challenging and threatening appraisals are viewed as anticipatory appraisals; that is, appraisals about events occurring in the future. A *harm/loss* appraisal is where an individual perceives physical or psychological harm or loss that has already happened. Lazarus and Folkman (1984) identified two forms of appraisal; primary and secondary appraisal. Primary appraisal determines what is at stake in an encounter (Folkman, 1992), and ultimately characterises a situation as being harmful, threatening, challenging or of no importance. An occurrence (interaction between person and the environment) will not be perceived as stressful unless it is evaluated as being of relevance to the individual's personal well-being. Primary appraisal is suggested to be influenced by personal factors, situational factors and also the nature of the outcome (Gage, 1992; Knussen & Cunningham, 1988; Lazarus & Folkman, 1984). Smith and Lazarus (1993) also identified primary appraisal to possess two main components; motivational relevance and motivational congruence. Motivational relevance is described as the extent to which an encounter touches upon personal commitments; that is, issues an individual cares about. Therefore, motivational relevance signifies the extent to which an encounter is personally relevant. Motivational congruence, however, is the extent to which an encounter is consistent with a person's desires and goals.

Secondary appraisal focuses on judgements made relative to the status and stability of an individual's resources which are available for dealing with stress and likely outcomes (Lazarus & Folkman, 1984, 1987). Basically, it involves an evaluation of an individual's physical, psychological, social and material resources available to cope with an event. Knussen and Cunningham (1988) termed resources as 'assets', and suggested that secondary appraisal involves an evaluation of physical (health, energy, stamina), social (social networks, support systems), psychological (beliefs and values, problem-solving skills, self-esteem) and material assets (money equipment, tools). Smith and Lazarus (1993) categorised factors influencing secondary appraisal into accountability, problem-focused potential, emotion-focused potential, and future expectancy. Smith and Lazarus (1993) stated that accountability involves an analysis of who or what will receive the credit or blame for the outcome of an encounter and, therefore, who or what should be the target of any coping efforts. Coping potential (problem-focused and emotion-focused) corresponds to two main means of reducing discrepancies between one's circumstances and one's desires and motivations (Folkman & Lazarus, 1988; Kimble, 1990; Smith & Lazarus, 1990). That is, problem-focused potential involves an evaluation of one's ability to act directly upon a situation in order to keep it in accord with one's desires. Emotion-focused potential, on the other hand, is perceived to be the prospects of being able to

adjust psychologically to the encounter by altering one's interpretations, desires and/or beliefs (Smith & Lazarus, 1993). The final category identified by Smith and Lazarus (1993) was future expectancy which is the possibility, for whatever reason, that there may be changes in the actual or psychological situation that may make the encounter seem more or less motivationally congruent.

It would appear that primary and secondary appraisal are influenced by both personal and situational factors (Lazarus & Folkman, 1984, Knussen & Cunningham, 1988). Gage (1992) developed an appraisal model of coping which uses the cognitive relational theory of stress and coping (Lazarus & Folkman, 1987) as a starting point and adds information about personal and situational factors from other authors to complete it (see Figure 3.1). Personal and situational factors are considered in the next two sections in an attempt to understand what may influence appraisals of a competitive sport situation.

Figure 3.1 The Appraisal Model of Coping (Gage, 1992)



3.2.2 PERSONAL FACTORS INFLUENCING COGNITIVE APPRAISAL

Lazarus and Folkman (1984) identified two important factors influencing appraisal; commitments and beliefs. Basically, commitments are what are important to a person and what have meaning to them. Therefore, if an encounter involves a strongly held commitment, it will influence whether a situation is appraised as harmful, threatening or challenging. Consequently, our commitment involves a cognitive component which influences our choices and the goals we attempt to achieve. This can also impact upon our motivation for a particular action/goal in terms of intensity, persistence and direction. There are several mechanisms by which commitments can influence appraisal. Firstly, they can guide people into or away from situations which are perceived as challenging or threatening, or benefiting or harmful. For example, an athlete committed to winning will engage in rigorous training and not take part in activities that may diminish their chances of success. Further, commitments can shape our sensitivity to cues in the environment; for example, team sport participants may be more sensitive to selectors when they are aware of decisions being made about team selection. Lazarus and Folkman (1984) suggested that there is a need to consider relative commitment, as generally the deeper the commitment then the more likely individuals are to be impelled to take action to reduce the threat to them achieving particular desires or goals.

Lazarus and Folkman (1984) also suggested that there is a link between increased commitment to an event and increased vulnerability to experience stress; for example, a student waiting for examination results who has always wanted to be a Doctor will experience greater emotions of rejection, than a student for whom being a Doctor was just one of several options. Commitments that are made more public can also increase the likelihood of appraising an event as threatening due to concerns about self-esteem being diminished and/or experiencing social criticisms. However, the strength of a person's commitment that may create vulnerabilities can also cause someone to take action to reduce the threat and help sustain coping efforts.

The second factor Lazarus and Folkman (1984) identified as important to influencing cognitive appraisal was individuals' beliefs. Beliefs are defined as:

"pre-existing notions about reality which serve as a perceptual lens or a 'set' In appraisal, beliefs determine what is fact, that is, 'how things are' in the environment, and they shape the understanding of meaning." (Lazarus and Folkman, 1984, p. 72)

Bem (1970) suggested that we possess two types of beliefs; primitive and higher-order. Primitive beliefs are proposed to be based on premises that are not questioned and may be centred on external authority (e.g., society viewing it as wrong to cheat). Higher-order beliefs, however, are suggested to be learnt and are derived by reasoning our experiences inductively (Bem, 1970). This reasoning may be influenced by

society, or our close social network. For example, Diaz Guerrero (1979) showed cultural differences in how Americans and Mexicans approach a stressful encounter; Americans were shown to actively attempt to modify physical, interpersonal and social environments, whereas Mexicans passively endured similar stressors with a stronger bent towards self-modification rather than changing the situation. Diaz Guerrero (1979) suggested that this was because mothers reinforced different behaviours, depending on their own cultural experiences. A further study considered how Norwegian and Botswanan parents reacted to finding out that their child had a disability (Ingstad, 1988). The findings showed that Norwegian parents viewed having a child with a disability as a punishment from God, whereas the Botswanan parents perceived it as a positive expression of God's faith in their ability to handle the event. These findings clearly suggest that our society has the potential to influence our cognitive appraisal of a situation through the development of appropriate societal beliefs.

Folkman and Lazarus (1984) progressed the concept of a person's beliefs to consider how belief about personal control over a situation can influence cognitive appraisal. Specifically, belief about personal control over a stressful situation is suggested to increase the vulnerability of feeling harm from a stressful encounter (Folkman & Lazarus, 1984; Knussen & Cunningham, 1988). This view is supported by Gage (1992) who considered Rotter's (1966) work on internal locus of control. Rotter (1966) reported that individuals high on internal locus of control were more likely to interpret situations as contingent on their own behaviour, whereas individuals low on internal locus of control were likely to view the same events as contingent on luck, fate, chance, or powerful others. Gage (1992) further proposed that individuals high in internal locus of control were more likely to believe that they could do something to reduce the threat of the situation. It must be noted, however, that perceptions of control may not be stable but situationally-specific. For example, Silver and Wortman (1980) showed that individuals with a spinal cord injury may feel in control of transferring themselves from bed into their wheelchair, but not in control over whether they will walk again. It would appear, therefore, that an individual's perception of control over a situation can influence how the situation is appraised.

So far, two personal factors have been considered as influencing appraisal of an event/occurrence; commitments and beliefs. The review will now consider whether personality dispositions influence a specific appraisal of an event. There has been much controversy in the area of coping as to whether individuals have a preferred set of coping strategies that remain relatively stable from one situation to the next, or whether individuals approach each coping context anew (Hardy, Jones & Gould, 1996). Several researchers have argued against the predictive utility of coping dispositions and believe that coping is situation-specific (Cox & Ferguson, 1991; Folkman, 1992; Lazarus &

Folkman, 1984). Lazarus and Folkman's (1984) viewpoint is that stress and coping should be viewed as a dynamic process that shifts in nature from stage to stage of a stressful transaction. Consequently, Lazarus (1993) advocated that the concept of a style would be counterproductive as it would lock a person into one mode of responding. However, Carver et al. (1989) and Krohne (1988) believed that the concept of coping styles is useful. Closer examination of the two positions suggests that they are not as divergent as initially thought (Hardy et al., 1996). Folkman (1992) believed that there are some stable aspects of the coping process that should be identified. Furthermore, Krohne (1988) stated that there is a need to consider both situational and stable coping dispositions. A study by Bouffard and Crocker (1992) actually adopted a state-trait interaction to examine coping consistency of individuals with a physical disability participating in physical activity^{3.2}. The results of Bouffard and Crocker's (1992) study supported Krohne's (1988) suggestions, in that, on a few occasions personal styles predicted coping whilst on a few other occasions the situation predicted coping. However, the biggest proportion of the variance was accounted for by a person-by-situation interaction (over 50%).

Some of the controversy over whether individuals use similar coping strategies from one situation to the next appears to be related to a lack of clarity in terminology. Compas (1987) acknowledged this problem and defined several key terms; coping resources, coping styles, and specific coping efforts. For the purpose of clarity this thesis adopts the coping definitions advocated by Compas (1987). Specifically, Compas (1987) defined '*coping resources*' as aspects of self (e.g., problem-solving skills, interpersonal skills, and positive self-esteem) and the social environment (e.g., availability of a supportive social network), that facilitate being able to successfully adapt to stressful situations. '*Coping styles*', however, were viewed as methods of coping that characterise individuals' reactions to stress, either across different situations, or over time within a given situation. Coping styles may reflect a preferred way of coping because they are consistent with personal values, beliefs and goals. However, a coping style does not imply the presence of an underlying personality trait that predisposes a person to respond in a particular way. A coping style reflects a tendency to respond in a particular way when confronted with a specific set of circumstances (e.g., controllable or uncontrollable stressors) (Compas, 1987). Finally, specific '*coping efforts*' are referred to as cognitive or behavioural actions taken in the course of a particular stressful episode.

Carver et al. (1989), in the development of a coping assessment instrument (the COPE), demonstrated that individuals adopted relatively stable coping strategies. These stable coping preferences were suggested to be derived from an individual's personality

3.2 Bouffard and Crocker's (1992) study is detailed in Chapter 4 section 4.2.6

(Carver et al., 1989). Carver and colleagues actually reported modest links between coping dispositions and situational coping activities, and coping dispositions and personality traits. Previous research has also found personality traits such as optimism, locus of control, self-control, neuroticism and extroversion to be linked to situational coping activities (McCrae & Costa, 1986; Parkes, 1984, 1986; Scheier, Weintraub & Carver, 1986). A study by McNair and Elliot (1992) considered how problem-solving coping styles may influence cognitive appraisal of a stressful event, which in turn may influence behavioural responses. McNair and Elliot's (1992) findings supported Heppner & Krauskopf's (1987) proposal that individuals high in problem-solving may appraise a problematic situation as manageable and challenging, whereas ineffective problem-solvers appraise situations as threatening and unchangeable. Furthermore, individuals ineffective in problem-solving also perceived that they possessed fewer coping resources, whilst effective problem-solvers perceived they possessed the necessary coping resources to deal with a situation. Previous research would appear to support the proposal/notion that possession of a particular coping style and various personality traits may influence how an individual appraises a specific event.

In summary, it would appear that personal factors, such as, beliefs, commitments, personal coping styles, and personality traits may influence how an individual appraises a specific event. The reported study in this chapter acknowledges the importance of personal factors in cognitive appraisal by assessing how coping styles, and perceptions of self-control, relate to appraising competitive situations as challenging and threatening.

3.2.3 SITUATIONAL FACTORS INFLUENCING COGNITIVE APPRAISAL

Several researchers have attempted to identify situational factors which may influence our appraisal of specific events (Folkman & Lazarus, 1984; Gage, 1992; McCrae, 1989; Paterson & Neufeld, 1987). The following review considers pertinent factors to the sport domain: these include; temporal factors, novelty, ambiguity and social support.

Temporal factors have previously been detailed as important factors influencing appraisal of an event (Berznitz, 1967; Folkins, 1970; Gage, 1992; Lazarus & Folkman, 1984). Lazarus and Folkman (1984) identified two characteristics related to temporal factors; imminence and duration. Imminence is defined as the time period until a stressful event occurs. Generally, the more imminent an event is the more intense its appraisal becomes, especially if there are cues available which are signalling potential harm, danger or the opportunity for mastery or gain (Gage, 1992). However, it must be noted that the length of time before an event can, in certain circumstances, increase the

likelihood of threat, whereas with other events it may decrease it. Lazarus and Folkman (1984) signified that an important factor influencing the nature of appraisal is whether the time available before an event can be used constructively. Gage (1992) discussed temporal factors in terms of the length of time of incubation period; that is, the length of time between learning of a threat to the actual occurrence of a threatening event. Breznitz (1967) also examined the concept of incubation period of a threat appraisal and reported that individuals generally preferred a shorter incubation period. The length of time, therefore, between learning about a stressful event and it actually occurring appears to influence primary appraisal (challenging, threatening, harm/loss). In addition to imminence, Lazarus and Folkman (1984) also suggested that actual duration of a stressful encounter may influence appraisal. The reason for this is that the appraisal of a chronic persistent event is not static, and the appraisal may fluctuate during the event from challenging and threatening depending on outcome of earlier coping responses and re-appraisal of the situation.

Novelty of a situation is another factor which may cause a threat appraisal as there is knowledge that inferences may be being made on inaccurate information (Lazarus & Folkman, 1984). However, individuals will interpret and give meaning to novel situations based on past experiences. In addition, individuals may also not believe they possess the adequate skills to cope. Gage (1992) suggested that more experienced individuals who were less likely to experience novel situations as threatening than someone with less experience. This may be explained by Bandura's (1977) theory of self-efficacy which states that successful experiences increase self-efficacy. Self-efficacy encompasses individuals' perceptions of their ability to carry out an activity and their belief that the recommended response will bring about desired results. Consequently, individuals high in self-efficacy are less likely to experience novel situations as threatening. This would support traditional methods used by sport psychologists to increase situationally-specific self-confidence; for example goal setting, mental rehearsal and competition plans (Bull, 1991; Weinberg & Weigand, 1993).

Another temporal factor potentially influencing appraisal is predictability. Predictability concerns whether there are characteristics in the environment which we can predict. Within sport it is apparent that as sport performers become more skilful they also become more aware of the environmental characteristics that can enhance their ability to accurately predict situations (Schmidt, 1988). Lazarus and Folkman (1984) highlighted the importance of considering the relationship between controllability and predictability. Specifically they suggested that uncontrollable situations that are not predictable have a greater chance of being perceived as threatening. However, it should be noted that just because an event is predictable does not necessarily mean that it is controllable (McCrae, 1989).

Ambiguity in a situation is concerned with situational clarity; that is, insufficient or unclear information on which to make an appraisal. Ambiguity is different from uncertainty, in that uncertainty relates to a person's confusion about the meaning of a situation. Folkman and Lazarus (1987) considered ambiguity in relation to three different stages of an examination; pre-exam, immediately post-exam, and post-results of exam. The findings showed that ambiguity was highest immediately before the examination, decreased immediately after the examination, and was least ambiguous after the announcement of results. Folkman and Lazarus (1987) suggested that situations high in ambiguity can be appraised as both threatening and challenging due to a range of possible outcomes. Situations that are low in ambiguity mean that more information is available, thus clarifying whether a situation will enhance or reduce an individual's psychological well-being.

The final situational factor to be considered to influence appraisal is social support. Social support has been identified as a key situational variable in Lazarus and Folkman's (1984) stress and coping model. There is a large and growing body of literature which has demonstrated the importance of social support in promoting mental health and preventing psychological distress (Cohen & Syme, 1985; Heller, Swindle & Dusenbury, 1986; Levy, 1983). Social support has been defined as the functions that are performed for a distressed person by significant others, such as family friends, co-workers, and relatives (Thoits, 1986). Gage (1992) discussed social support as coping assistance, and suggested that when viewed from this perspective it can influence an individual's appraisal of a situation; that is, knowing whether support is available would be reassuring and would thus reduce the perceived level of threat.

Social support research suggests that it is a multidimensional construct (Brown, Brady, Lent, Wolfert & Hall, 1987; Carver et al., 1989, Lazarus & Folkman, 1984; Shaefer et al., 1982). In the development of coping instruments both Lazarus and Folkman (1984) and Carver et al. (1989) identified two forms of social support; emotional support and instrumental support. Brown et al. (1987) developed a measurement tool to specifically assess five dimensions of social support (Social Support Instrument, SSI); acceptance and belonging, appraisal and coping assistance, behavioural and cognitive guidance, tangible assistance and material aid, and modelling. Therefore, the dimensions identified by the SSI are very similar to those measured in previous coping assessment tools. Interestingly, Brown et al. (1987) also acknowledged the difference between need for social support and the supply of social support. Consequently, Brown et al. (1987) developed the SSI to assess both need and supply of social support on each of the five separate dimensions. From calculating total need and total supply scores it is then possible to calculate a perceived fit score, which indicates whether individuals perceive they are receiving the social support they need. Brown et

al.'s (1987) SSI has been used successfully to assess the social support received by starter and non-starters in football (Petrie, 1993)^{3.3}.

There has been a limited amount of research in the disability and sport domains which has considered the impact of social support on an individual's psychological well-being. This research identifies social support as a factor which may influence individuals' vulnerability to stressful situations. Previous research into social support is detailed in the next section which considers vulnerabilities to negative appraisal. However, it would appear that social support is a key situational variable that may influence an individual's primary and secondary appraisal of a specific situation.

In summary, a range of personal and situational factors potentially influence primary and secondary appraisal of specific encounters. The next section considers how personal and situational resources can create vulnerabilities which may predispose individuals to appraise situations more negatively (i.e., threatening as opposed to challenging).

3.2.4 VULNERABILITIES TO APPRAISAL

This section initially introduces the area of vulnerability, then progresses to detail research on able-bodied sport performers which has adopted this particular research perspective, and finishes by examining the issue of disability as a potential vulnerability to negative appraisal.

3.2.4.1 Vulnerability Research: Introduction

Vulnerability and resiliency constructs reflect attempts to identify social, situational, and individual difference variables that either increase or decrease the likelihood that people will exhibit negative reactions to stressful events (Block & Block, 1980; Compas, 1987; Garmezy, 1981; Kessler & McLeod, 1984; Rutter, 1979). Smith, Smoll and Ptacek (1990) suggested that research has been stimulated in this area due to inconsistent relationships between life events and outcome measures. Researchers have, therefore, attempted to identify psychosocial moderators that may affect the nature and magnitude of relations between life stress and well-being. Some studies have demonstrated that factors such as social support and certain personality measures result in stronger relations being seen between stressors and medical outcome measures (Barrera, 1981; Sarason, Sarason, Potter & Antoni, 1985; Thoits, 1986). Identifying these variables is a key step towards specifying psychological processes that mediate between event and outcome relations (i.e., stress and injury). In addition, it assists in identifying sub-groups

3.3 Petrie's (1993) study is detailed further in the section on sport vulnerability research (section 3.2.5.2).

that may be at risk to negative outcomes due to a lack of particular resources, therefore enabling interventions to be targeted at particular groups to help them develop/acquire appropriate resources. A number of situational and individual difference variables have been identified as factors that increase vulnerability, or conversely resiliency, of people to the impact of negative life-events. For example social support, sensation-seeking, and internal locus of control have all been shown to be capable of reducing stress-outcome relations via their impact on an individual's cognitive appraisal (Cohen, 1988; Compas, 1987; Garnezy & Rutter, 1983; Johnson, 1986; Smith et al., 1978).

3.2.4.2 Sport Vulnerability Research

Research in the sport domain has established that social support has moderating effects in athlete populations (Hardy, Richman & Rosenfeld, 1991; Petrie, 1992; Smith et al., 1990). Specifically, Petrie (1992) showed that under conditions of low support, female college gymnasts were most vulnerable to effects of life stress, accounting for 12-22% of injuries. Smith et al. (1990) findings indicated that social support moderated the life stress-injury relationship only when considered in conjunction with coping skills. That is, when both social support and coping were low then individuals were most likely to experience time loss due to injury. Petrie (1993) found social support moderated the negative life stress-injury relationships of starting footballers, yet, the same relationship did not emerge for non-starters. However, Petrie (1993) reported no differences in the psychosocial variables of the starter and non-starter groups, suggesting that certain groups may be more at risk in certain situations. The findings detailed above illustrate the potential role psychosocial moderator variables may play in explaining event outcomes. The research to date, however, does not indicate directly why the relationships occur. Possibly future research may examine how psychosocial variables influence appraisal of specific situations.

3.2.4.3 Disability as a Vulnerability

Knussen and Cunningham (1988) suggested that Lazarus and Folkman's (1984) model of stress and coping made an excellent framework to understand disability and handicap. The reason Lazarus and Folkman's (1984) model of stress and coping was believed to be capable of explaining stress and disability is that the individual is central to the model; that is, there is self-advocacy with individuals ultimately being responsible for their own behaviour. Consequently, a handicap is neither inevitable, nor a permanent consequence of disability. Whether individuals with disabilities experience handicaps is dependent on appraisal of situations, which is influenced by social, cultural and behavioural variables (Knussen & Cunningham, 1988). Lazarus and Folkman's (1984) model provides support for this view as the nature of an individual's appraisal is central to

the model, and appraisal is influenced by personal and environmental variables. By research focusing on personal and environmental factors as *potential* vulnerabilities it means that disability does not automatically create vulnerabilities. Therefore, Knussen and Cunningham's approach is not pathological as vulnerabilities are not inevitable stressors. Knussen and Cunningham (1988) suggest that disability may create gross vulnerabilities in factors such as, lack of social support and low self-control. Each of these factors is now considered.

Previous researchers have reported that individuals with a disability may have a restricted number of friendship patterns (Knussen & Cunningham, 1988; Wright, 1983; Zoerink, 1992). Furthermore, children with a disability may not have the opportunity to learn and develop personal and social interactive skills as their disability has limited their social network due to segregated settings (Knussen & Cunningham, 1988; Wright, 1983; Zoerink, 1992). Consequently, individuals with a disability may enter adult life with limitations for employment, and also potentially a limited leisure and social life. A similar scenario is apparent as people age, or lose employment due to their disability; they experience an increase in leisure time but have a concomitant deterioration of skills. The result may be that individuals with both acquired and congenital disabilities experience an increase in vulnerabilities associated with limited social support linked to isolation or alienation (Knussen & Cunningham, 1988).

Knussen and Cunningham's (1988) model of stress and disability highlighted self-control as a potential source of vulnerability for individuals with a disability. The variable of self-control is associated with increased independence and feelings of fulfilment (Rosenbaum, 1980). Possessing independence assumes individuals have control over their own lives, and that they can make personal choices. However, Wright (1983) suggested that individuals disabled from birth were likely to be helped more as they age by, for example, family members and physical therapists. Wright (1983) proposed, therefore, that individuals continually being helped are likely to feel inferior and may be at risk for developing learned helplessness and may lack independence and personal skills to cope with stressful situations (Wright, 1983). It would appear that individuals with a disability may lack self-control and be dependent on others for assistance thus making them vulnerable in situations which require them to take personal action to preserve their well-being, or requiring assistance when no one is available.

The model of disability and stress proposed by Knussen & Cunningham (1988) enables a more positive construction of disability, in that, disability may or may not create vulnerabilities. Whether a disability causes an individual to experience a handicap is dependent on the mediating roles of personal and environmental resources (Knussen & Cunningham, 1988). Furthermore, it is these personal and environmental resources which influence appraisal:

"an individual's appraisal of a disability and the coping resources he or she has at his/her disposal, must form the centre of any discussion of the effects of disability." (Knussen and Cunningham, 1988, p. 347).

3.2.5 PERSONAL CHARACTERISTICS AND APPRAISAL PATTERNS OF SPORT PARTICIPANTS WITH A DISABILITY

This section is structured to consider research in two areas; firstly, the personal characteristics of sport performers with a physical disability, and secondly how sport performers with a disability appraise physical activity .

3.2.5.1 Personal Characteristics of Sport Participants with a Disability

Several research studies have considered the influence of physical activity on the psychological well-being of individuals with a disability by comparing the psychological profiles of wheelchair sport participants with non-sport participants (Campbell & Jones, 1994; Greenwood, Dzewaltowski & French, 1990; Paulsen, French & Sherrill, 1990). Specifically, these studies have reported that participants, compared to non-participants, experience a more positive mood (Campbell & Jones, 1994; Greenwood et al., 1990; Paulsen et al., 1990), greater mastery (Campbell & Jones, 1994), and higher self-efficacy when performing general tasks requiring mobility in a wheelchair (Greenwood et al., 1990). These findings would suggest that sport participants possess important personal characteristics believed to facilitate appraisal of sporting situations as more challenging than threatening. Campbell & Jones (1994) stated that a weakness of previous studies was that individual difference variables, which may influence psychological well-being, had not been considered; for example, competitive level and whether individuals were born with, or acquired a disability later in life. Campbell and Jones (1994) addressed this weakness by considering the influence of competitive level on 93 wheelchair sport participants who ranged from international to recreational competitors. Psychological well-being was evaluated by assessing mood, trait anxiety, self-esteem, mastery and individual self-perceptions of health and well-being. The results showed that athletes at higher competitive levels (i.e., international wheelchair athletes) reported higher scores on self-esteem, mastery, and perceptions of well-being and lower scores on anxiety than those at a lower competitive level (i.e., recreational and regional wheelchair athletes). Campbell and Jones (1994) emphasised that large standard deviations were apparent for many of the measures of psychological well-being, so that the findings needed to be interpreted with caution. Furthermore, they suggested that future research should examine individual difference variables such as cause of disability.

Campbell (1995), based on Campbell and Jones' (1994) recommendation, re-examined the sport participant group data reported by Campbell and Jones (1994) to consider possible differences in the psychological well-being of congenital (n = 50) and acquired (n = 43) wheelchair sport participants. The findings showed that sport participants with acquired disabilities had a more positive general mood, higher self-esteem and mastery, and lower trait anxiety than sport participants with a congenital disability. Campbell (1995) suggested that the results supported Wright's (1983) view that people disabled early in life may lack independence and the personal skills to cope with stressful situations. The reason for the lack of independence and personal skills may be explained by Zoerink's (1992) findings that individuals with congenital disabilities experienced fewer early experiences in sport and were more dependent on other social agents, such as physical therapists, family members, and current athletes with disabilities, to attract them to and maintain their interest in sport than individuals with acquired disabilities. Both Campbell (1995) and Campbell and Jones (1994) highlighted that their findings did not allow cause-effect relationships to be assessed and that future research should consider why such factors as competitive level and cause of disability influence psychological well-being. One such method may be to consider how the individual difference variables of competitive level and cause of disability influence how wheelchair sport participants appraise important competitive events. This perspective would enable practitioners to gain an insight into which individual factors, in combination with personal and situational factors, may create vulnerabilities to appraising stressful sporting situations as predominantly threatening as opposed to challenging.

3.2.5.2 Appraisal Patterns of Sport Participants with a Disability

To date, little is known about how individuals, with or without a disability, appraise important competitive situations (Crocker & Bouffard, 1992; Haney & Long, 1995). However, the general psychology literature has shown that appraisal is a key variable in determining appropriate coping responses to deal with stressful situations, and that ultimately the outcome of coping responses will influence personal well-being (Gage, 1992). Hardy et al. (1996) acknowledged the importance of appraisal by including it as a key factor in a model developed to help understand stress and coping in sport. Gould (1994) suggested that primary and secondary appraisal need to be examined, in conjunction with potential personal and situational resources that may influence appraisal of an event, to understand individuals' behavioural and emotional responses to stressful sport situations.

Few studies in the sport domain have specifically considered how sport performers appraise competitive situations. Generally, research has indirectly examined appraisal by investigating the relationship between coping and affect (Bouffard &

Crocker, 1992; Crocker, 1992; Crocker, Alderman & Smith, 1988; Crocker & Bouffard, 1990; Crocker & Graham, 1995; Gould, Eklund & Jackson, 1993, Gould, Finch & Jackson, 1993; Madden, Kirkby & McDonald, 1989; Madden, Summers & Brown, 1990). Interestingly, a series of studies has been conducted with individuals with a disability, examining appraisal and coping responses to challenging physical activities (Bouffard & Crocker, 1992; Crocker & Bouffard, 1992; Crocker & Bouffard, 1990). Each of these studies adopted Lazarus and Folkman's (1984) model of stress and coping. Specifically, two of the studies considered how individuals with a disability coped with challenging physical activities (Bouffard & Crocker, 1992; Crocker & Bouffard, 1990)^{3,4}. Neither of these two studies directly measured appraisal; however, they controlled for it by ascertaining coping responses to only challenging physical activities.

Crocker and Bouffard's (1992) study is the only study to date which has specifically considered how individuals appraise a specific challenging physical activity. The specific purpose of Crocker and Bouffard's (1992) investigation was to determine the relationship between cognitive appraisal and self-reported affect during challenging physical activity. Eleven variables were used to assess different aspects of cognitive appraisal: four variables related to motivation and reasons for involvement (develop health and fitness, skill learning, demonstration of competence, gain social approval); and seven variables related to subjects' perceptions of task and person factors (personal control and responsibility, external control, task predictability, familiarity, effort, confidence, and task value). Affect was measured using the Positive Affect Negative Affect Schedule (PANAS) scale (Watson, Clark & Tellegen, 1988). Fifty-five individuals with physical disabilities (16 female, 39 male) were asked to recount a recent challenging experience in a physical activity setting which had occurred during the previous two weeks. Crocker and Bouffard's (1992) results indicated that perceived challenge was characterised by higher levels of positive than negative affect, thus supporting research in the general psychology literature that indicates that positive affective states reflect pleasurable engagement with the environment (Deci & Ryan, 1985; Lazarus & Folkman, 1984). Furthermore, the findings showed that a challenge situation was characterised by high levels of personal incentive motives and other appraisals, such as personal control, confidence, effort and familiarity. In addition, challenge was also associated with a degree of uncertainty, thus supporting theoretical conceptualisations that individuals enjoy testing the limits of their skills (Deci & Ryan, 1985; Lazarus & Folkman, 1984). Interestingly, unlike previous research (Deci & Ryan, 1985), Crocker and Bouffard (1992) did not find that personal control was strongly related to positive affect. However, the findings did show that external control was related to positive affect. Crocker and

3.4 These studies are detailed in Chapter 4 section 4.2.6

Bouffard (1992) explained the findings as due to many individuals with a disability requiring external assistance in certain physical activities (e.g., assistance to transfer from a wheelchair into the swimming pool). Therefore, if assistance is not available it could generate a negative appraisal due to vulnerabilities in social support as described by Knussen and Cunningham (1988). Crocker and Bouffard's (1992) study centred around the belief that physical activity is essential to the physical and psychological well-being of individuals with a disability. This belief has been the focus of the majority of studies which have considered individuals with a disability in physical activity settings (Bouffard & Crocker, 1992; Campbell, 1995; Campbell & Jones, 1994; Crocker & Bouffard, 1992, 1990; Greenwood et al., 1990; Paulsen et al., 1990; Zoerink, 1992). There is only limited research which has considered individuals with a disability as elite athletes (Campbell & Jones, 1995). Therefore, future research may consider extending Crocker and colleagues work on appraisal and coping in to sport, rather than the physical activity domain.

In summary, it would appear that wheelchair sport participants generally experience positive psychological well-being. However, previous research has reported that individual difference variables such as competitive level and cause of disability may influence psychological well-being of wheelchair sport participants. Research to date on how personal factors of wheelchair sport participants may relate to their appraisal of important competitive situations has been limited to challenging physical activities. Therefore, Study 2 of the thesis considers how wheelchair sport participants appraise important competitive situations and how these appraisals may be influenced by various personal and environmental factors.

3.3 PURPOSE AND HYPOTHESES

3.3.1 PURPOSE

The present study had three specific purposes:

- To determine if disability status (i.e., possessing or not possessing a physical disability) influences the psychosocial variables of coping style, self-control, and social support.
- To determine if disability status influences appraisal (primary and secondary) of a specific important competitive event.
- To examine whether coping style, self-control and social support were more predictive of appraising a competitive event as threatening or challenging for sport participants with a physical disability than for sport participants without a disability.

Disability status, as highlighted above, was defined as possessing or not possessing a physical disability. Consequently, the study comprised of two subject groups; sport participants with a disability, and sport participants without a disability. In addition, due to previous research (Campbell, 1995), the disability group was further considered in terms of whether subjects possessed a congenital or acquired disability. The study acknowledged the importance of competitive level in influencing psychological well-being (Campbell & Jones, 1994) by ensuring all subjects with a disability were of national standard or above, and that the sport participants without a disability were of regional or national level standard. With respect to the psychosocial variables, this study investigated the two personal factors of self-control and coping style, and the situational factor of social support. The reason these three psychosocial variables were selected is that previous literature has suggested that they may cause vulnerabilities in individuals with disabilities (Knussen & Cunningham, 1988; Zoerink, 1992). Primary appraisal was evaluated by asking individuals to reflect on a previous important sporting event that had occurred during the last three months, and to rate it in terms of perceived challenge and threat. Secondary appraisal (i.e., what they perceived they could do to cope with the important competitive event) was investigated by using items previously developed by Crocker and Bouffard (1992) for individuals with physical disabilities.

3.3.2 HYPOTHESES

Due to the exploratory nature of this study, the hypotheses formulated were tentative and based on literature from the general psychology literature, and also a limited number of studies in the sport psychology literature. These were:

- Wheelchair sport participants would report lower levels of self-control than able-bodied sport participants.
- Wheelchair sport participants would need more social support than able-bodied sport participants.
- Wheelchair sport participants would receive less social support than able-bodied sport participants.
- Wheelchair sport participants would perceive a specific important competitive event to be more threatening than able-bodied sport participants.
- Social support and self-control would be more predictive of perceiving a situation as challenging for wheelchair sport participants than for able-bodied sport participants.

3.4 METHOD

3.4.1 SUBJECTS

Seventy five wheelchair sport participants (mean age = 30.84; SD = 7.06) and 44 able-bodied sport participants (mean age = 26.84; SD = 8.39) volunteered to participate in the present study. The wheelchair sport participant group comprised of 80% males (n=60) and 20% females (n=15), whereas, the able-bodied group comprised 56.8% males (n=25) and 43.2% females (n=19). The two groups appeared to differ in terms of employment status with 48% of the wheelchair sport participants indicating that they were unemployed, compared to only 4.6% of the able-bodied sport participant group. Personal details (mean age, sex distribution, and employment status) of the two groups are shown in Table 3.1. The able-bodied sport participants participated in a range of sports including hockey, netball, volleyball, cricket, canoeing and athletics. The wheelchair sport participants participated in swimming, athletics and wheelchair basketball. In terms of competitive level, able-bodied sport participants participated at three levels; recreational (n = 20), regional (n = 16), and national (n = 8), and the wheelchair sport participants at two competitive levels; national (n = 28), and international (n = 47). Based on self perception ratings, all 119 subjects perceived competing in sport to be either 'quite a bit important' or 'very important'; no subject perceived competition to be 'some what important'^{3.5}.

Table 3.1 Mean Age, Sex Distribution and Employment Status of the Able-Bodied and Wheelchair Sport Participant Groups

	Able-Bodied Sport Participants (N=44)	Wheelchair Sport Participants (N=75)
Mean Age (SD)	26.84 (7.06)	30.84 (8.39)
Sex		
Males	25 (56.8%)	60 (80%)
Females	19 (43.2%)	15 (20%)
Employment		
Employed	28 (63.6%)	24 (32%)
Unemployed	2 (4.6%)	36 (48%)
Student	14 (31.8%)	15 (20%)

3.5 Personal details and self-perceptions information (importance of event, severity of disability, and mobility problems) were obtained via a demographic questionnaire.

The wheelchair sport participant group comprised of individuals who were born with their disability (congenital n = 25), and those who acquired their disability later in life due to an accident or disease (acquired n = 50). The nature of disabilities of the wheelchair sport participants included lower limb amputations, spinal cord injuries, spina bifida, cerebral palsy, and other classifications e.g., polio. Perceived severity of disability ranged across the wheelchair sport participants with 12 perceiving their disability as mild, 42 as moderate, and 21 as major. Furthermore, 4 wheelchair sport participants stated they had no mobility problems, 24 had some mobility problems, 34 had moderate mobility problems, and 13 had severe mobility problems. The self perception ratings and personal details of the congenital and acquired wheelchair sport participants are shown in Table 3.2^{3.5}.

Table 3.2 Personal Details and Self-Perceptions of Mobility and Severity of Disability for the Congenital and Acquired Wheelchair Sport Participant Groups

	Congenital Group (N=25)	Acquired Group (N=50)
Mean Age (SD)	24.88 (5.53)	33.82 (8.02)
Sex		
Males	14 (56%)	46 (92%)
Females	11 (44%)	4 (8%)
Employment		
Employed	8 (32%)	16 (32%)
Unemployed	7 (28%)	29 (58%)
Student	10 (40%)	5 (10%)
Severity of Disability		
Mild	6 (24%)	6 (12%)
Moderate	15 (60%)	27 (54%)
Major	4 (16%)	17 (44%)
Mobility		
No	3 (12%)	1 (2%)
Some	10 (40%)	14 (28%)
Moderate	11 (44%)	23 (46%)
Severe	1 (4%)	12 (24%)

3.5 Personal details and self-perceptions information (importance of event, severity of disability, and mobility problems) were obtained via a demographic questionnaire.

3.4.2 MEASURES

The following section details the measures used to assess coping style, self-control, social support and appraisal. The measures were contained within one questionnaire booklet which was structured in three sections; section one informed subjects about the format of the questionnaire booklet and asked for demographic information; section two consisted of the coping style, self-control and social support questionnaires; and section three asked subjects to recount and appraise a previous important competitive event (see Appendix B for the complete questionnaire).

3.4.2.1 Coping

Coping strategies were assessed using Carver et al.'s (1989) COPE scale. The COPE scale was selected as it had previously been suggested to best reflect the coping categories which emerged through content analysis in several qualitative studies of the coping responses of sport performers (Gould, et al., 1993a,b). Furthermore, the COPE scale has recently been adapted to be used successfully with sport performers (Crocker and Graham, 1995). The COPE assesses 13 conceptually-distinct scales based primarily on theoretical and functional considerations (Carver et al., 1989). The COPE includes five scales to measure distinct aspects of problem-focused coping (active coping, planning, suppression of competing activities, restraint coping, seeking instrumental social support); five scales of emotion-focused coping (seeking emotional social support, positive interpretation, acceptance, denial, turning to religion); and three other scales (focus on and venting of emotions, behavioural disengagement, mental disengagement). The scales have been shown to have sound psychometric properties and Carver et al. (1989) reported that the factor structure was in agreement with the priori assignment of items to scales. The exceptions to this were active coping and planning loading as one factor, and also the two social support scales loading as one factor. Internal consistencies were reported above = 0.60 for all scales apart from mental disengagement. Similar findings for internal consistency were also reported by Crocker and Graham (1995) when the COPE was used with sport performers. Each of the 13 scales consists of 4 items and the subjects were asked how frequently they use this strategy from 1 ("usually not at all") to 4 ("a lot of the time"). The subjects were asked to complete the questionnaire based on what they '*normally*' do and feel when experiencing a stressful event. The scores for each of the 13 scales could range from 4 (low, "not at all") to 16 (high, "a lot of the time").

3.4.2.2 Self-control

Self-control was assessed using Rosenbaum's (1980) Self-Control Schedule (SCS). Self-control was one of several personality dimensions suggested by Carver et al. (1989) as important when considering how individuals cope with stressful situations. The

SCS is a 36 item self-report instrument which assesses an individual's tendency to apply self-control methods to the solution of behavioural problems. The instrument covers four separate areas; (1) use of cognitions and self-instructions to cope with emotional and physiological responses (12 items); (2) application of problem solving strategies (e.g., planning, problem definition, evaluating alternatives, and anticipation of consequences (11 items); (3) ability to delay immediate gratification (4 items); and (4) general belief in one's ability to self-regulate internal events. Subjects were asked to respond to each item based on how characteristic the item was of them on a scale from +3 ("very characteristic of me") to -3 ("very uncharacteristic of me"). The scores could range from -108 (very unresourceful) to +108 (very resourceful). Rosenbaum (1980) reported a test - retest correlation after 4 weeks of 0.86 and Leon & Rosenthal (1984) a correlation of 0.77 after an interval of 11 months. Internal consistency has shown alpha coefficients ranging from 0.78 to 0.91 (Rosenbaum, 1980)

3.4.2.3 Social Support

Social support was assessed using the Social Support Inventory (SSI) developed by Brown and colleagues (Brown et al., 1987; Brown, Alpert, Lent, Hunt & Brady, 1988). The SSI was selected as it had previously been used by Petrie (1993) with sport performers . The SSI contains 39 interpersonal need statements (e.g., assistance in changing self-defeating behaviour) that respondents rate on two scales, (1) "How much of this type of support or help have you needed over the past 6 weeks" (from 1 ("none") to 7 ("very much")) and (2) "How much of this type of support or help have you received in the last 6 weeks" (from 1 ("none") to 7 ("very much")). The SSI comprises of five separate scales: acceptance and belonging (11 items); appraisal and coping assistance (11 items); behavioural and cognitive guidance (8 items); tangible assistance and material aid (5 items); and modelling (4 items). Brown et al. (1987) reported internal consistency reliabilities (Cronbach's alpha) for each of these scales of 0.93, 0.88, 0.81, 0.78, and 0.83, respectively. Validity of the SSI was shown with significant correlations reported between SSI and measures of depression (Beck Depression Inventory; $r = -0.53$), anxiety (Self-Rating Anxiety Scale; $r = -0.51$), psychosomatic symptoms (Psychosomatic Symptom Index; $r = -0.34$), and another measure of social support (Qualitative Social Support Index; $r = 0.40$).

3.4.2.4 Appraisal

Subjects were initially asked to recall a recent (within the last 3 months) important competitive event and write down the key elements of the situation, including who was involved, when and where it happened, what made the event important, what their goal was, and finally what happened. Lazarus & Folkman's (1984) model of stress

and coping suggests that it is necessary to consider both primary and secondary appraisal to understand how an individual appraises a stressful situation. Therefore, primary and secondary appraisal assessments were based on a subject's own specific important competitive event.

Primary Appraisal : Lazarus & Folkman (1984) proposed that primary appraisal could be categorised as harm/loss, threat, and challenge. Harm/loss refers to psychological or physical harm already done, for example a serious injury or loss of self-esteem. Threat refers to the potential for harm or loss and challenge to the opportunity for growth, mastery or personal gain. Previous studies of individuals with physical disabilities have considered the anticipatory appraisal of challenge (Bouffard & Crocker, 1992; Crocker & Bouffard, 1992). Therefore, the present study considered anticipatory appraisals, but extended previous studies by considering threat as well as challenge appraisals. Specifically, subjects were asked to rate the degree to which they perceived their own reported important competitive event to be threatening and challenging, on two separate scales from 1 ("not at all") to 7 ("very much").

Secondary Appraisal : Secondary appraisal involves evaluating what personal and environmental resources are available to deal with a specific situation (Gage, 1992; Lazarus & Folkman, 1984). The seven secondary appraisal factors used in the present study were those developed by Crocker and Bouffard (1992) to measure how subjects with a physical disability appraised a challenging physical activity. The seven factors identified by Crocker and Bouffard (1992) assessed several task and person factors which have been reported to influence secondary appraisal; personal control, external control, task predictability, task familiarity, effort, confidence, and task value. Each of the 7 scales consisted of 4 to 6 items and subjects were asked to respond on a 5 point Likert-type scale from 1 ("very little") to 5 ("very much"). Crocker and Bouffard reported internal consistency, using Cronbach's alpha, of effort = 0.66, confidence = 0.74, task familiarity = 0.75, task value = 0.81, predictability = 0.84, personal control = 0.65, and external control = 0.84.

3.4.3 PROCEDURE

The wheelchair sport participants were contacted through various national disability organisations and the able-bodied sport participants through the researcher's own personal contacts. Potential subjects were informed of the nature of the study by either phone or letter. Those who volunteered to participate in the study were asked to complete a questionnaire booklet which consisted of three sections. If the questionnaire booklet was not returned within 2 weeks then subjects were sent a follow-up letter reminding and urging them to complete and return the questionnaire in the stamped

addressed envelope provided. All subjects were informed that only group results would be looked at, and that individual feedback reports would be sent to each individual if requested. Subjects were assured of the confidentiality of their responses and informed to leave out or contact the researcher if they did not understand or wanted further information about the questionnaire.

3.5 RESULTS

The results of the present study are presented in three sections: Section 3.5.1 considers whether there are any differences in psychosocial variables and the appraisal of an important competitive event between individuals with acquired and congenital disabilities; Section 3.5.2 investigates whether there are any differences in psychosocial variables and appraisal of an important competitive event between wheelchair and able-bodied sport participants; and Section 3.5.3 examines whether coping style, self-control and social support were more predictive of appraising a competitive event as threatening or challenging for wheelchair sport participants than for able-bodied sport participants.

Before presenting the results, the analyses used are briefly detailed. Carver & Scheier developed the COPE scale to measure 13 conceptually distinct scales. Consequently, previous research has analysed the COPE scales separately (Carver et al., 1989; Ptacek, Smith & Zanas, 1992). Therefore, the COPE results in the present study were analysed by 13 separate univariate analyses of variance (ANOVA's). Brown et al. (1987), in the development of the SSI, reported moderate relationships between the five scales; therefore, data from the five SSI scales were analysed by two separate multivariate analyses of variance (MANOVA's); for need and for supply. Self-control, primary appraisal factors of threatening and challenging, and the seven secondary appraisal factors were all analysed by univariate analyses of variance. To consider whether coping style, self-control and social support were predictive of appraising a competitive situation as challenging or threatening, Pearson Product Moment correlations were initially used, followed by step-wise multiple regression analyses.

3.5.1 CONGENITAL VS. ACQUIRED

This section presents data in three sub-sections; (1) personal factors (i.e., coping style and self-control); (2) situational factors (social support); and (3) primary and secondary appraisal factors.

3.5.1.1 Personal Factors

The congenital and acquired wheelchair sport participant group means and standard deviations for self-control and the thirteen COPE scales are presented in Table 3.3. Separate univariate analyses of variance were carried out on self-control, and each of the thirteen COPE scales. Results showed only a difference between the congenital and acquired wheelchair sport participants on the use of instrumental support ($p < 0.01$) and acceptance ($p < 0.05$). It would appear, therefore, that individuals with a congenital disability generally used more instrumental social support and less acceptance as coping strategies than those with an acquired disability. No differences were found between the two wheelchair sport participant groups on any of the eleven other COPE scales or self-control. From the mean values in Table 3.3, it would appear that sport participants with congenital and acquired disabilities predominantly use the following coping strategies: active coping, planning, positive reinterpretation and growth and acceptance (mean > 10.0). The coping strategies least used by both groups were turn to religion and behavioural disengagement (mean < 5.5). The mean values reported for self-control for the congenital and acquired wheelchair sport participants (19.92 and 19.10 respectively) would suggest both groups perceive they have a degree of control over their lives. However, both groups reported large standard deviations, suggesting large within-group variation (Table 3.3).

Table 3.3 Means, Standard Deviations, and F-values for COPE Factors and Self-control (Personal Factors) for the Congenital and Acquired Wheelchair Sport Participant Groups

	Congenital Group (n=25) Mean (SD)	Acquired Group (n=50) Mean (SD)	F
COPE			
Active coping	11.08 (2.45)	11.88 (2.48)	1.749
Planning	10.88 (3.19)	11.54 (3.07)	0.752
Supress competing activities	10.04 (2.67)	9.74 (2.61)	0.217
Restraint coping	9.44 (2.04)	9.16 (2.21)	0.281
Instrumental social support	11.48 (2.69)	9.38 (3.15)	8.129**
Emotional social support	9.00 (3.25)	7.82 (3.02)	2.415
Positive reinterpretation and growth	11.44 (2.50)	11.88 (2.45)	0.531
Acceptance	10.72 (2.26)	12.00 (2.50)	4.646*
Turn to religion	4.04 (1.31)	4.68 (2.59)	1.347
Denial	7.48 (2.93)	6.64 (2.26)	1.884
Vent emotions	6.24 (2.30)	5.34 (2.08)	2.918
Behavioural disengagement	5.20 (1.47)	4.70 (1.36)	2.076
Mental disengagement	7.72 (2.62)	7.30 (2.50)	0.455
SELF-CONTROL	19.92 (17.73)	19.10 (22.67)	0.024

** $p < 0.01$

* $P < 0.05$

3.5.1.2 Situational Factors

Separate multivariate analyses of variance (MANOVAs) were carried out on the need and supply scales of the five SSI dimensions. Results showed no difference between congenital and acquired wheelchair sport participants need or supply of social support (need: Wilk's lambda = 0.59, $F(5, 69) = 0.33$; supply: Wilk's lambda = 0.961, $F(5, 69) = 0.56$). The means and standard deviations for the five social support factors are shown in Table 3.4. It should be noted that both groups appeared to perceive they needed more social support than they received. Generally, sport performers with congenital and acquired disabilities reported needing a degree of each of the five types of social support; scoring above 2.9 on all five dimensions (maximum score = 4).

Table 3.4 Means, Standard Deviations and F-values for the SSI Need and Supply Factors (Situational Factors) for the Congenital and Acquired Wheelchair Sport Participant Groups

	Congenital (n=25) Mean (SD)	Acquired (n=50) Mean (SD)	F
Acceptance & belonging			
Need	3.29 (1.36)	3.43 (1.44)	0.156
Supply	3.22 (1.34)	3.45 (1.25)	0.544
Appraisal & coping assistance			
Need	3.17 (1.50)	3.22 (1.41)	0.015
Supply	2.90 (1.24)	3.09 (1.17)	0.419
Behavioural & cognitive guidance			
Need	3.15 (1.66)	2.90 (1.48)	0.441
Supply	2.80 (1.60)	2.82 (1.33)	0.004
Tangible assistance & material aid			
Need	2.97 (1.48)	2.94 (1.72)	0.004
Supply	2.52 (1.17)	2.43 (1.25)	0.085
Modeling			
Need	3.45 (1.25)	3.24 (1.32)	0.443
Supply	3.06 (1.22)	2.97 (1.26)	0.087

** $p < 0.01$

* $p < 0.05$

3.5.1.3 Primary and Secondary Appraisal

The appraisal means and standard deviations for the congenital and acquired disability groups are presented in Table 3.5. Separate univariate analyses were carried out on each of the primary appraisal factors (threatening and challenging) and the seven secondary appraisal factors (confidence, task value, predictability, task familiarity,

personal control, external control and effort). Results showed no difference between the congenital and acquired wheelchair sport participant groups' perception of an important competitive event as either challenging or threatening. Both groups perceived the situation as more challenging (congenital = 5.72; acquired = 5.34) than threatening (congenital = 3.44; acquired = 4.32). The results for secondary appraisal showed that the two groups of wheelchair users differed only on their perception of task value. The means suggest that the congenital group's (mean = 4.71) perception of task value was higher than that of the acquired group (mean = 4.45). However, it should be noted that the mean value reported by the acquired group indicates that they also perceived the task to have high task value (maximum score = 5). Generally, the secondary appraisal means showed that both groups of wheelchair users were confident, the task was familiar, and involved a considerable amount of effort. In addition, both groups suggested that the task they reported had a degree of predictability (congenital = 2.62; acquired = 2.78) and that they had greater personal than external control over the outcome.

Table 3.5 Means, Standard Deviations, and F-values for the Primary and Secondary Appraisal Variables for the Congenital and Acquired Wheelchair Sport Participant Groups

	Congenital Group (n=25) Mean (SD)	Acquired Group (n=50) Mean (SD)	F
Primary Appraisal			
Threatening	5.72 (1.28)	5.34 (1.34)	1.332
Challenging	3.44 (1.80)	4.32 (1.93)	3.510
Secondary Appraisal			
Confidence	4.02 (0.75)	4.00 (0.71)	0.013
Task Value	4.71 (0.30)	4.45 (0.52)	5.235*
Predictability	2.62 (0.94)	2.78 (0.86)	0.513
Task Familiarity	4.37 (0.62)	4.37 (0.51)	0.000
Personal Control	3.78 (0.88)	3.79 (0.74)	0.003
External Control	2.97 (1.07)	2.98 (0.94)	0.001
Effort	4.75 (0.37)	4.68 (0.41)	0.587

** p < 0.01

* p < 0.05

3.5.2 WHEELCHAIR SPORT PARTICIPANTS Vs. ABLE-BODIED SPORT PARTICIPANTS

Due to the analyses showing few differences between the congenital and acquired wheelchair sport participant groups, they were considered as one group (wheelchair sport participants (n = 75)) for subsequent data analysis . The subsequent analyses considered whether disability status per se (i.e., possessing or not possessing a disability) influenced the psychosocial variables of coping style, self-control and social support, and also the primary and secondary appraisal of an important competitive sport event.

This section presents data in three sub-sections; (1) personal factors (i.e., coping style and self-control); (2) situational factors (social support); and (3) primary and secondary appraisal factors.

3.5.2.1 Personal Factors

The able-bodied and wheelchair sport participant groups' means and standard deviations for self-control and the thirteen COPE scales are presented in Table 3.6. Separate univariate analysis of variance results showed no differences between the wheelchair and able-bodied sport participants on any of the thirteen COPE scales or on self-control. Generally, both groups appeared to predominantly use the coping strategies of active coping, planning, instrumental social support, and the emotion-focused strategies of positive reinterpretation and growth, and acceptance (mean > 10.0). Coping strategies used less frequently by both groups were; turn to religion, and behavioural disengagement (mean < 5.5). The means reported for self-control would suggest that both the wheelchair and able-bodied sport participant groups perceived they had a degree of control over their lives (wheelchair = 19.37, SD = 21.03; able-bodied = 20.74, SD = 20.74). However, both groups reported large standard deviations suggesting large within group variation.

3.5.2.2 Situational Factors

Two one-way multivariate analyses of variance tests (MANOVA's), one for need and the other for supply, were carried out on the five SSI scales. Both MANOVA's were significant (need: Wilk's lambda = 0.86, F (5,113) = 3.81, p = 0.003; supply: Wilk's lambda = 0.85, F (5,113) = 4.09, p = 0.002). Follow-up univariate analyses of variance tests showed that the wheelchair and able-bodied sport participant groups differed in terms of their need and supply of tangible assistance and material-aid. The wheelchair sport participant group appeared to need (p = 0.001) and perceived they were supplied (p = 0.02) with more tangible assistance and material aid than the able-bodied sport participants. The means, standard deviations and F-values of the SSI scales are

shown in Table 3.7. In general, both the wheelchair and able-bodied sport participants reported perceiving that they needed to be supplied with a degree of each of the five different types of social support assessed.

Table 3.6 Means, Standard Deviations, and F-values for COPE Factors and Self-control (Personal Factors) of the Able-bodied and Wheelchair Sport Participant Groups

	Wheelchair Sport Participants (n=75) Mean (SD)	Able-bodied Sport Participants (n=44) Mean (SD)	F
COPE			
Active coping	11.63 (2.48)	11.59 (2.37)	0.006
Planning	11.35 (3.06)	12.11 (2.79)	1.854
Supress competing activities	9.88 (2.55)	9.87 (2.59)	0.000
Restraint coping	9.33 (2.02)	9.87 (2.69)	1.619
Instrumental social support	10.15 (3.03)	10.77 (2.96)	1.205
Emotional social support	8.28 (3.02)	8.68 (3.35)	0.454
Positive reinterpretation and growth	11.75 (2.44)	11.52 (2.79)	0.209
Acceptance	11.60 (2.48)	11.14 (2.43)	0.983
Turn to religion	4.83 (1.91)	4.39 (1.28)	1.855
Denial	6.95 (2.49)	7.55 (2.80)	1.460
Vent emotions	5.71 (2.10)	5.45 (1.93)	0.424
Behavioural disengagement	4.93 (1.33)	5.36 (1.84)	2.170
Mental disengagement	7.51 (2.44)	8.25 (2.39)	2.610
SELF-CONTROL	19.37 (21.03)	16.61 (20.74)	0.482

Table 3.7 Means, Standard Deviations and F-values for the SSI Need and Supply Factors for the Able-Bodied and Wheelchair Sport Participant Groups

	Wheelchair Sport Participants (n=75) Mean (SD)	Able-bodied Sport Participants (n=44) Mean (SD)	F
Acceptance & belonging			
Need	3.38 (1.41)	3.55 (1.35)	0.393
Supply	3.37 (1.28)	3.56 (1.00)	0.676
Appraisal & coping assistance			
Need	3.20 (1.43)	2.96 (1.32)	0.817
Supply	3.03 (1.19)	2.74 (0.91)	1.966
Behavioural & cognitive guidance			
Need	2.99 (1.54)	2.87 (1.52)	0.167
Supply	2.81 (1.41)	2.56 (1.06)	1.072
Tangible assistance & material aid			
Need	2.95 (1.63)	2.21 (1.25)	6.714**
Supply	2.46 (1.22)	1.94 (0.92)	6.141**
Modeling			
Need	3.31 (1.30)	3.73 (1.36)	2.870
Supply	3.00 (1.24)	3.38 (1.16)	2.670

** p < 0.01

* p < 0.05

3.5.2.3 Primary and Secondary Appraisal

The primary and secondary appraisal means and standard deviations for the able-bodied and wheelchair sport participants are shown in Table 3.8. Separate univariate analyses of the primary appraisal variables, 'challenging' and 'threatening', showed no difference as a function of disability status. Both groups appeared to perceive an important competitive event as more challenging (wheelchair = 5.47; able-bodied = 5.57) than threatening (wheelchair = 4.03; able-bodied = 3.75). Separate univariate analyses of the secondary appraisal variables showed only a difference between the two groups on predictability ($p < 0.01$): the able-bodied sport participant group reported perceiving a specific important competitive event to be less predictable than the wheelchair sport participant group. Generally, both groups were confident, valued the task highly, were familiar with the task, and perceived the task to involve a lot of effort (means > 4.0). Both groups believed they had greater personal control over outcome than external factors influencing outcome.

Table 3.8 Means, Standard Deviations, and F-values for the Primary and Secondary Appraisal Variables for Able-Bodied and Wheelchair Sport Participant Groups

	Wheelchair Sport Participants (n=75) Mean (SD)	Able-bodied Sport Participants (n=44) Mean (SD)	F
Primary Appraisal			
Challenging	5.47 (1.33)	5.57 (1.34)	0.158
Threatening	4.03 (1.92)	3.75 (1.95)	0.557
Secondary Appraisal			
Confidence	4.01 (0.72)	4.06 (0.75)	0.130
Task Value	4.54 (0.48)	4.51 (0.55)	0.069
Predictability	2.72 (0.89)	2.17 (0.94)	10.818**
Task Familiarity	4.37 (0.54)	4.31 (0.52)	0.321
Personal Control	3.79 (0.78)	3.73 (0.75)	0.166
External Control	2.98 (0.98)	3.06 (1.06)	0.189
Effort	4.70 (0.39)	4.69 (0.44)	0.033

** $p < 0.01$

* $p < 0.05$

3.5.3 PSYCHOSOCIAL PREDICTORS OF PRIMARY APPRAISAL

An important part of the present study was to examine whether coping style, self-control and social support were more predictive of appraising a competitive event as threatening or challenging for wheelchair sport participants, than for able-bodied sport participants. The results are presented in two sections; correlation analyses and step-wise multiple regression analyses.

3.5.3.1 Correlation Analyses

Pearson product moment correlations were calculated to examine the relationship between psychosocial variables (coping style, self-control, social support) and the primary appraisal variables of threatening and challenging (Table 3.9). The correlation coefficients reported for the wheelchair sport participant group indicated that active coping, planning, restraint coping, instrumental social support and emotional social support were significantly correlated ($p < 0.05$) with appraising an important competitive situation as challenging. For the able-bodied sport participant group the correlation coefficients of positive reinterpretation and growth and acceptance were reported as being significantly related ($p < 0.05$) to appraising an important competitive event as challenging. In addition, the able-bodied sport participant group reported one psychosocial variable to be significantly related to perceiving an important competitive situation as threatening; suppress competing activities. The results showed none of the psychosocial variables to be related to appraising of an important competitive event as threatening in the wheelchair sport participant group. In summary the correlation analyses showed several coping variables, for both wheelchair and able-bodied sport participants, to be significantly related to appraising an important competitive situation as challenging. Consequently, two step-wise multiple regression analyses, one for the wheelchair sport participant group and one for the able-bodied sport participant group, were conducted to determine which, if any, of the factors showing a relationship to challenging appraisal predicted perceiving a competitive situation as challenging.

3.5.3.2 Step-wise Multiple Regression Analyses

Due to the small sample size (wheelchair sport participants = 75; able-bodied sport participants = 44), only the COPE factors were significantly related with appraising a situation as challenging were used in the step-wise multiple regression analyses. Consequently this involved five COPE factors for the wheelchair sport participant group and two COPE factors for the able-bodied group. The reason for limiting the number of factors in the analyses is that Tabachnick and Fidell (1984) recommended that when using step-wise multiple regression analyses the number of subjects should be at least four or five times as large as the number of variables.

Table 3.9 Correlations of Psychosocial Variables with the Primary Appraisal Variables Challenge and Threat for the Able-Bodied and Wheelchair Sport Participant Groups

	Wheelchair Sport Participants (n=75)		Able-bodied Sport Participants (n=44)	
	Challenge Appraisal	Threat Appraisal	Challenge Appraisal	Threat Appraisal
COPE				
Active coping	0.26*	-0.02	0.09	0.27
Planning	0.31*	-0.01	-0.10	0.13
Supress competing activities	0.17	-0.06	0.19	0.38*
Restraint coping	0.25*	-0.22	0.26	0.15
Instrumental social support	0.25*	-0.09	-0.19	-0.20
Emotional social support	0.25*	-0.11	-0.07	-0.06
Positive reinter. and growth	0.13	-0.18	0.32*	0.24
Acceptance	-0.04	-0.11	0.31*	-0.10
Turn to religion	0.05	-0.13	0.20	-0.01
Denial	0.21	0.05	0.03	0.11
Vent emotions	0.09	-0.07	-0.05	-0.15
Behavioural disengagement	0.08	0.09	-0.09	-0.12
Mental disengagement	0.08	-0.08	-0.13	-0.11
SELF-CONTROL	0.22	-0.13	-0.09	0.10
SOCIAL SUPPORT				
Acceptance & belonging				
<i>Need</i>	0.10	0.15	-0.04	0.27
<i>Supply</i>	0.20	-0.01	-0.02	0.03
Appraisal & coping assistance				
<i>Need</i>	0.08	0.20	-0.07	0.14
<i>Supply</i>	0.12	0.11	-0.03	-0.10
Beh. & cognitive guidance				
<i>Need</i>	0.07	0.14	-0.13	0.06
<i>Supply</i>	0.16	0.02	-0.15	-0.20
Tangible assis. & material aid				
<i>Need</i>	-0.02	0.12	-0.04	0.16
<i>Supply</i>	-0.11	-0.01	-0.09	0.05
Modeling				
<i>Need</i>	0.11	0.02	-0.13	0.17
<i>Supply</i>	0.15	-0.12	-0.20	-0.02

** p < 0.01

* p < 0.05

As Table 3.10 indicates, 9.7% of the total variation in challenge appraisal for the wheelchair sport participant group was explained by the COPE factor 'planning'. The second significant predictor for the wheelchair sport participant group was 'emotional social support' which, when considered together with 'planning', accounted for 12.5% of the total variance in challenge appraisal. A third factor, 'restraint coping', also emerged as a significant predictor of challenge appraisal, contributing an additional 2.1% of the variance when considered in conjunction with the other two predictors.

Table 3.10 Stepwise Multiple Regression Summary: Significant Predictors of Challenge Appraisal for Wheelchair and Able-Bodied Sport Participants

Group	COPE Factor	R	R ²	F - to - enter
Able-bodied sport participants				
Step 1	Positive reinterpretation & growth	0.32	0.10	4.71 **
Step 2	Acceptance	0.38	0.14	3.43 **
Wheelchair Sport Participants				
Step 1	Planning	0.31	0.10	7.80 **
Step 2	Emotional social support	0.35	0.13	4.04 **
Step 3	Restraint coping	0.38	0.15	4.04 **

** p < 0.01

Table 3.10 shows that challenge appraisal for the able-bodied sport participant group was significantly predicted by two factors: 'positive reinterpretation and growth', which accounted for 10.1% of the total variance, and 'acceptance', which provided an additional 4.2% of the explained variance when considered in conjunction with positive reinterpretation and growth. It must be noted that only a small amount of variance of the criterion variable (challenge) was explained for both groups (able-bodied 14.3 %; wheelchair users 14.6 %), leaving approximately 85.5 % of the variance unexplained for each group.

3.6 DISCUSSION

The three primary purposes of the present study were to examine whether disability status (i.e., possessing and not possessing a disability) influenced (1) psychosocial variables, (2) appraisal of a specific important event, and (3) whether psychosocial variables were more predictive of appraising a competitive event as threatening or challenging for wheelchair sport participants than for able-bodied sport participants. This section discusses pertinent findings in the following areas: influence of cause of disability on psychosocial variables; influence of disability status on psychosocial variables; influence of disability on the appraisal of important competitive events; psychosocial predictors of primary appraisal; and summary.

3.6.1 INFLUENCE OF CAUSE OF DISABILITY ON PSYCHOSOCIAL VARIABLES (CONGENITAL vs. ACQUIRED)

Previous research has suggested that cause of disability may influence psychosocial variables of wheelchair sport participants (Campbell, 1995). Consequently, the present study considered the wheelchair sport participant group in terms of whether they possessed an acquired or congenital disability. Generally, the findings showed that there were no differences between the psychosocial variables (coping style, self-control and social support) of sport participants with acquired and congenital disabilities. However, differences did emerge on the two coping dimensions of instrumental social support and acceptance. Specifically, individuals with a congenital disability reported using more instrumental social support and less acceptance than individuals with an acquired disability. The result for instrumental social support may be explained by Wright's (1983) suggestion that individuals disabled from birth are more likely to be helped more by, for example, therapists and family members. The other difference reported between the two groups suggests that individuals with acquired disabilities use acceptance as a coping strategy more frequently in stressful situations than individuals born with their disability. This finding could be due to sport participants with acquired disabilities developing particular coping styles as a function of successful rehabilitation. Previous research suggests that successful rehabilitation involves individuals with acquired disabilities learning to acknowledge and accept situations they can, and cannot control (Pearlin, Lieberman, Menaghan & Mullan, 1981; Van den Bout, Son-Schoones, Schipper & Groffen, 1988). For example, prior to acquiring a disability, an individual may easily have been able to use public transport, visit restaurants and museums etc. However, after acquiring a disability, a person may find, due to physical barriers, that it is not easy to access public places; for example, a flight of stairs is the only access point to a

restaurant. This scenario might be a source of stress for someone with an acquired disability because society, as a result of their disability, has caused them to experience a handicap; that is, restricted access to public places. However, since the source of stress is not directly in their control researchers have suggested that the most appropriate coping strategy may be to accept the situation.

The primary appraisal results showed no difference between sport participants with congenital and acquired disabilities in terms of the degree of threat and challenge perceived in an important competitive event. Both disability groups perceived an important competitive event to be more challenging than threatening. With regards to secondary appraisal, only one variable showed a difference between the two groups. Specifically, the congenital group perceived an important competitive event to have greater task value than the acquired disability group. The reason for this may be due to individual differences between the groups in terms of sex differences, employment status, and perceptions of severity of disability. These factors might need further exploration in future studies. However, it should be noted that both group mean scores were high when considering that the maximum mean value was 5.0 (congenital = 4.71; acquired = 4.45).

It would appear that wheelchair sport participants with congenital and acquired disabilities in the present study were very similar, which is in contrast to previous empirical findings (Campbell, 1995). This may be because the sport participants in the present study all participated at national level or above, whereas the subjects in Campbell's (1995) study participated at a range of competitive levels; recreational, regional, national, and international. Future research might consider examining whether there are any differences in congenital and acquired groups' psychosocial variables and appraisal of important competitive events as a function of competitive level. Due to the few differences reported between sport participants with acquired and congenital disabilities, they were considered as one wheelchair sport participant group for subsequent data analyses.

3.6.2 INFLUENCE OF DISABILITY STATUS ON PSYCHOSOCIAL VARIABLES - PURPOSE 1

Purpose 1 of the present study was to examine whether disability status influenced the coping style, self-control, and social support of sport participants. The findings showed no differences in the coping style of wheelchair sport participants and able-bodied sport participants. This may be due to the fact that both groups participate in sport and, therefore, may have developed a similar repertoire of coping skills that are used to deal with sporting situations. However, although able-bodied and wheelchair sport participants reported similar coping styles, the present study did not consider how

these resources were operationalised to deal with specific stressful situations. Furthermore, the present study did not consider effectiveness of coping strategies, a factor highlighted to be of importance in the general psychology literature (Bar-Tal, Lurie & Glick, 1994). It may be that the drop in self-confidence identified in both elite and non-elite wheelchair sport participants in Study 1 is due not to a lack of coping resources but rather to the appropriateness and effectiveness of coping strategies used. Further research might consider how sport performers cope with specific stressful sporting situations, and the effectiveness of their specific coping efforts. Both wheelchair and able-bodied sport participants reported using predominantly problem-focused coping, supporting previous research of able-bodied sport performers (Crocker & Graham, 1995; Madden et al., 1989), and community populations (Bjork & Cohen, 1993; Endler & Parker, 1990; Folkman & Lazarus, 1985). These findings would suggest that sport psychologists should not just focus on teaching strategies to deal with the regulation of emotions (e.g., relaxation techniques), but should also focus on assisting wheelchair and able-bodied sport performers to refine or acquire appropriate problem-focused coping skills.

The present study also showed no differences between able-bodied and wheelchair sport participants in terms of perception of self-control. Consequently, the hypothesis that wheelchair sport participants would experience lower self-control than able-bodied sport performers was rejected. Previous research has reported elite level wheelchair sport participants to experience greater control over their lives than sport non-participants and sport participants at lower competitive levels (Campbell, 1995). Campbell suggested that this may be due to physical capabilities required for elite level sport transferring into everyday life. This may also be the case in the present study since all the wheelchair sport participants competed at national level or above. Future research might consider investigating the role of sport in enhancing the perceptions of self-control during rehabilitation.

The findings for social support indicated a difference between the wheelchair sport participants and able-bodied sport performers. Specifically, wheelchair sport performers perceived they needed and received more tangible and material aid than able-bodied sport performers. This provides partial support for the hypothesis that individuals with a physical disability would need more support. However, the difference between the wheelchair and able-bodied sport participant groups was only evident on one dimension of social support (tangible assistance and material aid). Therefore, the finding does not provide substantive evidence that individuals with a disability generally need more social support. Furthermore, the reason that wheelchair sport participants may have reported needing more tangible and material aid could relate to the expense of sports wheelchairs; for example, a racing wheelchair can cost in excess of £1,500. In addition to needing more tangible and material aid the wheelchair sport participants also reported that they

received more tangible assistance and material aid, than able-bodied sport participants. This finding supports the importance of simultaneously assessing need and supply of social support.

In general, the present study's findings do not support the hypothesis that wheelchair sport performers would receive less social support than able-bodied sport performers. Interestingly, both able-bodied and wheelchair sport performers reported needing more social support than they actually received. These findings have implications for sport psychologists and coaches in ensuring that individuals receive the nature of social support they need. Furthermore, the present study supports the importance of considering social support as a multidimensional construct.

3.6.3 INFLUENCE OF DISABILITY STATUS ON APPRAISAL OF IMPORTANT COMPETITIVE EVENT - PURPOSE 2

The second purpose of the present study was to investigate whether disability status influenced the appraisal of a specific important competitive event. Specifically, the findings showed no difference between wheelchair and able-bodied sport performers in terms of their appraisal of a situation as challenging or threatening. Therefore, the hypothesis that wheelchair sport performers would perceive a specific important competitive event as more threatening than able-bodied sport performers was rejected. Both groups of sport performers reported the event to be more challenging than threatening. Perceptions of situations as challenging have previously been reported as conducive to experiencing positive affect, enjoyment, and continued involvement (Crocker & Bouffard, 1992; Wankel & Berger, 1990). The present study's results suggest, therefore, that both sport participants groups enjoy and are likely to continue their involvement in sport.

The findings for the seven secondary appraisal factors showed that wheelchair and able-bodied sport performers were similar in terms of their perception of confidence, external control, personal control, degree of required effort, task value and task familiarity. Previous research has identified factors such as degree of effort, task value and task familiarity to be related to inducing a threat appraisal (Crocker & Bouffard, 1992; Gage, 1992; Lazarus & Folkman, 1984). The present study, however, showed that both sport participant groups were confident, perceived the task to require a high degree of effort, the task was familiar, and that the task had high value. These findings would support the fact that both groups appraised important competitive events to be more challenging than threatening.

Wheelchair and able-bodied sport participant groups did report a difference on one secondary appraisal factor; task predictability. Specifically, wheelchair sport

participants perceived an important competitive events to be more predictable than able-bodied sport performers. A possible explanation for the difference between the two groups is that the wheelchair sport participant group comprised of individuals competing at an elite level, unlike in the able-bodied sport participant group. Previous research has reported that elite sport performers, compared to non-elite, are more capable of picking up cues from the sports environment to enable them to successfully predict what will occur (Schmidt, 1988). An alternative explanation is that there are fewer wheelchair athletes, compared to able-bodied athletes, competing in sport. Consequently, wheelchair sport participants are more likely to compete against the same opposition on a regular basis than able-bodied sport participants. This scenario would have the impact of making important competitive events more predictable for wheelchair sport participants. Previous research has reported that situations which are more predictable may cause less threat to be perceived in a situation (Gage, 1992). This implies that perceptions of predictability may have influenced the degree of threat and challenge of an important competitive event reported by wheelchair and able-bodied sport participants. It would appear that these findings warrant further investigation.

3.6.4 PSYCHOSOCIAL PREDICTORS OF CHALLENGE AND THREAT APPRAISALS - PURPOSE 3

The third and final purpose of the present study was to consider whether psychosocial variables were more predictive of appraising a situation as challenging or threatening in wheelchair sport participants than in able-bodied sport participants. The findings showed a significant relationship for wheelchair sport performers between appraising a situation as challenging and active coping, planning, restraint coping, 'instrumental social support, and emotional social support. The able-bodied sport performers, however, reported different factors to be related to appraising a situation as challenging; that is positive re-interpretation and growth and acceptance. Follow-up analyses showed that the best predictors of challenging appraisal for the able-bodied sport performers were positive reinterpretation and growth and acceptance (accounting for 14.3% of the variance). It would appear, therefore, that able-bodied sport performers drew mostly on emotion-focused forms of coping to appraise situations as challenging. The best predictors for the wheelchair sport participants perceiving a situation as challenging were planning, restraint coping and emotional social support (accounting for 14.6 % of the variance). This finding suggests that wheelchair sport participants used both problem-focused and emotion-focused coping in appraising important competitive situations as challenging. These findings provide partial support for the hypothesis that self-control and social support would be the best predictors of appraising an important

competitive situation as challenging for the wheelchair sport participant group. Specifically, the wheelchair sport performers reported emotional social support as one of the best predictors for appraising a situation as challenging. This supports Knussen and Cunningham's (1988) suggestion that individuals with disabilities may require social support in particular situations. Wheelchair sport performers could, therefore, be vulnerable to appraising stressful sport situations as non-challenging, and possibly threatening, due to the dependency on others to provide emotional support. Interestingly, able-bodied sport performers also reported using emotion-focused coping but they were strategies not dependent on other individuals; that is, positive re-interpretation and growth and acceptance. A possible explanation for wheelchair and able-bodied sport performers reporting different predictors in the appraisal of a competitive situation as challenging is that the two groups experience different sources of stress. If wheelchair and able-bodied sport performers experience different sources of stress, then they are likely to employ different coping resources. Similar suggestions have been made for sex differences, in that males and females could report different methods of coping because they are dealing with different sources of stress (Crocker & Graham, 1995; Ptacek, et al., 1992). It should be noted that the predictors for both wheelchair and able-bodied sport participants perceiving a situation as challenging, accounted for only 14.5% of the variance. Therefore, there is still 85.5% of the variance not accounted for and the results should be interpreted in view of this.

Wheelchair sport performers did not report any psychosocial variables being related to threatening appraisal. However, able-bodied sport performers indicated the coping response of suppressing competing activities as being related to appraising a situation as threatening. This finding may relate to the demographic data which showed that only 4.6% of the able-bodied group were unemployed, compared to 48% of the wheelchair sport performers. Therefore, able-bodied sport performers may have more activities making demands on their time and may need to use such strategies as suppressing competing activities to deal with situations appraised as threatening.

3.6.5 SUMMARY

It would appear that psychosocial variables and appraisal of a specific important competitive event were not influenced by disability status. However, wheelchair and able-bodied sport participants reported different predictors for perceiving a situation as challenging. Specifically, the best predictors for wheelchair sport participants perceiving a situation as challenging were planning, restraint coping and emotional social support. Able-bodied sport performers, on the other hand, reported the best predictors to be positive reinterpretation and growth and acceptance. It would appear, therefore, that

wheelchair sport performers required both problem-focused and emotion-focused coping resources to assist them in appraising a specific important competitive event as challenging. Furthermore, the emotion-focused coping identified as predicting a challenge appraisal was emotional social support. Consequently, wheelchair sport participants may be vulnerable to appraising a situation as threatening, as opposed to challenging if emotional support is not available. Able-bodied sport performers also reported emotion-focused coping as predicting a situation as challenging; however, the specific nature of the coping was not dependent on other individuals.

The present study's findings imply that although wheelchair and able-bodied sport performers showed similar psychosocial variables and appraisal patterns, they reported different factors as predicting appraisal of a situation as challenging. It was proposed that the findings may be due to wheelchair and able-bodied sport participants experiencing different sources of stress. Therefore, future research should consider examining the sources of stress and coping responses of wheelchair sport performers.

A major reason for conducting the present study was to explain why wheelchair sport performers reported experiencing a drop in self-confidence immediately prior to competition in Study 1. The findings from the present study (Study 2) do not directly answer why wheelchair sport performers may experience a drop in self-confidence. However, the findings do imply that a drop in self-confidence is not related to a lack of psychosocial resources, or appraising competitive events as threatening as opposed to challenging. A future research direction, highlighted earlier, of investigating the sources of stress and coping responses of wheelchair sport participants, might give further insight into why wheelchair sport performers reported experiencing a drop in self-confidence immediately prior to competition.

Consequently, the third study in this thesis investigates, via in-depth qualitative interviews, the sources of stress and coping responses of elite wheelchair sport participants. In addition, Study 3 examines the characteristics of sources of stress and the perceived effectiveness of the coping strategies used with particular stress sources.

CHAPTER 4

STUDY 3

SOURCES OF STRESS AND COPING IN SPORT: LITERATURE REVIEW AND METHODOLOGY

4.1 INTRODUCTION

The results of the study reported in Chapter 3 showed no differences between wheelchair and able-bodied sport participants in terms of their psychosocial resources and appraisal of a specific important competitive event. However, the results did suggest a difference between the two groups in terms of which coping strategies best predicted appraising an important competitive event as challenging. It was suggested that wheelchair and able-bodied sport participants may experience different sources of stress and, therefore, may require different coping strategies to appraise a situation as challenging. Study 3 of this thesis attempts to explore this suggestion further.

Top level sport for athletes with and without disabilities, is characterised by a demand to perform to optimum levels in intense pressure situations. It is not surprising that these pressures often place extreme physical, psychological and emotional demands on athletes. The athlete, to be successful, must develop and use an array of cognitive and behavioural coping skills to effectively manage the demands (Crocker, Alderman & Smith, 1988; Gould, et al., 1993a; Madden, Summer & Brown, 1990; Smith, 1986). However, little attention has been given to examining the sources of stress of elite able-bodied athletes and the coping strategies they use to deal with them (Crocker & Graham, 1995; Gould, et al., 1993b; Hardy et al., 1996) and no previous literature has been reported concerning elite athletes with a disability.

The dominant model of stress and coping adopted in the general psychology literature, and more recently in sport psychology, is Lazarus and Folkman's (1984) transactional model. This model adopts a process orientation, in that it views stress as a dynamic unfolding process, and coping as a dynamic sequence of steps, involving both cognitive and behavioural efforts, to manage stress. Recent research in the sport domain has examined how elite figure skaters and wrestlers coped with specific sources of stress (Gould et al., 1993a,b). The findings clearly supported Lazarus and Folkman's (1984)

transactional model, with both elite wrestlers and figure skaters employing a variety of coping strategies which differed depending on the source of stress experienced. The results also supported Perlin's (1991) suggestion of the importance of studying stress and coping in combination.

Gould and colleagues' in-depth qualitative studies of stress and coping in elite figure skaters and wrestlers have aided a deeper understanding of the complex stress-coping process in sport (Gould et al., 1993a,b). The studies successfully used qualitative methods to elicit an insider's view of the sources of stress experienced and the coping strategies used, rather than imposing or limiting responses to questionnaire items. Qualitative research involves open-ended, yet detailed analyses of verbal, written or visual material, that is not converted to numerical data. Specifically, Gould and colleagues used in-depth interviews to generate rich, detailed and valid data. Whilst making a tremendous contribution to the literature, Gould and colleagues' studies also possessed several limitations. One limitation was that they only considered the individual sports of figure skating and wrestling. Given the scant research on sources of stress and coping strategies in sport, future studies need to consider other groups of elite athletes; for example team sport participants and athletes with a disability. A second limitation of Gould and colleagues' studies was that no detail was obtained about stress sources and coping strategies; for example the perceived degree of control, severity and frequency of sources of stress, and the effectiveness and extent of use of coping strategies. Hardy et al. (1996) suggested that detailed information about stress sources and coping would help facilitate a greater understanding of the stress-coping process in sport. Furthermore, they suggested that this could be achieved by combining qualitative and quantitative methods. A final limitation of Gould and colleagues' work was that stress was referred to as the negative emotions, feelings, and thoughts that a sport performer may experience. Consequently, no opportunity was given for the identification of stress sources that may have been associated with positive emotions, feelings and thoughts; that is, a challenging appraisal (Lazarus & Folkman, 1984). Future research should, therefore, consider adopting Lazarus and Folkman's transactional definition of stress, so that sources of stress identified might be appraised as both positive (challenge) and negative (threat, harm/loss).

Based on the findings from Study 2 of this thesis, and the strengths and weaknesses of previous research into stress and coping, Study 3 had three specific purposes.

- **Purpose 1:** To identify and describe the sources of stress of elite wheelchair sport participants from a team sport (wheelchair basketball).

- **Purpose 2:** To identify and describe the coping strategies of elite wheelchair sport participants from a team sport (wheelchair basketball).
- **Purpose 3:** To examine links between stress sources and coping strategies.

Qualitative and quantitative methods were used to achieve the three purposes of Study 3. Specifically, in-depth interviews were used in combination with quantitative methods, to enable specific detail about stress sources (i.e., challenge, threat, harm/loss, severity, control and frequency) and coping strategies (i.e., effectiveness and frequency) to be obtained. Due to Study 3 addressing two areas, stress and coping, and also examining the links between them, it was felt necessary to present Study 3 in three separate Chapters (4, 5 & 6). The outline of each chapter is detailed below:

- **Chapter 4 (current chapter):** Relevant literature is reviewed in the areas of stress and coping; a detailed rationale for Study 3 is presented; specific purposes and hypotheses are outlined; and the methodology used in Study 3 is detailed.
- **Chapter 5:** Results are presented specific to purpose 1 of Study 3; that is, identification and description of the sources of stress of elite wheelchair basketball players. The findings are discussed in relation to past research reported in the sport and general psychology literature.
- **Chapter 6:** Results are presented specific to purposes 2 and 3 of Study 3. The results section, therefore, is structured to identify the coping strategies used by elite wheelchair basketball players, and then to examine the relationship between sources of stress and coping strategies. The findings are then discussed relative to previous research.

4.2 REVIEW OF RELEVANT LITERATURE

The following review will consider previous research from both the general and sport psychology literature under the following sub-headings: definition of stress; sources of stress in sport; definition of coping; categories of coping; situational determinants of coping; interpersonal aspects of coping; coping effectiveness; coping in sport (quantitative and qualitative studies); disability and coping in physical activity.

4.2.1 DEFINITION OF STRESS

Despite a large and growing literature, the concept of stress remains a somewhat unclear construct. One of the major problems in examining stress has been the lack of consensus over a precise definition of stress and the fact that the term has often been

utilised as synonymous with anxiety (Gould & Krane, 1992). It has been variously conceptualised as a stimulus (independent variable), as a response (dependent variable) and as a transaction between the person and the environment (Lazarus & Folkman, 1984).

Stimulus definitions are usually found in human performance theory (Broadbent, 1971). Here, stress is a label given to certain environmental and organismic conditions and hence, in the stimulus definition, noise, sleep loss and heat are all examples of 'stress'. Seyle (1956), on the other hand, defined stress as the non-specific *response* of the body to any demand placed upon it; that is, stress is *evoked* by any stimulus.

Recent psychology literature has increasingly adopted an interactional definition which refers to psychological stress as a particular kind of relationship between person and environment (Lazarus, 1966; Lazarus & Folkman, 1987). Specifically, Lazarus and Folkman (1984) defined stress as:

"a relationship between the person and the environment that the person appraises as taxing or exceeding his or her resources and possibly endangering his or her well-being." (Lazarus & Folkman, 1984, p.141).

The definition proposed by Lazarus and Folkman (1984), and adopted by many researching in the area of stress and coping, clearly suggests that stress may or may not impose a 'strain'^{4.1} upon an individual; it depends on whether the individual perceives, via cognitive appraisal that s/he is able to cope with demands of the 'stressor'^{4.2} (Jick & Payne, 1980; Lazarus, 1966). Specifically, Lazarus and Folkman's (1984) model of stress and coping distinguishes between three kinds of stress which result from a person appraising a transaction as stressful; these are:

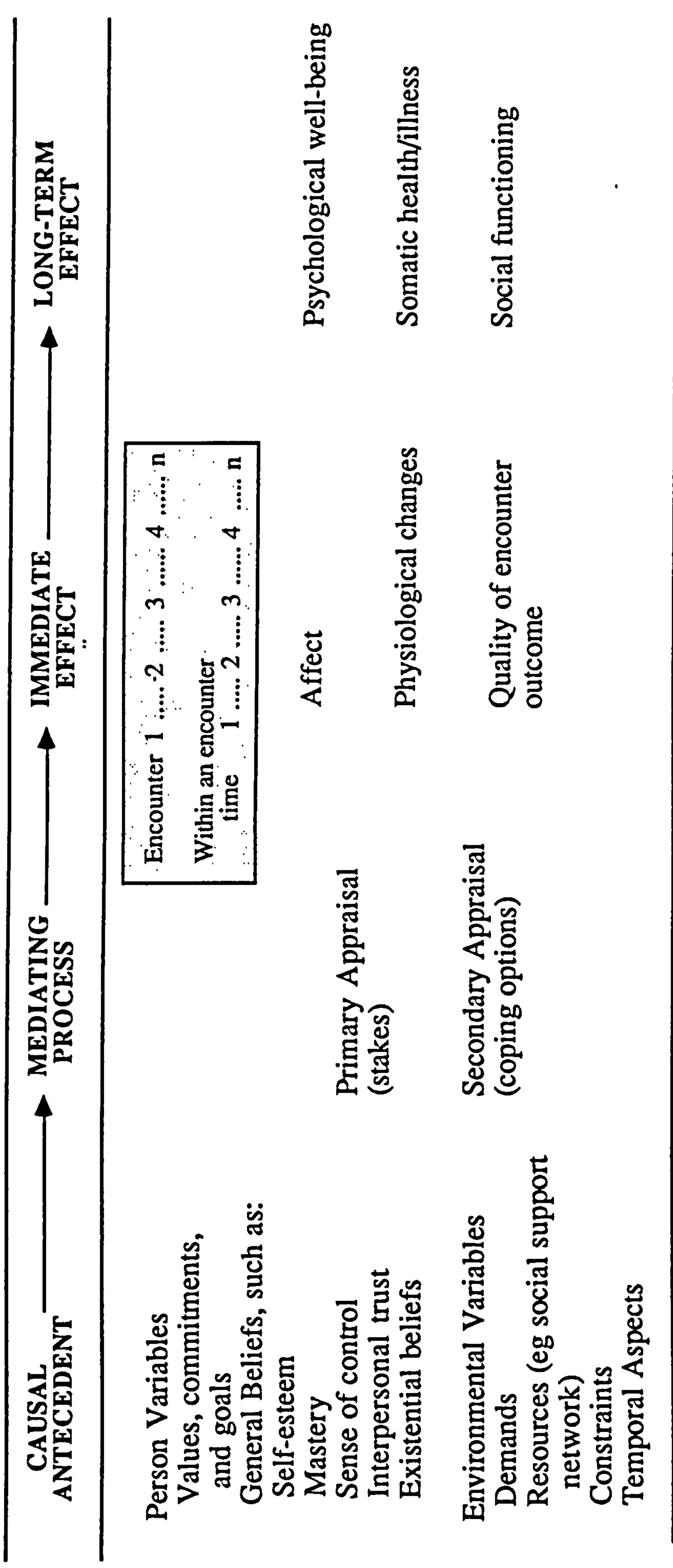
- **Harm or loss** : physical or psychological harm or loss already done.
- **Threat of harm** : anticipation of harm.
- **Challenge**: positive, optimistic, mobilised and eager attitude about overcoming obstacles.

Lazarus and Folkman's definition of stress derives from their 'transactional' model of stress and coping (see Figure 4.1). The term 'transaction' implies that stress is neither in the environmental input nor in the person. Specifically, it reflects the interaction of a person with certain motives and beliefs with an environment whose characteristics pose

4.1 'Strain' refers to the response to an individual's negative cognitive appraisal of his or her adaptation to the demands of the stressor (Jick and Payne, 1980; Jones, 1990).

4.2 'Stressors' refer generally to external factors which are potentially but not necessarily, disturbing to the individual (Cherry, 1978). Also termed 'sources of stress'.

Figure 4.1 Transactional Model of Stress and Coping (Folkman & Lazarus, 1984)



Note : Although not shown here the model is recursive. Also, note parallelism between short-term and long-term effects.

harm, threats or challenges as a consequence of the person's characteristics. Furthermore, the term transaction also implies 'process'. This highlights that the stress relationship is not static, but is constantly changing as a result of continual interplay between the person and the environment.

The present thesis adopts Lazarus and Folkman's definition of stress based on their transactional model of stress and coping. As a consequence stress is operationalised to include sources of stress that can be appraised to be both positive (challenge) and negative (threat, harm/loss).

4.2.2 SOURCES OF STRESS IN SPORT

Surprisingly, little research has considered the causes of stress in elite athletes (Gould et al. 1993 a,b; Scanlan, Stein & Ravizza, 1991), which is surprising given the potential value of such interventions with sport performers (Jones, 1995). Folkman (1992) suggested that identification of sources of stress is a vital first step in assisting individuals to effectively cope with stress. This view is reinforced in a recent model of stress and coping presented by Hardy et al. (1996).

The majority of literature examining the interpersonal and situational predictors of stress for youth sport and elite athletes focuses on the stress, or state anxiety, experienced prior to, during or following competition. Several studies have investigated the sources of competitive stress experienced by male and female youth athletes participating in individual and team sport activities (Martens & Gill, 1976; Pierce, 1984; Pierce & Stratton, 1981; Scanlan, 1977; Scanlan & Lewthwaite, 1984; Scanlan & Passer, 1978, 1979). These studies identified stress sources occurring pre-competition, during competition and post-competition. Specifically, low personal performance expectancies and worries about failing were associated with heightened pre-competition stress; poor performance appeared to increase stress experienced during competition; and losing, not playing well and not having fun seemed to elevate post-competition stress.

Several studies have examined the sources of stress experienced prior to and during competition by male and female junior elite athletes participating in individual sports. These have included somatic complaints, fear of failure, feelings of inadequacy, loss of control, guilt and social evaluation (Feltz & Albrecht, 1986; Gould, Horn & Spreemen, 1983a,b; Kroll, 1980). Further work by Gould and Weinberg (1985) investigated the sources of stress of intercollegiate wrestlers, and found that the most frequently cited stressors were: worry about not performing well; improving on the last performance; what the coach thinks or says; losing; not performing up to ability; and poor personal physical condition. Interestingly, the only significant predictors of performance

were concerns about what the coach thinks or says, losing and making mistakes. Feltz, Lirgg and Albrecht (1992) replicated these sources with young distance runners.

Since the early 1990's, several studies have adopted a different methodology to investigate the sources of stress of sport performers. Specifically, these studies have used in-depth interviews to enable a detailed examination of the sources of stress from the subject's perspective (Cohn, 1990; Gould, Eklund & Jackson, 1990; Gould, Jackson & Finch, 1993c,d; Scanlan, et al., 1991)^{4.3}. Further detail and specific findings are now presented for each of these studies.

Cohn (1990) adopted a guided interview approach in attempting to determine the most frequent sources of stress reported by golfers. Interview data was collected from 10 high school competitive golfers and the most frequently cited sources of stress were identified as being; playing a particularly difficult shot, playing up to personal standards, performing in front of a crowd and playing in poor weather conditions.

Gould, Eklund and Jackson (1990) investigated, via in-depth interviews, the psychological factors Olympic wrestlers associated with competing at the 1988 Olympics. The results of this study, along with previous research (Feigley, 1987; Murphy, 1988; Orlick & Partington, 1988), showed that major international sporting events such as the Olympic Games have the potential to be extremely stressful. Sources of stress include such things as the competition itself (e.g., ego concerns, potential inherent dangers, etc.), media-associated pressures, performance expectations, preparatory training, unforeseen events, and travel.

Two studies have adopted in-depth interviews to identify the sources of stress of elite figure skaters (Gould et al. 1993c; Scanlan et al., 1991). Scanlan et al. (1991) interviewed 26 former elite figure skaters (15 male and 11 female) to identify the sources of stress experienced during the most competitive part of their career. Results revealed 84 separate sources of stress which were categorised into five major areas: negative aspects of competition (e.g., worries about failure, concerns relative to overcoming competitive hurdles); negative significant-other relations (e.g., performance expectations of others, skating politics); demands or costs of skating (e.g., financial demands, time demands); personal struggles (e.g., weight problems, self-doubt about talent, commitment needed to skate at the elite level); and traumatic experiences (e.g., death of a loved one, family problems). In summary, it appeared that the skaters experienced sources of stress directly related to competition (negative aspects of competition) and also sources of stress outside the competition environment (e.g., negative significant relationships, demands or costs of skating). The identification of non-competition sources of stress in elite performers was also found in interviews conducted by Jones and Hardy (1990). Specifically, they found

4.3 The nature and structure of in-depth interviews is detailed in section 4.4.3.2.2.

that some athletes identified their amateur status, whilst trying to compete at international level, as pre-competition stress. Future research needs to consider the totality of experiences to gain a full understanding of an athlete's stressors.

Gould et al. (1993c) extended Scanlan et al.'s (1991) work by examining sources of stress specifically linked to the demands of attempting to become a national figure skating champion again; that is, attempting to retain a national title that has previously been won. The skaters in Scanlan et al.'s (1991) study were elite; however, only a small proportion were former national champions. Gould et al. (1993c) interviewed 17 national champions about the sources of stress they experienced pre- and post- being a national champion. The interviews when analysed revealed that 71% of the skaters experienced more stress after winning their title than before winning it: 70 raw data themes were identified for pre- being a national champion; and 90 raw data themes for post- being a national champion. Stress source categories included: relationship issues; expectations and pressure to perform; psychological demands on skater resources; life direction concerns; and a number of individual-specific uncatagorizable sources. In general, the findings supported those of Scanlan et al. (1991), but there were also some differences which may have been due to the nature of the subjects; that is, Scanlan et al.'s skaters were less elite, and also there were no male and pairs skaters in Gould et al.'s sample. In addition, Gould et al. asked skaters to recount sources of stress from their most competitive phase, whereas Scanlan and colleagues asked about the stress skaters had experienced throughout their skating careers (i.e., from novice through to senior level).

Although a limited amount of research has used in-depth interviews to examine the sources of stress of sport performers, the findings have been very interesting and useful for practitioners. Jones (1995) summarised the sources of stress experienced by elite sport performers to include: readiness and performance problems; interpersonal and management problems within the team; competition organisation and officiating problems; and financial and time pressures. All the studies would appear to have started to unearth some of the occupational and organisational stressors that confront elite performers (Hardy & Jones, 1994). Hardy and Jones (1994) suggested that these were important areas for future research to consider.

Research to date on the sources of stress experienced by sport performers has been limited primarily to elite figure skaters and wrestlers. Future research, therefore, needs to consider different sport types; for example, team sports as well as individual sports. Furthermore, present studies have been limited to able-bodied sport participants, so future research may consider investigating the sources of stress experienced by elite sport participants with disabilities. A further limitation of past research is that a definition of stress has been used which assumes that stress has negative consequences (i.e., sources of stress appraised as highly threatening). Therefore, future research should consider

defining stress from a transactional perspective (Lazarus & Folkman, 1984), thus enabling stressors to be identified that may be appraised as both positive (challenge) and negative (threat, harm/loss). The limitations identified above should be addressed in future research.

4.2.3 COPING : AN INTRODUCTION

As research into stress in sport grew there was a parallel interest in examining how sport performers deal with it. As identified at the beginning of this chapter, some sport performers seem able to deal with it, yet others do not; the following quote by tennis player John McEnroe highlights this:

"When it comes to choking , the bottom line is that everyone does it. The question isn't whether you choke or not, but how - when you do choke - you are going to handle it Choking is a big part of every sport, and a part of being a champion is being able to cope with it better than everyone else." (John McEnroe, in Goffi; 1984, pp61-62).

It would appear that stress and coping are inextricably linked and that being able to cope with stress is vital if sports performers are to achieve elite level status. The previous section detailed the sources of stress experienced by sports performers; this section considers research which identifies how sport performers cope with stress, factors which may influence the nature of coping, and also effectiveness of coping. Due to a lack of research considering coping in sport, it is necessary to examine appropriate research findings in the general psychology literature. Therefore, the following sections will identify previous research in the following areas: general psychology coping research; coping in sport; and the impact of disability on coping with physical activity.

4.2.4 GENERAL PSYCHOLOGY COPING LITERATURE

This section reviews several areas that have been identified as being pertinent to the area of coping: definition of coping; coping categories; situational determinants of coping; interpersonal aspects of coping; and coping effectiveness.

4.2.4.1 Definition

There have been many differing views as to what constitutes coping, with no general agreement drawn (Carpenter, 1992). Different perspectives identified by Folkman (1992) include; animal-behavioural, psychoanalytic-ego, trait-dispositional, and transactional-process. The relatively little used animal-behavioural perspective views coping as the degree of stressor that can be tolerated with little emphasis placed on

process and cognitions (Houston, 1987). The psychoanalytic-ego approach views coping as being unconscious defences which enable the organism to manage instinct, affect and stress (Folkman, 1992). The problem with this view is that it devotes little attention to the situation, considering purely the person. The trait-dispositional approach has received considerable attention in a search to discover if individuals possess traits which predispose them to deal with stress in certain ways (e.g., stress monitor or stress blunter) (Carpenter, 1992). These viewpoints have had little impact on developing an understanding of how individuals cope with stressful situations, similar to research which attempted to identify traits depicting a sport personality (Hardy et al., 1996). The dominant model of coping is that advocated by Lazarus and Folkman (1984) which views coping from a transactional-process perspective. This view sees coping as a process rather than a simple reaction to a stressor. Lazarus and Folkman defined coping as:

".. constantly changing cognitive and behavioural efforts to manage specific external and or internal demands that are appraised as taxing or exceeding the resources of the person." (Lazarus & Folkman, 1984; p.141).

The definition above is based on a transactional model of stress and coping which emphasises that the perception of a source of stress can be threatening, challenging, and/or harmful. After appraising a situation as stressful, whether that be challenging, threatening, or harmful, the individual then has to decide how to cope with it. Coping encompasses a range of purposeful responses to a stressor, from appraisal of the situation (e.g., re-assessing the degree of threat in the situation) to stress management via effortful response (e.g., relaxation strategies, social support). It is important to note that Lazarus and Folkman's (1984) definition of coping does not mention coping outcome. Therefore, coping includes all efforts regardless of effectiveness. In summary, the definition of coping used in this thesis is that advocated by Lazarus and Folkman (1984) from their transactional model of stress and coping.

4.2.4.2 Categories of Coping.

Many behaviours can be labelled as coping; for example Gould and co-workers' (1993b) study of skaters identified 158 separate coping behaviours. However, researchers have tried to derive these separate behaviours into categories (Carpenter, 1992). Cox and Ferguson (1991) believed that having categories/taxonomies helps researchers/practitioners to gain a greater understanding of coping behaviours.

Two widely accepted categories are problem-focused and emotion-focused coping as identified by Lazarus and Folkman (1984). Problem-focused coping involves cognitive and behavioural efforts to change the problem causing the distress (e.g., problem-solving, planning, increasing effort). Emotion-focused coping involves regulating emotional

arousal and distress (e.g., relaxation). Billings and Moos (1984) and Cox and Ferguson (1991) suggested another additional category to problem-focused and emotion-focused, that of appraisal-reappraisal. This category would include strategies such as; logical analysis of a situation, looking for causes of a situation, cognitive re-definition, and social comparison (Cox & Ferguson, 1992). The outcome of such appraisal-reappraisal strategies could influence the amount of stress an individual perceives. Endler and Parker (1990) suggested three coping categories, two of which, task-oriented and emotion-oriented, fit with Lazarus and Folkman's problem-focused and emotion-focused categories. The third category proposed was avoidance; that is, efforts, whether physical or mental, to disengage from the stressor. Endler and Parker (1990) suggested that to determine the effectiveness of avoidance coping, it would be important to consider the length of time over which a source of stress was occurring. That is, avoidance coping may not be an effective strategy to use with a source of stress lasting over a long period of time (e.g., financial problems).

There would appear to be benefits from amalgamating the many and varied coping behaviours into a more parsimonious, category-based framework. These benefits include helping individuals to determine which is the most effective way to deal with a source of stress. The literature would support that different categories of coping are more appropriate to deal with certain types of stressors than others. Factors which may influence the appropriateness of coping are detailed in the next two sections; situational and interpersonal determinants.

4.2.4.3 Situational Determinants of Coping.

McCrae (1992) highlighted that specific behaviours are needed to deal with particular problems; for example, it is no good relaxing as the house is burning down or seeking social support when financial problems need to be dealt with. As identified earlier, there are limitless types of stressor. However, McCrae (1992) suggested looking at common indicators across stressors which may help to determine the most appropriate forms of coping. Bjork and Cohen (1993) split these common indicators into 'quantitative' and 'qualitative' dimensions. Quantitative dimensions involve classifying stressors in terms of their controllability, severity and chronicity (McCrae, 1992; Vitaliano, DeWolfe, Maiuro, Russo & Katon, 1990), and the qualitative dimensions involve classifying stressors in terms of how a stressor is appraised in terms of threat, harm/loss or challenge (Bjork & Cohen, 1993). There is a limited amount of research which has investigated the influence of quantitative and qualitative dimensions of a stressor and what are possible effective coping responses (Bjork and Cohen, 1993; McCrae, 1992). Detailed below are some of the pertinent research findings in the area.

McCrae (1984) investigated how 151 subjects from a community population coped with stressful events that they were asked to describe. From the subjects' descriptions the investigator classified the stressors as either threatening, harmful or challenging. The investigator also judged the controllability of each of the stressors on a five point scale. The findings showed that when stressors were labelled as losses they tended to cope by expressing their feelings, when they appraised threats they used wishful thinking, and when they were identified as challenges they would cope by using rational action and positive thinking. In addition, McCrae (1984) showed that stressors that were identified as controllable tended to be dealt with by using coping strategies such as; rational action, restraint coping, expression of feelings, humour, and self-blame. Stressors that were viewed as uncontrollable seemed to be associated with fatalism, distraction, social comparison and wishful thinking. In terms of severity of a stressor, a negative correlation was found with the following coping responses: isolation of affect, intellectual denial, active forgetting, and humour. McCrae (1984) suggested that these responses minimise the seriousness of the stressor. A limitation of McCrae's study was that it was the investigator who decided whether an event was threatening, challenging, or harmful. Furthermore, McCrae identified difficulties in classifying stressors as one of the three mutually exclusive categories. The reason for the difficulty was, in fact, that events may have both threatening and challenging aspects, or begin as a threat and end as harm. In considering both these limitations, future researchers may wish to ask subjects to rate events themselves in terms of the degree to which it was harmful, threatening, challenging, and also controllable.

Folkman and Lazarus (1985) found with a community population that problem-focused coping was associated with challenge and benefit emotions, and that threat and harm emotions were linked to emotion-focused coping. In addition, Lazarus and Folkman (1984) proposed that problem-focused coping should be used with controllable sources of stress and emotion-focused coping with uncontrollable sources of stress.

A recent study by Bjork and Cohen (1993) examined how 293 undergraduate students coped with threats, losses and challenges. Subjects were asked to read descriptions of six events; two appraised as challenging, two as threatening, and two as a loss. To ensure a standardised response across subjects individuals were all given Lazarus and Folkman's (1984) definitions of what constituted a situation as being appraised as challenging, threatening, and loss/harmful. As a means of checking that individuals appraised the situations as they were meant, individuals were asked to rate each of the six events on three separate scales; challenging, threatening, harm/loss^{4.4}. Overall, the subjects reported that they predominately used problem-solving coping, which is

4.4 Situations showed a blend of being challenging, threatening, and harm/loss.

consistent with previous findings of Endler and Parker (1990) and Folkman and Lazarus (1988). Bjork and Cohen suggested that the reason for the predominant use of problem-solving was because individuals prefer to alter their environment rather than make internal changes. Also, an individual's choice of coping may be influenced by a desire to maintain or restore feelings of personal control (Brown & Siegel, 1988; McCrae, 1992; Vitaliano et al., 1990). In addition, individuals may decide to use problem-focused coping because using emotion-focused coping would imply a deficit in personal resources (Bjork and Cohen, 1993). Bjork and Cohen's (1993) results showed that the qualitative nature of a stressor influenced coping; that is problem-solving was used most frequently with challenging situations, then with threatening situations, and finally with loss/harm situations. However, it must be noted that appraising a situation as a loss will naturally limit the available coping responses and may in fact dictate only a few available coping strategies, for example seeking social support. This is supported by Bjork and Cohen's (1993) results which showed that emotional support was used more with a loss. The reason suggested for this was that individuals may perceive they have a lack of control and also, that it is more socially acceptable to seek social support at a time of loss (Bjork & Cohen, 1993). Bjork and Cohen also suggested that individuals may not use social support in a challenging situation so that they then can take the sole credit for any outcome. Finally, the results showed that less wishful thinking was used in situations perceived as challenging .

In summary, it would appear that qualitative and quantitative dimensions of stressors, as defined by Bjork and Cohen (1993), influence the coping responses used: stressors appraised as challenging and controllable tend to be dealt with by problem-focused coping; and stressors appraised as threatening or harmful and uncontrollable tend to be dealt with by emotion-focused coping. Bjork and Cohen (1993) also reported that individuals tended to appraise situations as a blend of being challenging, threatening and harm/loss. This supports McCrae's (1984) suggestion that future research should consider asking individuals to rate sources of stress on the three appraisal dimensions. Finally, empirical evidence would support that it is important to find out about the characteristics of stressors (i.e., degree challenging, threatening, harm/loss, controllability, severity and frequency) to determine which coping strategies are likely to be the most effective.

4.2.4.4 Interpersonal Aspects of Coping

Operating in a social environment necessitates interacting with others, so that, it is important to understand how this influences the stress-coping process. Carpenter and Scott (1992) identified three ways in which social functioning can contribute to stress and coping: i) the social environment can produce stressors; ii) the social context can

influence the coping selected and how effective it is; iii) and also the environment provides social resources for coping. The fact that the social environment can produce stressors is supported by Hobfoll (1986) who suggested that social support may not always be supportive and can in fact be negative. Consequently, individuals who are relied on for support may also be sources of stress. This is supported by previous research which identifies major sources of stress as being marriages, parent/child relationships, business relationships, and friendships (Carpenter & Scott, 1992).

Another aspect of the social environment is its potential to provide resources for coping (Carpenter & Scott, 1992). Lin (1986) suggested a three-dimensional model of social support which included: perceived and actual support received; where support comes from; and the nature of the support; that is, whether support is instrumental in helping deal with a stressor, or is it expressive and helps individuals construe a realistic/positive image of the world/situation. The dimensions identified in Lin's (1986) model are important when considering how individuals operate effectively together within a team environment.

Another aspect considered important relative to social support is relational competence (Carpenter and Scott, 1992). Carpenter and Scott (1992) identified relational competence to be the skills which contribute to the acquisition, development and maintenance of a relationship. They suggested that the perception of social support and relational competence will influence how a situation is appraised and also the subsequent coping response made.

In summary, it would appear that the social environment can produce stressors; however, it can also provide very valuable coping resources. These will be important factors to consider in the present study which investigates the sources of stress and coping responses of an elite wheelchair basketball squad. The very nature of a sports team necessitates individuals having to work effectively together to achieve both group and individual goals. Therefore, it is suggested that a sports team creates a social environment which might create sources of stress but also provide important coping resources.

4.2.4.5 Coping Effectiveness.

Lazarus and Folkman (1984) stated that coping was all about attempts at dealing with a stressor and was not dependent on outcome. However, the effectiveness of coping strategies in dealing with sources of stress is obviously very important, yet researchers have had problems in assessing effectiveness (Hardy et al., 1996). Hardy et al. (1996) identified two possible methods of assessing coping effectiveness. The first method involves measuring important outcomes of the coping process; for example performance and satisfaction. However, this method is difficult to operationalise because outcomes of

coping may occur very quickly and therefore would be difficult to assess. Also, coping methods may have long term outcomes which may appear non-existent at a point in time (e.g., joining a gym to lose weight). In addition, some strategies may in the short term have a positive outcome; however, in the long term they are maladaptive (e.g., consuming alcohol). Carpenter (1992) summarises in the quote below the problems associated with the method of assessing coping effectiveness:

"... because coping is embedded within a stress process that is constantly updated via complex feedback loops, it is often difficult to determine if causal relationships exist between stress, coping and stress-coping outcomes." (Carpenter, 1992; p. 6).

The second method suggested by Hardy et al. (1996) was initially advocated by Lazarus and Folkman (1984), and it involves looking at the 'goodness of fit'. Assessing 'goodness of fit' is based on two judgements; the first is the fit between reality and appraisal, and the second between appraisal and coping. The basic predictions made by Lazarus and Folkman (1984) are that if a source of stress is controllable then problem-focused coping should be employed, and if not controllable then emotion-focused coping should be used. There have been disagreements as to the utility of using Lazarus and Folkman's suggestion of a 'goodness of fit' model as a method of evaluating coping effectiveness. Ferguson et al. (1991) view the method positively, whereas, Dewe, Cox, and Ferguson (1993) viewed it negatively. Generally, there is agreement that there is a lack of research in the area of coping effectiveness and that methods of evaluation need to be developed.

As previously stated little empirical research has considered coping effectiveness. One recent study by Bar-Tal, Lurie and Glick (1994) has, however, attempted to look at the effectiveness of coping strategies used by male and female Israeli soldiers during the Gulf War. The study appears to be methodologically strong as all subjects experienced similar objective conditions and they also measured coping effectiveness rather than extent of coping. Previous research has attempted to determine effectiveness by looking at the extent of use of coping (Billing & Moos, 1984, 1985; McCrae & Costa, 1986; Spitzer, Bar-Tal & Golander, 1993). The problem with measuring extent of coping is that just because a particular strategy is used more than an other does not mean that it is more effective; the two do not necessarily go hand in hand. Therefore, the study of Bar-Tal et al. (1994) was an important step forward as subjects were asked to rate the effectiveness of the strategies they used. However, Bar-Tal et al. (1994) did suggest that future research should consider using both extent and effectiveness measures of coping as we may report a strategy as effective but how often do we use it ?

4.2.5 SPORT PSYCHOLOGY COPING LITERATURE

Few studies in sport psychology have considered coping as a primary variable. However, there have been an increase in the number of studies over the last eight years. This review considers studies which have investigated coping as a major factor rather than others which have considered it as one of several (e.g., Hanson McCullagh and Tonymon (1992) considered coping as predictors of injury). The review is split into two sections to reflect the different methodologies used in addressing the area of coping in sport: studies which have used quantitative methodologies and studies which have used qualitative methodologies.

4.2.5.1 Quantitative Sport Coping Studies.

Krohne and Hindel (1988) investigated 36 top table tennis players to determine whether any factors distinguished between players who had won all thirteen of their matches at a regional championship and those who had not. The measures taken were: general and sport trait anxiety; use of self-regulation techniques; emotional reactions to stress; coping dispositions; performance; and avoidance versus vigilant coping. Through the use of discriminant function analysis they concluded that more successful table tennis players used more vigilant coping (focusing attention on threat-relevant information) to reducing the threat and anxiety in a stressful situation. In addition, the more successful performers exhibited less worry during competition. The study was important as it showed coping was important to successful performance, and it demonstrated that stress and coping interacted. Therefore, it is important that stress and coping are studied simultaneously. However, there were problems with the study in that it involved only small numbers, some of the measures used appeared dubious, and there was no follow-up to the study.

A series of studies have used the Ways of Coping Checklist (WCC)(Folkman & Lazarus; 1980; 1988) in order to study coping in sport-specific situations (Madden, et al., 1989; Madden, Summers & Brown, 1990; Crocker, 1992; Grove & Prapavessis, 1995a, 1995b) . The WCC has been one of the most popular assessment tools of coping strategies. The WCC measures an individual's efforts to cope with a particular stressful event. However, Stone, Kennedy-Moore, Newman, Greenberg and Neale (1992) suggested that it was not without it's limitations and that further attention needed to be given to the development of coping assessment instruments. The studies which have used the WCC in the sport domain are detailed below in chronological order.

Madden et al. (1989) studied 12 male and 9 female Australian middle distance runners. The athletes were asked to complete a sport-specific version of the WCC based on how they would cope with a slump in performance. Results showed that most of the sample used predominantly, seeking social support, problem-focused coping, and

increased effort and resolve. In addition, older athletes appeared to use problem-focused coping more frequently, and those with injuries showed more emotionality, and used more wishful thinking and denial coping.

Madden et al.'s (1990) study investigated how 133 basketball players coped with a slump in performance; they used the same sport-specific version of the WCC (Madden et al., 1989). In addition to using the WCC, they also assessed appraisal of a stressful situation in terms of intensity of stress experienced. As a consequence, subjects were split into low, medium and high stress groups. The results showed that those in the high stress group, compared to the medium and low stress groups, used greater effort and resolve, more problem-focused coping, social support and wishful thinking. It would appear, therefore, that sport performers experiencing high stress draw upon a range of coping strategies. A limitation of Madden et al.'s (1990) study is that they were not able to indicate which strategies were the most effective.

The two studies carried out by Madden and colleagues need to be viewed with caution for several reasons. Firstly, neither of the studies reported psychometric properties and methodological procedures on the development of the sport-specific version of the WCC. The sample of athletes in Madden et al.'s (1989) study was very small and little detail was given about their background. The slump situations that both studies asked subjects to identify were not delineated or standardised, and also were not real experiences but were hypothetical situations. Information obtained from both studies was correlational and not causal, therefore making it very difficult to determine what was directly causing the results. Finally, stress was viewed from a negative perspective where stress was either high, medium or low. Subjects were not given the opportunity to view stress from a positive (challenging) perspective.

Hardy et al. (1996) suggested that Crocker's (1992) study of 237 athletes was probably one of the most methodologically sound in the sport coping area. Specifically, Crocker investigated 237 male and female athletes from a range of different sports using a 68-item modified version of the WCC. Factor analysis showed that athletes used a range of coping strategies that clustered into eight dimensions: active coping, problem-focused coping; seeking social support; positive reappraisal; self-control; wishful thinking; self-blame; and detachment. Crocker suggested that active coping and problem-focused coping were highly adaptive as they were used to alter environments that attributed to stress. Wishful thinking and detachment were viewed as maladaptive if they were used over a period of time. Crocker also identified problems with the psychometric properties of the WCC; in particular with the internal consistency. It would appear that using the WCC is very limiting as an exploratory factor analysis needs to be used every time. Crocker, therefore, suggested that there was a need to develop new instruments.

Grove and Prapavessis (1995a) followed up the work of Madden and colleagues by investigating the performance slumps of 142 Australian baseball players. To establish scale reliability, Grove and Prapavessis conducted a factor analysis on the sport-specific version of the WCC which revealed 6 factors. The results showed that there was a positive correlation between batting slumps and the use of emotion-focused coping. No link was found between problem-focused coping and batting slumps. However, problem-focused coping was associated with batting self-efficacy; that is, performers higher in batting self-efficacy used more problem-focused coping. They concluded that coaches could promote increased self-efficacy by promoting the use of problem-focused (adaptive) coping when experiencing a batting slump.

Grove and Prapavessis (1995b) examined coping with slumps in batting performance in 141 female athletes. They again used the sport-specific version of the WCC and also measured self-handicapping as a self-protective attributional strategy. A self-handicapping strategy would involve increasing responsibility for success, and lessening personal responsibility for failure by making external attributions (excuses). In the analysis low and high self-handicappers were considered in terms of how they coped with a batting slump. The results showed that high self-handicappers, compared to low self-handicappers, more frequently used emotion-focused strategies of detachment, avoidance, and wishful thinking. High self-handicappers also less often used the task-focused strategies of cognitive problem-solving and positive emphasis. Grove and Prapavessis concluded that high self-handicappers experiencing a slump in performance are more likely to adopt unproductive coping strategies (e.g., disengagement and fantasy) and to also avoid the use of cognitive problem-solving strategies and positive emphasis. Possible limitations of Grove and Prapavessis' studies include the failure to consider the perception of control over the batting slump or the effectiveness of the coping strategies used. In addition, as stated previously about Madden et al's studies, the definition of stress used by Grove and Prapavessis was limited to a negative viewpoint.

The series of studies outlined above used the WCC. The following four studies to be detailed used a different measurement tool to the WCC (Crocker & Graham, 1995; Finch, 1994; Haney & Bonita, 1995; Smith & Christensen, 1995). Finch (1994) used the COPE scale (Carver et al., 1989)^{4.5} with 148 collegiate female softball players. In addition, coping effectiveness was evaluated by classifying strategies as adaptive or maladaptive. The results showed that subjects who were higher in competitive anxiety showed a positive relationship to using maladaptive and emotion-focused coping and also negatively related to adaptive problem-focused coping. In addition, maladaptive coping of mental disengagement was associated with poor batting performance and denial with

4.5 The COPE scale was used in Study 2 of this thesis and is outlined in detail in section 3.4.2.

poor fielding performance. In addition to completing the COPE scale subjects were also asked how easy it was to use their strategy as a measure of automation. The results showed that the more effective copers were found to have strategies that were more automated. However, there are problems with classifying strategies as adaptive or maladaptive as it can often depend on the context in which it is being used and hence influence whether it is effective.

Crocker and Graham (1995) also used the COPE scale (Carver et al., 1989) to investigate the relationship between coping and affect, and gender differences in a group of 235 athletes (123 males and 112 females). Specifically, the COPE scale was used to assess coping strategies, lack of goal attainment was the measure of stress, and the PANAS (Watson, Clark & Tellegen, 1988) assessed affect. The results showed that females used higher levels of social support for emotional reasons and increasing effort to manage goal frustrations. The fact that females reported using higher levels of social support is consistent with Astor-Dubin and Hammen's (1984) study who found women were more likely to reach for support when experiencing stress. Crocker and Graham (1995) stated that a limitation of their study was that individuals may have reported different stressful situations; a problem also identified by Ptacek et al. (1992). Therefore, gender differences reported may have been due to differences in stressors reported rather than true gender differences. Interestingly, the results, irrespective of gender, showed a similar clustering of coping as seen with non-sport populations i.e., planning, suppression of competing activities, increasing effort, and active coping (Carver et al. (1989). In addition, social support variables (instrumental and emotional) were closely related suggesting they were used simultaneously. Interestingly, low correlations were found between: venting emotions, disengagement, wishful thinking, self-blame and humour, suggesting they are functionally distinct. It would appear that there are gender differences in coping responses, in particular that females use more social support and emotion-focused coping than males. Future research should consider examining whether other individual difference factors influence coping in sport, for example disability status (i.e., possessing or not possessing a disability).

Smith and Christensen (1995) administered the Athletic Coping Skills Inventory (ACSI-28) to 104 minor league baseball players. The ACSI-28 yields a total personal coping resource score and seven sport-specific scores for coping with adversity, peaking under pressure, goal-setting/mental preparation, concentration, freedom from worry, confidence and achievement motivation, and coachability. They found that the psychological skills measured by the ACSI (particularly confidence and achievement motivation) were significantly related to hitting and pitching performance. There appeared to be a positive link between coping and performance. However, care needs to be taken in interpreting these results as the ACSI has been suggested as being more a

measure of psychological resources related to coping, than coping itself (Hardy et al., 1996).

Haney and Bonita (1995) investigated the relationship between self-efficacy, control, coping and performance in a natural sport setting. The 178 female basketball (n = 106), soccer (n = 48), and field hockey (n = 24) players were studied over two rounds of simulated competition (free throw contest (basketballers), or penalty-shot contest against a goalkeeper (soccer and field hockey players)). Path analysis showed that athletes who experienced higher levels of anxiety and lower levels of self-efficacy and control used more disengagement coping, thus distracting them from the task. Performance in round one was found to influence the appraisal made, and coping used, in round two. That is athletes who scored more shots on round one felt more self-efficacy and were more in control and used less disengagement coping in round 2. Limitations of the study included that the competitive situation, although claimed to be a natural sport setting, was contrived and no control was attempted over the perceived degree of importance. Also, the only measure of anxiety taken was that of somatic anxiety, yet, conclusions were drawn to represent global anxiety. This is obviously inappropriate since recent anxiety literature supports the multidimensional nature of anxiety and the differential effects sub-components may have on performance (Jones, 1995). In addition, Haney and Bonita (1995) considered coping effectiveness by looking at the relationship between variables and did not consider an individual's personal perception of effectiveness. Future research should consider an individual's perspective on the effectiveness of particular coping strategies to deal with certain sources of stress.

In summary, the quantitative studies of coping in sport give an insight into the types of coping strategies used by sport performers. However, there are few studies and they are generally characterised by the use of weak measurement tools. One of the problems of quantitative studies is that individuals are restricted to items on questionnaires. As a consequence, investigators do not gain a rich, personal insight into coping strategies used by sport performers. The following section details the few studies which have adopted a qualitative approach to ascertain the coping strategies used by elite skaters and wrestlers.

4.2.5.2 Qualitative Studies of Coping in Sport^{4.6}

Two studies have adopted a qualitative approach to investigate the coping strategies of elite figure skaters (Gould, et al., 1993b) and wrestlers (Gould, et al., 1993a). Specifically, Gould and colleagues used in-depth interviews to facilitate a detailed

4.6 Refer to section 4.3.2 for differences between qualitative and quantitative research paradigms. Section 4.3.2 also outlines the nature of qualitative methods and data analysis procedures.

examination of the coping strategies from the subjects own perspective. These two studies are described below.

Gould, et al. (1993a) investigated the coping strategies used by all 20 members of the US Olympic wrestlers at the 1988 Olympics in Seoul. The wrestlers were all interviewed after the games and asked how they had coped with adversity associated with unforeseen events and negative aspects of expectations. Analysis of the 20 interview transcripts revealed four major categories of coping: thought control cited, by 80% of the wrestlers (included blocking distractions, perspective taking, positive thinking, coping thoughts, and prayer); task-focused, cited by 40% of the wrestlers (including narrow, more immediate focus, and concentrating on goals); behavioural based, cited by 40% of the wrestlers (change/control of the environment, and follow set routine); emotional arousal, cited by 40 % of the wrestlers (arousal control, visualisation strategies). Below are example of quotes from the thought control and task-focused dimensions:

"I focus on having tunnel vision I eliminate anything that's going to interfere with me. I don't have any side doors, I guess, for anyone to come into. I make sure that nothing interferes with me" (Gould, et al., 1993a; p.88) (*Thought Control*).

"I just stayed positive and focused on putting it behind me and not thinking about it (the loss) anymore and then just started thinking about the next match." (Gould, et al., 1993a; p.89) (*Task-Focused*).

Gould et al. (1993) concluded from their findings that coping efforts are complex and that multiple strategies may be used together. That is, individuals may be striving to deal with the environment whilst simultaneously managing their emotions. This is in accordance with the notions of Folkman and Lazarus (1985) and Compas (1987). The results from the study also looked at effectiveness in terms of differences between medal and non-medal winners; basically, no differences were found. However, they did note that the more successful wrestlers appeared to possess more automated strategies. This, Gould et al. (1993) suggested, may be due to the fact that sport performers need to be able to cope in a short period of time; one highly successful Olympic wrestler said:

"Something I've always practised is to never let anything interfere with what I'm trying to accomplish at a particular tournament. So what I try to do is if something is trying to bother me, it's an automatic effect for me to completely empty my mind and concentrate on the event coming up... My coping strategy is just to completely eliminate it from my mind, and I guess I'm blessed to be able to do that." (Gould, et al., 1993a, p.90)

A limitation of Gould et al's (1993) study is that coping was restricted to sources of negative stress; that is, how they coped with adversity and negative aspects of expectations of the Seoul Olympics. In addition, individuals were asked how they generally coped with adversity, whereas previous research has advocated that coping

should be assessed relative to a specific source of stress (Lazarus, 1993). Furthermore, the study attempted to measure effectiveness by looking at medal and non-medal winners. The results showed no difference in the coping strategies used between the medal and non-medal winners; however, they did not determine personal perception of coping effectiveness. It may be that medal status was not the most appropriate way of assessing coping effectiveness, and that other more pertinent factors may have explained the difference in performance (e.g., skill level, weaker opposition, illness).

The second qualitative study assessed the coping strategies used by 17 current and former US National figure skating champions (Gould, et al., 1993b). The subjects were asked to identify the sources of stress^{4.7} they experienced prior to and post being National champion. Subjects were then asked to describe how they coped with each specific source of stress experienced. The aim of the study was to identify and describe coping strategies employed after becoming National figure skating champion, and secondly to determine how they coped with specific sources of stress. Interestingly, this is the only study in the sport area to consider the link between stress and coping. Categories of coping strategies identified by at least 40 percent of the skaters included:

- **Rational thinking and self-talk** (testing/accepting/dealing with the reality of the situation, self-referenced focus, taking a rational perspective of oneself and skating);
- **Positive focus and orientation** (positive thinking and self-talk, positive belief in one's ability and programme goals, negative to positive appraisal);
- **Social support** (assistance from sport psychologists, support from coach, support from family and friends, unconditional love and support);
- **Time management and prioritisation** (making time for personal interests and growth, time utilisation, day to day goal focus);
- **Pre-competitive mental preparation and anxiety management** (mental practice and reflections, narrow focus, pre-competitive ritual, physical relaxation strategies, acknowledging and dealing with nervousness);
- **Training hard and smart** (hard work ethic, taking responsibility for and keeping an open attitude towards one's training);
- **Isolation and deflection** (not letting troublesome things get to me, avoiding and screening the media)
- **Ignoring the stressor** (ignoring at the appropriate time, ignoring)

4.7 Refer to the sections on sources of stress in sport and qualitative sport coping studies for a detailed description of these studies (sections 4.2.2 & 4.2.5.2 respectively)

The results showed that some coping strategies were related to several stress sources. In general, however, different coping strategies were used to deal with specific sources of stress. For example, when experiencing relationship issues, athletes tended to use positive focus and orientation, social support, strive for a positive working relationship with partner, isolation and deflection, and rational thinking and self-talk. Skaters experiencing psychological demands used pre-competition mental preparation and anxiety management, positive focus, and training hard and smart. The results suggest that individuals do not simply use one form of coping but that it differs depending on the source of stress. This supports Lazarus and Folkman's (1984) transactional model of stress and coping. Also, it was apparent that the athletes used both problem-focused and emotion-focused coping, and also adaptive (e.g., social support, rational thinking) and maladaptive (alcohol and bulimia) coping. Gould et al. (1993), on considering the dimensions which emerged, suggested that future studies assessing coping via questionnaires should consider using Carver et al's (1989) COPE scale. The reason for this was that the COPE scale reflected most closely the dimensions which emerged from the content analysis. A possible limitation of the study is that, although they identified that individuals may use a range of strategies to deal with a particular source of stress, they did not identify the effectiveness of each of the coping strategies with particular sources of stress. It may be interesting for future research to extend this idea and determine whether the effectiveness of particular strategies changes from one source of stress to another. Finally, it must be noted that this study, as with other qualitative and quantitative studies of stress and coping in sport, assumed a negative definition of stress, rather than the transactional perspective advocated by Lazarus and colleagues.

Collectively, qualitative studies have demonstrated a wealth of information that can be generated via the use of retrospective interview techniques in conjunction with inductive analysis methods. Although the majority of research has investigated the specific populations of wrestlers and figure skaters, the methodology adopted provides excellent guidance and encouraging suggestions for future qualitative research into elite level performers of different sports.

4.2.6 DISABILITY AND COPING WITH PHYSICAL ACTIVITY

Previous researchers have argued that there is a need to know whether existing psychological theories and research methods can account for the experiences of people with a disability (Asch, 1984; Crocker, 1993; Reid, 1989). Such information would enhance the generalizability of theories and also increase the understanding of disability. To the authors' knowledge only two studies have been carried out to investigate how individuals with a disability cope with physical activity (Bouffard & Crocker, 1992;

Crocker & Bouffard, 1990). Both of these studies explored Lazarus and Folkman's transactional model of stress and coping with a subject population of individuals with physical disabilities.

Bouffard and Crocker (1992) examined coping and affective experience to a perceived challenge in physical activity setting in 30 individuals with a range of physical disabilities. The subjects ranged in age from 19 to 72 and possessed a range of disabilities, including lower limb amputation, spinal cord injury and cerebral palsy. Bouffard and Crocker highlighted several interesting reasons for the study:

- Most studies had previously focused on coping in community samples, therefore, making it difficult to generalise to physical activity;
- The majority of studies had used situations appraised as distressing or threatening rather than challenging;
- Few studies had used Lazarus and colleagues' transactional model of stress and coping in a physical activity context;
- No previous study had looked at coping consistency;
- Individuals with a physical disability were selected as they were believed to be a group who encountered special challenges when performing exercise, due to limitations in mobility, facilities and social integration;
- Information obtained could be used to advance and develop exercise programs for individuals with a disability.

Specifically, subjects were asked on three separate occasions to report the most challenging physical activity of the preceding week and indicate how they coped and what affective state they experienced. Coping was assessed using the COPE scale (Carver et al., 1989) and affect via the PANAS (Watson et al., 1988). Generalizability theory (Shavelson & Webb, 1989) was used to look at consistency in coping strategies. The results showed that sometimes style and sometimes situation best predicted; however, the best predictor (over 50% variance) was situation-by-person interaction. Therefore, individuals with physical disabilities did not use the same coping strategies across situations. The results thus supported the process view of coping espoused by Lazarus and Folkman (1984), who argued that coping should be viewed as a process rather than a style. The findings further indicated that individuals with physical disabilities show the same coping and affective patterns as reported from other adult and community samples; that is, high levels of problem-focused coping (planning and active coping). Bouffard and Crocker (1992) suggested that their study suffered from the fact that the situations being appraised as challenging, varied across and within subjects. However, they believed that holding the task demands constant would not have assured the same appraisal. Further,

Bouffard and Crocker suggested that future investigations should consider factors influencing cognitive appraisal, for example perceived degree of control over a stressor, which has not previously been considered in physical activity settings. In addition, they suggested that perceived degree of challenge may be an important factor in predicting coping strategies used; therefore, future studies should consider using a rating scale. It must be noted that the study only considered challenging physical activity settings. Consequently, future studies may consider physical activity settings appraised as threatening or harmful. A proposed weakness of the study is that it did not attempt to control task value or importance, which are important factors in determining whether a situation is appraised as stressful. However, the study was acknowledged by Hardy et al. (1996) to be one of the most methodologically strong pieces of coping research in the physical activity domain.

Crocker and Bouffard (1990) investigated coping and participation of adults with a physical disability. The rationale for the study was that individuals with disabilities may experience barriers (physical and social) to participation in physical activity and consequently may appraise such situations as stressful (Watkinson & Calonzetti, 1987). To overcome the proposed barriers to physical activity, individuals with a disability need to be able to adapt or manage their environment by optimising the use of cognitive behavioural coping strategies. Crocker and Bouffard's study attempted to gain information that may help to understand why individuals with a disability do or do not participate in physical activity. Specifically, the study looked at how individuals with physical disabilities would cope with three prescribed barrier scenarios. The sample comprised of 49 male and 21 female subjects (mean age = 32.3) with acquired disabilities that were either due to spinal cord injury ($n = 49$) or amputation ($n = 21$). Individuals, after reading each scenario, were asked to complete the WCC (Folkman & Lazarus, 1984). The results showed that the individuals who used problem-focused coping were more likely to indicate increased expectation of future participation, and those who used emotion-focused coping were more likely to indicate they would not participate in the future. Crocker and Bouffard suggested that those individuals who used emotion-focused coping did not perceive they could modify the environment. They concluded that individuals with physical disabilities need to be taught strategies to enable them to function effectively in physical activity settings. They also suggested that individuals need to develop a repertoire of diverse and flexible skills (Meichenbaum, 1985) as some strategies will be effective in some situations but not in others. A possible limitation of Crocker and Bouffard's (1990) study was that the scenarios used were set and, therefore, individuals were asked how they perceived they would cope rather than how they did cope; this obviously has inherent problems. Further, not all participants may have been motivated to take part in physical activity, therefore, explaining why some did not want

to participate in the future, rather than because they were deficient in certain coping strategies.

In summary, Crocker and Bouffard (1990) and Bouffard and Crocker's (1992) studies have furthered our understanding of Lazarus and Folkman's (1984) transactional model of stress and coping, and also helped gain a greater insight into how individuals with a disability cope with challenging physical activities. The perspective of both studies, however, was on gaining an understanding of how individuals with a physical disability deal with proposed barriers to physical activity. Both studies assumed that participation in physical activity for individuals with a physical disability is beneficial for their physical and psychological well-being. Research, therefore, studying barriers and adherence to physical activity is important. However, to the author's knowledge, no study has considered how individuals with a physical disability cope with the inherent stress of elite level sport. Therefore, Study 3 of this thesis attempts to examine stress and coping in elite level sport for athletes with a disability.

4.3 RATIONALE FOR STUDY 3

This section details the rationale for Study 3 of the thesis based on previous research findings and suggestions which have been presented in earlier sections of the chapter. In addition, the nature of qualitative research is detailed to provide a rationale for the selected methodology, and also to give coherency to the research methodology described in the method section.

4.3.1 THEORETICAL RATIONALE

As already acknowledged, there has been a limited amount of research considering stress and coping in individuals with physical disabilities in physical activity settings. The purpose of the present study was to consider stress and coping in elite athletes with physical disabilities. The rationale behind the study was that opportunities to compete at elite levels in disability sport have increased dramatically over the last ten years (Campbell & Jones, 1994). Consequently, for individuals to fulfil their potential they need to be able to operate effectively in high stress situations. However, Chapters 2 and 3 of this thesis suggest that sport participants with disabilities may experience different sources of stress to able-bodied sport participants. If this is the case, it is possible that sport participants with and without disabilities may need to use different coping strategies to be effective in the sport arena. The present study, therefore, examined the sources of stress that elite wheelchair sport participants experience and how they cope with them. Folkman and Lazarus' (1984) transactional model of stress and coping was used as it is widely accepted in the stress-coping area, and has previously been used in

studies of stress and disability (Knussen & Cunninigham, 1988), and studies of stress and coping in sport (Hardy et al., 1996). The study, as well as gaining a greater understanding about the sources of stress and coping responses of elite wheelchair sport participants, also aimed to extend current literature on stress and coping in elite able-bodied sport participants (Asch, 1984; Crocker, 1993; Reid, 1989).

The study used qualitative methods to enable a detailed understanding of the sources of stress and coping responses used, from the individuals own perspectives. This was believed to be the most appropriate method as it had previously been used successfully with elite able-bodied athletes. The study followed the conceptual framework and guidelines used by Scanlan and Gould, and their respective colleagues, on elite skaters and wrestlers^{4.8}. In addition, the study aimed to extend previous research based on empirical findings and suggestions made from both the general and sport psychology. The ways in which the present study attempted to extend previous literature are detailed below.

- i) The present study adopted a transactional definition of stress (Lazarus and Folkman, 1984) thus enabling sources of stress to be appraised as both positive and negative; previous research had adopted a definition of stress resulting in negative consequences.
- ii) Only one previous study in the sport domain has acknowledged the importance of studying stress and coping simultaneously (Gould et al., 1993b). The present study, therefore, considered how elite wheelchair sport participants cope with specific sources of stress.
- iii) Based on previous research findings, individuals were asked to rate the sources of stress they identified in terms of how challenging, threatening, harm/loss, controllable, severe, and how frequently they occurred (Bjork & Cohen, 1993; Lazarus & Folkman, 1984; McCrae, 1992).
- iv) Individuals were asked how they coped with specific sources of stress, and then asked to rate the effectiveness and frequency of the coping strategies used (Bar-Tal et al., 1994).

4.8 Precise procedures are detailed in the method section of the present chapter (section 4.5).

- v) Since previous research in the sport domain has focused primarily on individual sports the present study investigated a team sport (wheelchair basketball). Furthermore, all subjects were from the same National wheelchair basketball team.
- vi) Previous research of individuals with a disability has considered the value of participation in physical activity for psychological well-being benefits. The present study, therefore, was unique in investigating individuals with a disability as elite athletes.

4.3.2 QUALITATIVE RESEARCH METHODS

The study described in the remainder of this Chapter, the results of which are reported in Chapters 5 and 6, adopted a different methodology to that used in previous studies reported in this thesis. It seems appropriate, therefore, to give some detail on qualitative methods to enable a rationale as to why this method was selected to answer the research questions of the present study. This section considers; qualitative and quantitative research paradigms, qualitative retrospective interviews, and qualitative data analysis.

4.3.2.1 Qualitative and Quantitative Research Paradigms

To date, Sport Psychology research has predominantly used quantitative methods that involve using statistical analyses to answer questions. These methods pursue objective knowledge of universal laws of cause and effect through testing hypotheses (Henwood & Nicolson, 1995). The strengths of quantitative methods are :

"they produce factual, reliable outcome data that are usually generalizable to a larger population." (Steckler, McLeroy, Goodman, Bird and McCormick, 1992; p. 1).

A qualitative research paradigm, however, adopts an epistemological position referred to as 'constructivism', as opposed to the quantitative position of 'empiricism'. Qualitative research involves more open-ended, yet detailed analyses of verbal, written or visual material, that is not converted to numerical data. The strengths of qualitative data are:

"they generate rich, detailed, valid process data that usually leaves the study participants' perspective intact." (Steckler, McLeroy, Goodman, Bird and McCormick, 1992; p. 1).

The aim of qualitative research is to elicit an 'insider's' view from the group under study. Bryman (1988) suggested that whether quantitative or qualitative methods are used

is dependent on the research question to be answered. The current project attempted to explore, in detail, sources of stress and coping in a group of elite wheelchair basketball players. Therefore, the most appropriate method appeared to be qualitative. However, Steckler et al. (1992) suggested that it is appropriate to combine quantitative and qualitative methods if, for example, quantitative methods are used to give more specific detail on factors identified through a predominantly qualitative research design. The present study, adopts this approach by identifying sources of stress and coping strategies through qualitative methods. Quantitative methods are then used to gain more precise detail on the characteristics of sources of stress (challenge, threat, harm/loss, severity, frequency, control) and coping effectiveness and frequency. The next section details previous research findings that assist in the structuring of retrospective interviews.

4.3.2.2 Structured Retrospective Interviews

As already highlighted a number of recent studies have successfully adapted qualitative methods of enquiry into Sport Psychology via the use of retrospective interviews (Gould et al., 1992a, 1992b, 1993a,b,c,d; Jackson, 1992; Scanlan, Ravizza & Stein, 1989; Scanlan, Stein & Ravizza, 1989, 1991). Orlick and Partington (1989) suggested that interviews are useful for exploring new topics. The reason for this is that there are few elite athletes and, therefore, interviews enable detailed information to be collected. Also, from an organisational perspective, it enables interviews to be scheduled at the performer's convenience, therefore increasing the likelihood of full participation. Consequently, since there are a limited number of elite athletes with a disability and no previous research has investigated sources of stress and coping responses, it seemed appropriate to use qualitative methods in Study three of this thesis.

To minimise interviewer effects and facilitate the gathering of information, an interview guide is typically used. The guide allows pertinent issues to be covered in an unstructured manner (Patton, 1980). Specifically, although subjects are asked the same questions in the same words, the order of topics is free to develop with the flow of the interview. Patton (1980) also advised that probing rules should be established prior to the interview to ensure that responses are consistent across subjects in terms of both depth and complexity. Before the interview, interviewers decide on a number of elaboration and clarification probes to be used per responses. In the case of the present study the number of probes were set at two; for further detail of what they were refer to the interview guide in Appendix C.

Retrospective interviews have been reported as viable methods of obtaining information, especially when subjects are recalling salient experiences in their lives (Bloom, 1985; Lincoln & Guba, 1985; Wagennar, 1986), such as sporting events as in the present study. However, to assist accurate recall of information, it is advised to spend a

considerable amount of time employing techniques that facilitate recall. These include 'bounding' techniques to anchor subjects in the exact time period wanting to be discussed (Moss, 1979). Specifically, bounding involves clarifying the start and end points of the time to be discussed in the interview. Moss (1979) suggested that the most successful way of achieving bounding in a time frame is to use bounding techniques over two separate occasions; for example, when contact is first made about participation in the interview, and then re-visited at the beginning of the interview. Hindley (1979) and Morton-Williams (1979) advised that bounding could be helped by rebuilding the larger context in which subjects lived at the selected time period. This technique assists subjects in remembering all the possible factors that may have influenced them at the set time period.

It should be noted that the techniques described above were first adapted successfully to sport by Scanlan et al. (1989) to investigate elite figure skaters. Since this study there have been several more which have used Scanlan et al.'s structure as a template for their own qualitative research design (e.g., Gould et al., 1992a, 1992b, 1993a,b,c). The next section will outline how qualitative data can be analysed to enable a theoretical question to be answered.

4.3.2.3 Qualitative Data Analysis

According to Henwood and Pidgeon (1995) there is no one correct way to handle qualitative data. The method selected should be appropriate to the data and the question to be answered. However, one method of analysing rich qualitative data obtained from interviews is to use 'content analysis' (Patton, 1980). Content analysis can involve either inductive or deductive approaches. Inductive analysis allows relationships and theories to emerge from the data (Patton, 1980). Deductive analysis, on the other hand, organises quotes around predetermined themes and categories. Glaser and Strauss (1967) referred to these methods as 'grounded theory' (i.e., generating theory 'grounded' in interviews, observations or textual information). The concept of grounded theory is an important principle of qualitative research. The approach is suitable for many forms of unstructured material, and is particularly useful in analysing interview transcripts.

Inductive content analysis procedures recommended by Patton (1980, 1990) involves analysing interview transcripts that have been transcribed verbatim. The procedure involves several steps that are detailed below. The first step of content analysis is to organise raw data from interview transcripts into interpretable and meaningful themes and categories (Patton, 1980). Specifically, the process clusters quotes around underlying uniformities which then become emergent themes. The common threads emerge by comparing and contrasting each quote with all other quotes. The themes then emerge to unite quotes of similar meaning and separate quotes of different meaning

(Guba, 1978; Patton, 1980). The same procedure then occurs by comparing and contrasting emergent themes. Eventually, the analysis develops until it is not possible to locate further underlying uniformity's to create a higher theme level. Each level becomes more analytic and interpretative, requiring greater inference. All the themes in a given level of analysis are mutually exclusive, or distinct from each other (Patton, 1980). It must be noted that quotes vary in their level of descriptiveness due to subjects' ability to articulate themselves, so that some themes do not go through all levels of analysis.

In order to increase the credibility of the inductive analysis results, consensus validation procedures are advised to be used (Scanlan, Ravizza & Stein, 1989). Specifically, these procedures involve researchers reaching mutual agreement at all stages in the analysis.

The aim of this section was to provide some detail about qualitative research such that a rationale was provided as to why it was adopted for the present study. In addition, it was hoped to provide some coherency to the research method detailed in the method section (section 4.8).

The chapter thus far has reviewed relevant literature in the areas of stress and coping. It would appear that no previous research has investigated stress and coping of sport participants with a disability. Consequently, it seemed appropriate for study 3 of this thesis to use qualitative methods, in combination with quantitative methods, to facilitate an in-depth examination of the sources of stress and coping responses of wheelchair sport participants. Furthermore, the literature reviewed would support adopting Lazarus and Folkman's (1984) transactional model of stress and coping, thus enabling sources of stress to be identified that could be appraised as both positive (challenging) and negative (threatening, harm/loss). The next section describes the specific purposes of Study 3 and hypotheses.

4.4 PURPOSES AND HYPOTHESES

4.4.1 PURPOSES

The present study had three primary purposes:

- **Purpose 1:** To identify the sources of stress of elite wheelchair basketball players. Lazarus and Folkman's (1984) definition of stress was used to ensure individuals could recount situations that they appraised as both positive and negative. For each stressor identified, subjects were asked to rate the degree of challenge, threat, harm/loss, controllability, severity and frequency.

- **Purpose 2:** To identify coping strategies used by elite wheelchair basketball players.
- **Purpose 3:** To identify relationships between coping and sources of stress experienced in terms of the range of coping strategies used with specific sources of stress, and the specificity and generality of coping strategies. Furthermore, the study aimed to investigate the effectiveness of coping strategies associated to particular sources of stress.

4.4.2 HYPOTHESES

Inductive analyses allow relationships and theories to emerge from the data, and their purpose, unlike quantitative methods, is not to test hypotheses. However, based on previous literature, the following general predictions are made about expected findings for each of the three purposes:

Purpose 1

- Sources of stress would be competition-specific and also non-competition-specific.
- Sources of stress perceived as being under greatest control would be viewed as the most challenging.
- Sources of stress perceived as having the least degree of control would be viewed as the most threatening or harmful.

Purpose 2

- A range of coping strategies would be identified, including problem-focused, emotion-focused, appraisal-reappraisal and avoidance coping.

Purpose 3

- Sources of stress individuals perceived they had the most control over would be dealt with by more problem-focused coping.
- Sources of stress individuals perceived they had the least control over would be dealt with by more emotion-focused coping.
- Certain coping strategies would be used with specific stressors.
- Certain coping strategies would be used with a range of stressors.

4.5 METHOD

4.5.1 SUBJECTS

The subjects were ten elite male wheelchair basketball players with a mean age of 32.2 (SD = 3.39). The subjects were all current members of the Great Britain Wheelchair Basketball squad and had a mean international playing experience of 11.5 years (SD = 4.48). To highlight the elite nature of the sample four of the subjects had been selected as members of a World 'top 8' squad at the 1994 World Championships in Edmonton. The Great Britain team has experienced considerable success at International championships over the last three years; including a silver medal at the 1994 World Championships and a gold medal at the 1995 European Championships. The subjects in the present study, therefore, were competing at the highest competitive level at the time of the study. The subjects possessed a range of impairments including spinal cord injury (n = 6), lower limb amputation (n = 2), spina bifida (n = 1), and polio (n = 1).

4.5.2 INSTRUMENTS AND PROCEDURES

4.5.2.1 Involvement Progression Questionnaire

To understand the development and commitment of the elite wheelchair basketball players, a wheelchair basketball-specific involvement progression questionnaire was developed (see Appendix C). The questionnaire was based on the work of Bloom (1985) who had investigated the development of talented individuals in the areas of science, art and sport. His results showed an increase in commitment and dedication over a progression of three involvement phases (early, middle, and later years). Scanlan et al. (1989) adapted Bloom's work for figure skaters. The present study, therefore, employed a questionnaire to look at the involvement progression of wheelchair basketball players during three identified phases. The phases were: *Phase 1* - the time from when they first seriously thought about taking up wheelchair basketball to playing their first competitive game; *Phase 2* - the time from playing their first game until they first represented Great Britain; and *Phase 3* - the time from when they first represented Great Britain until the present day. In each phase subjects were asked to identify; the number of years they had spent in the phase, the number of days per week they trained and played, and the length of time of each training session (Table 4.1). Subjects spent on average 0.45 years in phase 1 and during this time spent 2.9 days per week training, with training sessions lasting approximately 4.3 hours. Phases 2 and 3 were characterised by an increased commitment to training with subjects spending approximately 4 to 5 days

per week training (phase 2 mean = 4.2 days; phase 3 mean = 4.8 days). The number of hours training did not appear to increase particularly from phase 1 to phases 2 and 3 (phase 2 mean = 4.3 hours; phase 3 mean = 4.6 hours). There appeared to be a noticeable difference between phases 2 and 3 in the number of years spent in each phase. Specifically, subjects had spent longer in phase 3 than phase 2 (phase 3 mean = 9.4 years; phase 2 mean = 3.3 years). This supports that the subjects in the present study were experienced elite sport performers. Table 4.1 highlights, however, that there were individual differences within the group, reported in the form of standard deviations and range of scores.

Table 4.1 Descriptive Background Information of the Sample

	Mean (SD)	Range
Mean Age (years)	32.2 (3.39)	29 - 39
Year played (years)	11.5 (4.48)	3.5 - 20
Phase 1		
Years	0.45 (0.50)	0 - 1
Days/week	2.9 (1.97)	1 - 7
Hours/day	4.3 (1.42)	2 - 6
Phase 2		
Year	3.3 (2.32)	1 - 7
Days/week	4.2 (1.87)	2 - 7
Hours/day	4.3 (1.42)	2 - 6
Phase 3		
Years	9.4 (4.27)	1 - 17
Days/week	4.8 (1.13)	3 - 7
Hours/day	4.6 (1.17)	3 - 6

4.5.2.2 Interview Guide

The interview guide for the study was developed from the work of Gould and Scanlan, and their respective colleagues, on sources of stress and coping. In addition, Lazarus and Folkman's (1984) transactional model of stress and coping was used as a theoretical framework for definitions of certain key variables (i.e., stress, coping, and cognitive appraisal of stressors as challenging, threatening, harm/loss). In addition,

previous empirical findings and suggestions from sport and general psychology were used to provide a rationale for asking subjects to rate the controllability, severity and frequency of stressors, and the effectiveness and frequency of coping strategies. The guide contained five areas: introduction; general information; sources of stress; coping with sources of stress; summary (see Appendix C).

The interview guide was developed with assistance from researchers knowledgeable with qualitative methodologies. Pilot interviews were carried out with two wheelchair basketball players and two wheelchair racers. Few revisions were needed apart from clarifying the three time phases within the involvement progression questionnaire. In addition the pilots enabled interviewing technique to be practised and refined.

4.5.3 PROCEDURE

All subjects were initially contacted by telephone, informed of the nature of the investigation and asked if they would be willing to participate; all ten who were contacted agreed to participate. It was stressed to them during the telephone conversation that all information would be confidential and that only group data would be reported, and also that they would receive feedback on the content of their interview. A time was arranged to meet the subjects at a suitable venue of their choosing and at a time that was convenient to them. In addition, subjects were sent details prior to the interview concerning the structure of the interview and definitions of key terms i.e., stress and coping. Specifically, these definitions were:

Definition of Stress: Stress is a relationship between the person and the environment that the person appraises as taxing or exceeding his or her resources and possibly endangering his or her well-being. (Lazarus and Folkman, 1984; p141)

Definition of Coping: Coping involves making efforts in terms of our thoughts or behaviours to deal with/manage a specific external or internal demands that we have appraised as taxing or exceeding our resources. (Lazarus and Folkman, 1984; p141)

4.5.3.1 The Interview

A standardised interview guide was used for all the interviews. Each subject was taken through an identical set of questions that were asked in the same way. A priori-probing rule of two probes per response was established to ensure that responses obtained were as consistent as possible in terms of depth and complexity (Patton, 1980). Clarification probes included "I am not sure I understand what you mean, would you please go over that again ", and elaboration probes included "What made it a source of stress ?, who or what did it involve ?"

All interviews were conducted by the author. The interviewer had previous experience of working with athletes with a disability, and was at the time of the interviews the Sport Psychology consultant working with the Great Britain Wheelchair Basketball team and British Wheelchair Racing Association. Hence, the interviewer was familiar with experiences and terminology used by the subjects. In addition, the interviewer was familiar with the method of interviewing as outlined by Patton (1980), Taylor and Bogdan (1984), Lincoln and Guba (1985), and Bromley (1986).

The interview was divided into a number of sections and the subjects informed as to what these were: Section 1 - Introduction; Section 2 - General information (including involvement progression questionnaire); Section 3 - Sources of Stress; Section 4 - Coping Responses; and Section 5 - Summary. These sections are detailed below:

Section 1 - Introduction. This section included a general introduction to the project with the intention of establishing rapport and orienting subjects to the interview process. A variety of issues were discussed with each subject which included; how the data would be used, the reasons why the session was being taped, the fact that anything they said was confidential, issues to be pursued during the interview; and also that the interviewer would need to keep notes during Section 3 (Sources of Stress) to facilitate the smooth operation of Section 4 (Coping). Subjects were asked if they had understood, or wanted anything clarifying from the details that had been sent to them prior to the interview. During the introduction it was re-emphasised that the interview was about their experiences as an elite wheelchair basketball player, this was the second time that subjects had been bounded in this time frame; the first time was on initial contact (Moss, 1979). In addition, subjects were informed that there were no right or wrong answers and were asked to be honest. Finally, subjects were told they were free to decline to answer any question and that they should take as much time as they needed to enable them to reflect.

Section 2 - General Information. The general information section was designed to aid retrospections, make subjects feel comfortable, and facilitate them talking descriptively. Information was initially obtained concerning their age, nature of their disability, age of onset of their disability, and the age at which they started playing basketball.

After obtaining these general personal details, subjects were then led through the Involvement Progression Questionnaire (see Table 4.1). After completing this, subjects were told that the remainder of the interview would remain in Phase 3 (i.e., the time from when they first represented Great Britain). At the end of the general information section subjects were asked about their best previous accomplishment and also their future goals. Interestingly, all subjects stated that their best previous accomplishment was placing first

at the European Championships and second at the World Championships, and that their future goal was to win a Gold Medal at the 1996 Paralympics, Atlanta.

Section 3 - Sources of Stress. Subjects were asked if they had understood the definition of stress which had been detailed in the information they had received prior to the interview. It was emphasised to the subjects that sources of stress may be perceived as positive (challenging) and negative (threatening, harmful). It was emphasised that sources of stress could be general (e.g., finance, family, association hierarchy) or competition-related (e.g., the opposition looks good, a bad refereeing decision, poor team performance). Further, it was suggested that the competition situation is dynamic and that sources of stress experienced may occur at different time points (pre-, during and post competition, and at a major event). On ensuring the subjects understood what was required, they were specifically asked:

"bearing in mind the definition of stress could you think back over the various aspects of your elite wheelchair athlete experiences and describe any sources of stress"

Once subjects had identified their sources of stress they were asked to rate each source of stress on three separate scales in terms of how challenging, threatening and harmful they perceived it to be, from 1 "not at all" to 7 "extremely". Subjects were then asked to rate each source of stress on a seven-point likert-type scale in terms of controllability (1 "no control" to 7 "total control"), severity (1 "not at all" to 7 "extremely severe") , and frequency (1 "never" to 7 "all of the time"). Section 3 of the interview finished by asking if subjects could identify any further sources of stress. If they did, then the same procedures in terms of probing rules and rating scales were followed.

Section 4 - Coping with Stress. Subjects were asked if they understood or had any questions about the definition of coping detailed in the information that had been sent prior to the interview. To help clarify the type of activities that could be labelled as coping, all subjects were given the same examples; talk to others, try to solve the problem, ignore the source of stress, relax. It was also highlighted to subjects that they may use several strategies to deal with a particular source of stress. Specifically, subjects were asked:

"for (source of stress).... could you please tell me what you did, or currently do, to deal with it .. "

The same probing rules were used as for Section 2 of the interview. Once subjects had identified the coping strategies they used to deal with a particular source of stress,

they were asked to rate how effective they perceived the strategy to be from 1 ("not at all effective") to 7 ("extremely effective"), and also how frequently they used the strategy from 1 ("not at all") to 7 ("all of the time"). At the end of the section subjects were asked if they used any other coping strategies. If any further coping strategies were identified then they were subjected to the same probing rules and also asked to rate how effective and frequently they were used.

Section 5 - Conclusion. Subjects were asked questions relating to their interview experience, these included: "Did you enjoy the interview?"; "Did you feel you had been led or influenced by the interviewer?"; "Did you feel you were able to tell your experiences fully?"^{4.9} All the subjects stated that they did not feel they had been led and that they had been able to tell their experiences fully. Generally, subjects had enjoyed the interview and several stated that they found it useful in terms of their future mental preparation for performance. In addition, several of the subjects stated that it helped knowing the interviewer as it had enabled them to talk about personal and sensitive issues; example quotes were:

"Talked about things that I would not normally talk about, in fact have never talked about."

"Helped me to plan my mental preparation for the future."

The interviews lasted between 70 and 150 mins and when transcribed verbatim produced 247 pages. One complete interview transcript is presented in Appendix D.

4.5.4 INTERVIEWER BIAS

This section details six different ways that the potential for bias in the interviews was addressed:

- i) An interview guide was used to structure the session, thus ensuring that all interviews were carried out in the same order and depth.
- ii) All the interviews were conducted by the same person who strove to adopt a neutral, impartial stance to avoid biasing or encouraging subjects.
- iii) In the pilot interviews the interviewees were encouraged to provide extensive feedback. The feedback concerned whether they had understood what had been asked of them, and also whether they had felt they had been led or influenced at any point.

4.9 Comments made by the subjects in the conclusion part of the interview are presented in this chapter, as opposed to the two results chapters 5 and 6, to ensure coherency.

All reported that they had understood and had not felt led at any point during the interview.

- iv) During the interviews themselves subjects were encouraged to ask if they did not understand anything. In addition, they were asked a series of questions in Section 5 to determine whether they felt they had been led by the interviewer. As highlighted previously, none of the subjects perceived they had been led.
- v) All subjects were sent a copy of their transcript for verification that it was a true reflection of their experiences.
- vi) A three person consensus validation procedure was used during the data analysis. Specifically, this involved each investigator independently identifying raw data themes (quotations or paraphrased quotations that captured the major ideas conveyed in the interview) characterising each wheelchair basketballer's responses. The investigators discussed the raw data themes they identified until triangular consensus was reached for each of the 10 ideographic profiles; that is, the agreed raw data themes for each of the 10 wheelchair basketball players (see Appendix E for an example). When disagreements between investigators arose, the investigators would re-examine the transcripts and confer until points of dispute were clarified.

4.5.5 DATA ANALYSIS

The data was analysed using inductive content analysis as recommended by Patton (1980) and successfully adapted to sport by Scanlan and Gould and their colleagues with elite skaters and wrestlers. Content analysis involves organising raw data from interview transcripts into interpretable and meaningful themes and categories (Patton, 1980). Specifically, the process clusters quotes around underlying uniformities which then become emergent themes. Eventually, the analysis developed until it was not possible to locate further underlying uniformities to create a higher theme level. The specific procedure adopted in this study is detailed in Figure 4.1. The procedure involved eight distinct steps culminating in the identification of general dimensions. Due to the purpose of the study two separate content analyses were carried out; one on the sources of stress experienced, and a second on the coping strategies used. Therefore, the eight step procedure detailed below was carried out twice so that general dimensions for sources of stress, and coping were identified.

Figure 4. 2 Data Analysis Procedures

STEPS

- 1** 10 transcripts were read and re-read by the author and 2 other investigators until they were fully familiar with the content. The author also listened to the tapes of the interviews to aid a full understanding.
- 2** Raw data themes were identified. This was done in the form of quotations or paraphrased quotes that captured the major ideas conveyed from the transcripts. Transcripts were re-checked to ensure all raw data themes were captured.
- 3** The investigators discussed the identified raw data themes until triangular consensus was reached for each of the ten subjects. An ideographic profile was produced for each subject.
- 4** Raw data themes from the ideographic profiles were transferred to separate pieces of cards to aid further analysis. Each source of stress card was coded with the appropriate qualitative and quantitative rating data (challenging, threatening, harmful, controllability, severity, and frequency), and each coping strategy card had recorded the effectiveness and frequency of that particular coping strategy.
- 5** Inductive content analysis was conducted to identify common themes of greater generality from the list of raw data themes (identified from step 4). Higher level themes were then labelled '1st order themes' or '2nd order themes', or the highest level labelled as 'general dimension' (those of greatest abstraction).
- 6** Consensus was reached between 3 informed individuals on all identified themes.
- 7** The author checked the emergent patterns to ensure that the descriptors made intuitive sense and could be easily understood. Raw data themes comprising each higher order theme were re-read to ensure that they fit coherently into the broader category.
- 8** Deductive analysis was conducted to provide a validity check. Specifically, the author re-read the transcripts to verify that all themes and dimensions were represented.

CHAPTER 5

STUDY 3 - RESULTS (i)

SOURCES OF STRESS OF ELITE WHEELCHAIR BASKETBALL PLAYERS

5.1 INTRODUCTION

The previous chapter reviewed literature on sources of stress and coping in sport, and detailed the purposes and specific method used in Study 3. The purpose of this chapter is to present and discuss the results related to the first of these purposes; that is, the identification of sources of stress experienced by elite wheelchair basketball players. The study adopted a qualitative research design, using in-depth interviews, to enable detailed information to be obtained from the subjects' perspectives. Adopting this research design was important since no previous study has considered the sources of stress in elite wheelchair sport participants. Furthermore, qualitative in-depth interviews have successfully been used to identify the sources of stress in elite figure skaters and wrestlers (Gould et al., 1993a, 1990; Scanlan et al., 1991). However, previous research has several limitations, one of which is that studies have focused primarily on the sources of stress of individual sport participants (e.g., figure skaters and wrestlers). Therefore, this study was unique in examining not only elite athletes with a disability, but also team sport participants (i.e., wheelchair basketball players). Furthermore, all subjects were from one particular elite male wheelchair basketball team; the Great Britain Men's Wheelchair Basketball Team.

A further limitation of past research is that the characteristics of sources of stress have not been considered; for example, the degree of control, severity and how frequently the sources of stress occur. Hardy et al. (1996) implied that detailed information about stressors was vital to further our understanding of stress in sport. Furthermore, Hardy and colleagues suggested that in order to obtain this information, future studies should consider combining qualitative and quantitative methods. Study 3 of this thesis, therefore, was unique in combining qualitative and quantitative methodological approaches to gain an insight into the stress source characteristics of sport participants. Past studies of sources of stress have also referred to stress as the negative emotions, feelings, and thoughts that a sport performer may experience. This would appear limited bearing in mind Lazarus and Folkman's transactional definition of stress

which states that stress can be appraised as positive (challenge) and negative (threat, harm/loss)^{5.1}. The present thesis, therefore, adopts Lazarus and Folkman's transactional definition.

Specifically, Study 3 used a structured interview schedule to identify the sources of stress experienced by ten elite wheelchair basketball players. Once subjects had identified their sources of stress, they were asked to rate the degree to which the sources of stress were challenging, threatening, caused harm/loss, and also how controllable, severe and frequently they occurred. The hypotheses regarding the sources of stress experienced by elite wheelchair basketball players were based on previous empirical findings from the general and sport psychology literature; these were:

- Sources of stress experienced by elite wheelchair basketball players would be both competition-specific and non-competition-specific.
- Sources of stress perceived to be under the greatest control would be viewed as the most challenging.
- Sources of stress perceived to have the least degree of control would be viewed as the most threatening, or harmful.

This chapter is structured to initially present the results from the analysis of the ten interview transcripts. It then discusses pertinent findings in light of previous psychological research, and concludes by summarising the major findings.

5.2 RESULTS

This section presents findings from the analysis of the ten in-depth interviews of elite wheelchair basketball players. The results are presented in three sections: inductive content analysis; characteristics of sources of stress; and relationships between stress source characteristics.

5.2.1 INDUCTIVE CONTENT ANALYSIS

The ten in-depth interviews were analysed using inductive content analysis, which involved an eight step procedure detailed in Chapter 4 section 4.7.5 (Figure 4.1) The results presented are from interviews with ten elite wheelchair basketball players

5.1 Refer to section 4.2 for a detailed description of different definitions of stress and the advantages of using Lazarus and Folkman's (1984) transactional definition.

Table 5.1 Number of Raw Data Themes Falling into Major Categories

General Dimension/ 2nd order sub-theme	Raw Data Themes No. (%)	No. Subjects
Pre-event Concerns	<u>25</u> (16.03%)	9
Medical concerns	7	
Individual preparation concerns	13	
Team preparation concerns	5	
Negative Match Preparation	<u>17</u> (10.90%)	7
Pre-match concerns	10	
Inappropriate physical preparation	7	
On-court concerns	<u>18</u> (11.54%)	9
Perceived individual contribution to team	6	
Poor technical performance	6	
Psychological pressure	6	
Post-Match Performance Concerns	<u>15</u> (10.23%)	10
Personal performance	5	
Poor team performance	6	
Negative perceptions by important others	4	
Negative Aspects Major Event	<u>18</u> (11.54%)	9
'Dead' time at events	5	
Negative aspects of travel	5	
Negative social aspects	3	
Poor domestic arrangements	5	
Poor Group Interaction and Communication	<u>23</u> (14.74%)	8
Ineffective communication	7	
Conflict on and off court	8	
Negative group dynamics	8	
Negative Coaching Style/Behaviour	<u>10</u> (6.41%)	5
Poor coaching decisions	2	
Negative coaching style	8	
Relationship Issues	<u>8</u> (5.13%)	6
Relationship with partner	4	
Separation from partner	4	
Demands or Costs of Wheelchair Basketball	<u>13</u> (8.33%)	7
Lack of finance	5	
Commitments outside basketball	8	
Lack of Disability Awareness	<u>8</u> (5.13%)	4
Poor access	5	
Lack of understanding of needs	3	

who were at the time of the interviews, all members of the Great Britain Wheelchair Basketball team. As a consequence of the analysis, 156 raw data themes^{5.2} were identified and these are shown in Figure 5.1 through to Figure 5.10.

The inductive analysis of the sources of stress data revealed ten distinct general dimensions of stress experienced by elite wheelchair basketball players. The ten dimensions were abstracted from 26 second order sub-themes and these from 53 first order sub-themes. The ten dimensions and their respective second order sub-themes are presented in Table 5.1 with the number of raw data themes they comprise. In addition, Table 5.1 indicates the number of wheelchair basketball players who reported experiencing sources of stress in each of the dimensions.

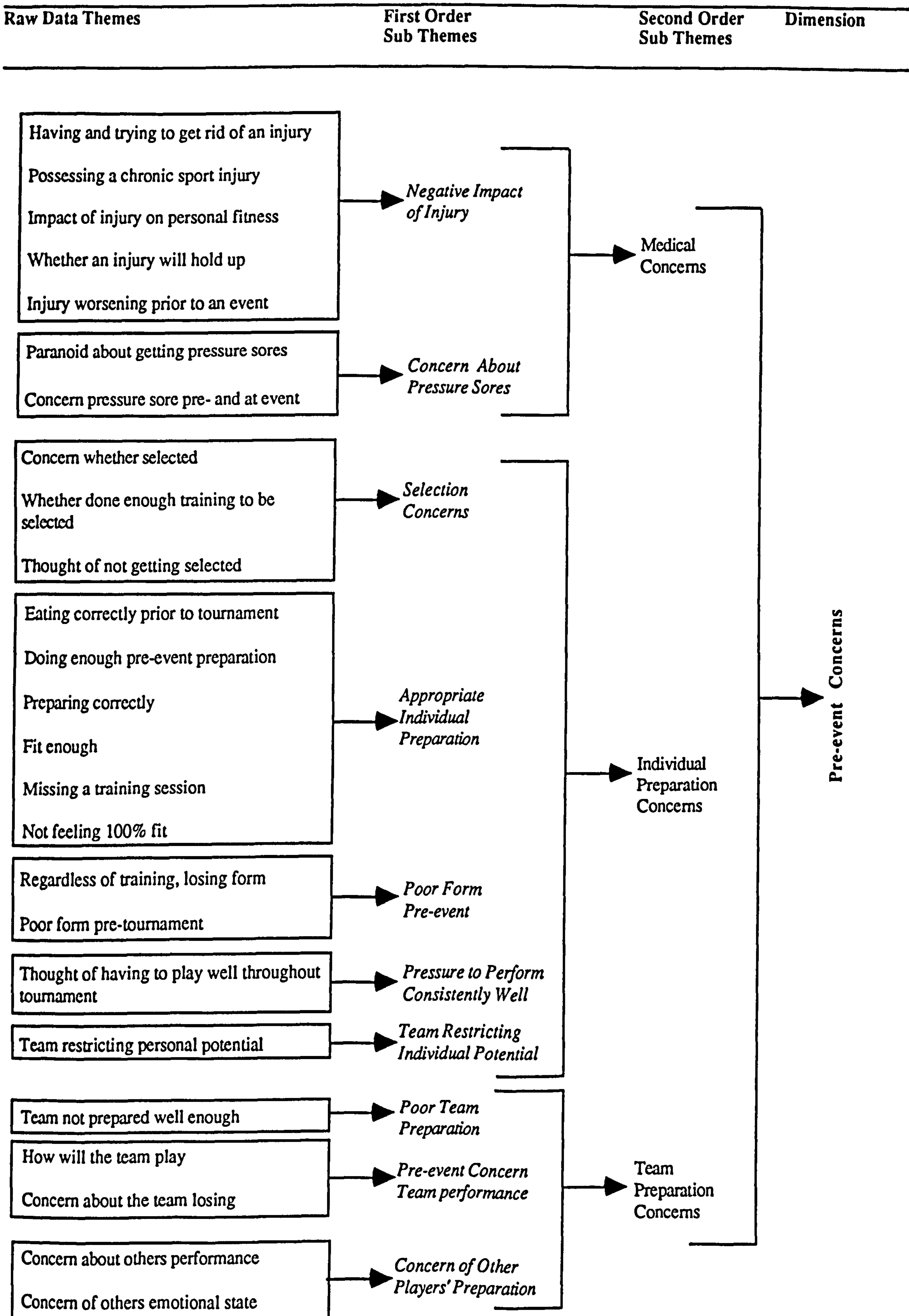
The findings generally showed that elite wheelchair basketball players experience sources of stress related to the whole competition process; that is, 'pre-event concerns', 'negative match preparation', 'on-court concerns', and 'post-match performance concerns'. Interestingly, organisational aspects of competing at a major event were also identified as sources of stress. In addition, three dimensions related specifically to communicating or relating to important others, about either basketball or issues in general; 'poor group interaction and communication', 'negative coaching style/behaviour', and 'relationship issues'. The remaining two dimensions were non-competition-specific: 'demands or costs of wheelchair basketball', and 'lack of disability awareness'. Each of the dimensions is delineated below.

Pre-event concerns: Twenty-five raw data themes were included in this dimension and were mentioned by nine of the wheelchair basketball players (Figure 5.1). Specifically, this dimension related to concerns experienced prior to going to a major international wheelchair basketball event. The dimension comprised of three second order sub-themes: medical concerns, individual preparation concerns, and team preparation concerns. Specifically, medical concerns were defined by two first order sub-themes; negative impact of injury, and concern about getting pressure sores. Negative impact of injury included concerns about having and trying to get rid of an injury, the impact of an injury on personal fitness, and also wondering whether an injury would get worse prior to a major event. The following quotes highlight these areas of concern:

"When you get these little injuries, and you know you've got a hard training session coming up, and you think - Is it going to stand up to it?"
".. because I'm aware there are lads behind me pushing to get in the team, and I don't want a stupid injury to let me down, you know."

5.2 A raw data theme is a basic unit of analysis in the inductive content analysis procedure. Specifically, a raw data theme is a statement made by the subject which is representative of a discrete recognisable aspect of the subject's experience.

Figure 5.1 Pre-event Concerns Inductive Content Analysis



Concern about pressure sores' was also identified as a first order sub-theme and was mentioned by two subjects. The following comment shows the nature of concern related to pressure sores:

"Having a boney bum and big muscley shoulders and not being able to stand up to relieve the pressure all the time you can get pressure sores, this causes me concern and stress. It's because if I get one it means I will have to be off my bottom, and laid up in bed for about two weeks, and that means no training."

The two other second order sub-themes in the pre-event dimension related to concerns that individuals had about their own preparation and also the preparation of the team. 'Individual preparation concerns' appeared to come from five separate areas that are represented in the following first order sub-themes: selection concerns, appropriate individual preparation, poor form pre-event, pressure to perform consistently well, and the team restricting individual potential. Concern over selection was expressed by three of the wheelchair basketball players and is depicted in the two quotes below:

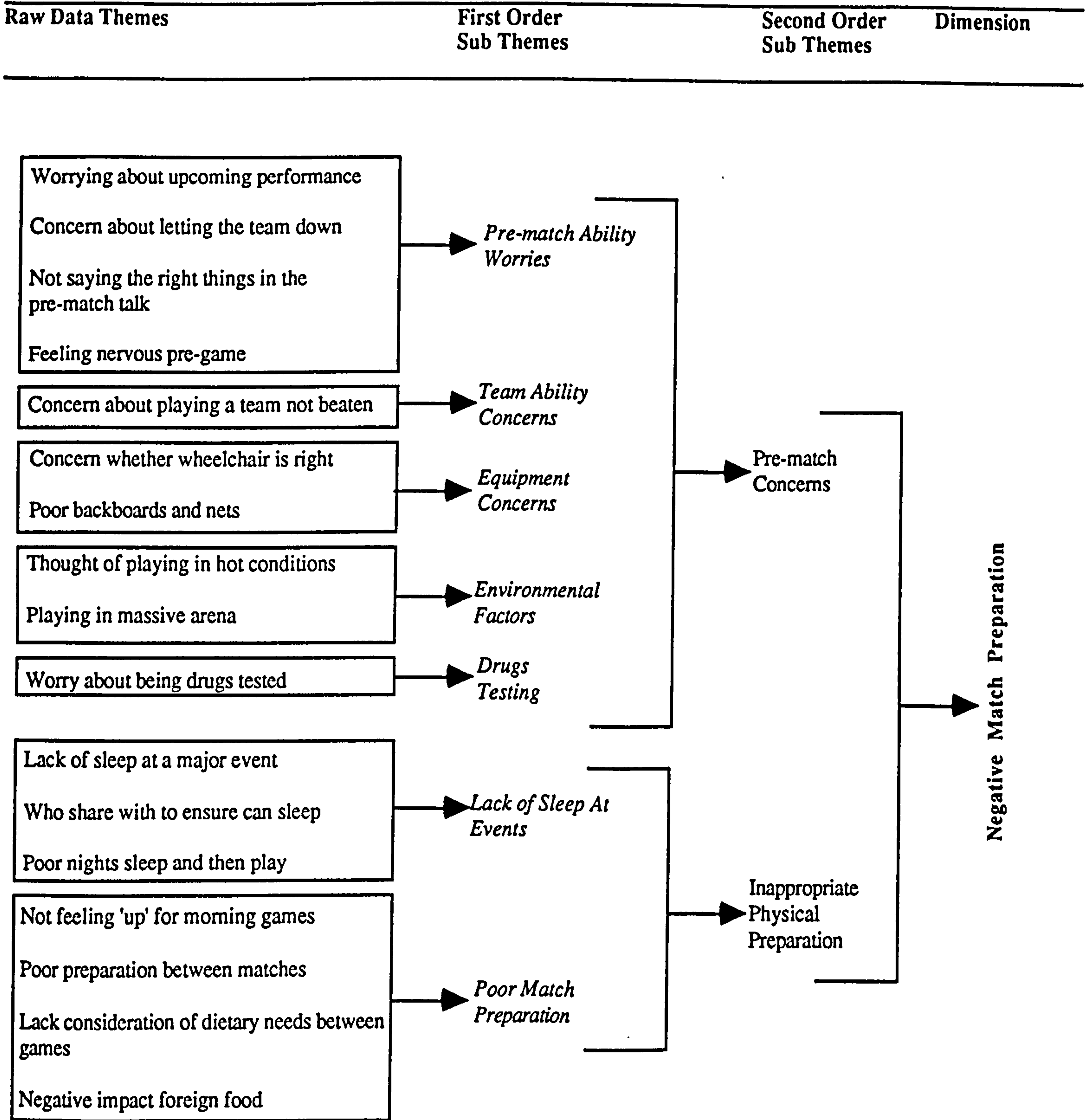
"Getting into the squad initially ... and then once you know that you're in the squad it's making the final cut. You never know whether you are going to be there or not .. until he (the coach) says 'you, you, and you are going'"

" It's always at the back of your mind, and you put a lot of pressure on yourself to play well in the training sessions, and the competition from the other guys is really pretty strong."

Other specific examples of 'individual preparation concerns' were not preparing correctly, missing a training session, and losing form prior to an event. The second order sub-theme 'team preparation concerns', specifically related to whether individuals perceived that the team was preparing appropriately, and also how other team members preparation was going both physically and mentally.

Negative Match Preparations: This dimension emerged from seventeen raw data themes and was mentioned by seven of the basketball players (Figure 5.2). Specifically, this related to concerns occurring from the evening before a match right up to the start of the game. The dimension emerged from two second order sub-themes: 'pre-match concerns' and 'inappropriate physical preparation'. 'Pre-match concerns' involved worries about playing a team that they had not beaten, concerns about equipment (e.g., chair, backboards), size of arenas and environmental conditions, and also for one subject the thought of being drugs tested. 'Pre-match concerns' are nicely expressed in the following comment made by one of the subjects:

Figure 5.2 Negative Pre-match Concerns Inductive Content Analysis



"you get the initial butterflies, especially if you're playing somewhere where you've never played before, and it's a massive stadium ... you think - 'Oh my God look at this place' ... especially after you're used to playing in little town sports centres, you know it can be a bit daunting."

The other second order sub-theme, 'inappropriate physical preparation', included worries about lack of sleep at major events and poor match preparation; for example, inappropriate food and not 'feeling up' for morning games.

On-court Concerns: This dimension was mentioned by nine subjects and emerged from eighteen raw data themes which were combined to form three second order sub-themes: 'perceived individual contribution to team', 'poor technical performance', and 'psychological pressure' (Figure 5.3). It must be noted that this dimension involved concerns experienced whilst players were on-court and also on the 'bench'. 'Perceived individual contribution to team' was defined in terms of lack of court time and individuals' perception of whether they had a role to play in the team. Below is an example of a source of stress relating to the amount of court time:

"It can upset me if I'm not getting a chance when I'm playing well, I can understand when I am playing poorly, I just like to have that chance to get out there instead of sitting on the bench."

The second order sub-theme 'poor technical performance' involved picking up too many fouls too quickly, being left on court when playing poorly, missing a shot, and making a bad pass. The following quotes depict some of these worries:

".. other players are sitting looking at me thinking - He's not playing well, get him off, give him a rest, talk to him, do whatever, and then put him back on".
"If I miss shots my confidence nose dives, and then that starts to effect my performance".

Having to deal with on-court pressure and not handling pressure were used to define the second order sub-theme 'psychological pressure'. The types of sources of stress mentioned included not being able to deal with bad refereeing decisions, being called names by opponents, and not being able to perform when needed:

"If it is a tight match, you think - I hope I don't have to shoot the winning basket!"

Post-Match Performance Concerns: Fifteen raw data themes comprised this dimension and the concerns were mentioned by all ten subjects (Figure 5.4). Specifically, this dimension involved concerns expressed after a match which abstracted into three second order sub-themes about 'personal performance', 'team performance', and 'negative perceptions by important others'. All ten wheelchair basketball players mentioned

Figure 5.3 On-court Concerns Inductive Content Analysis

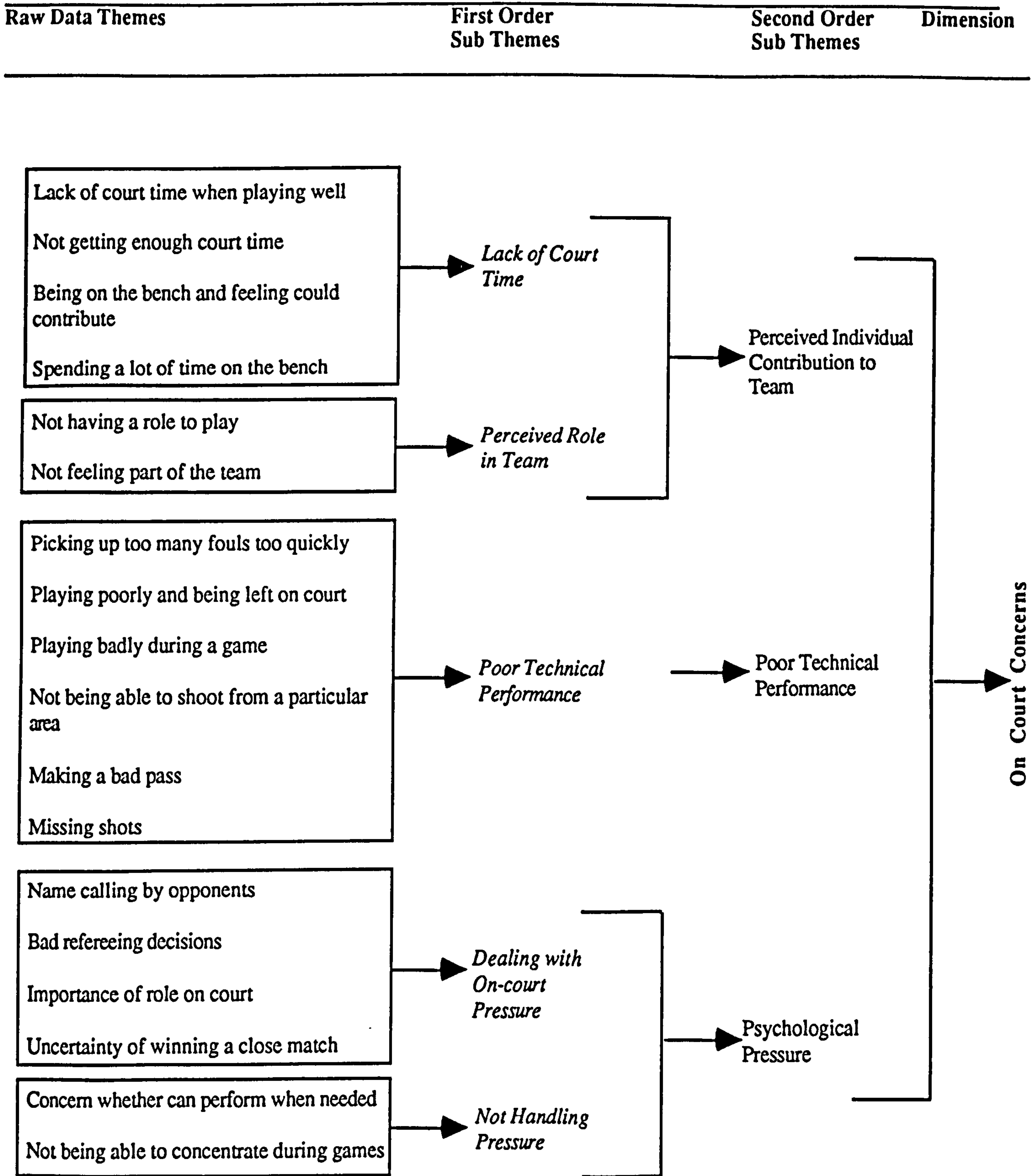
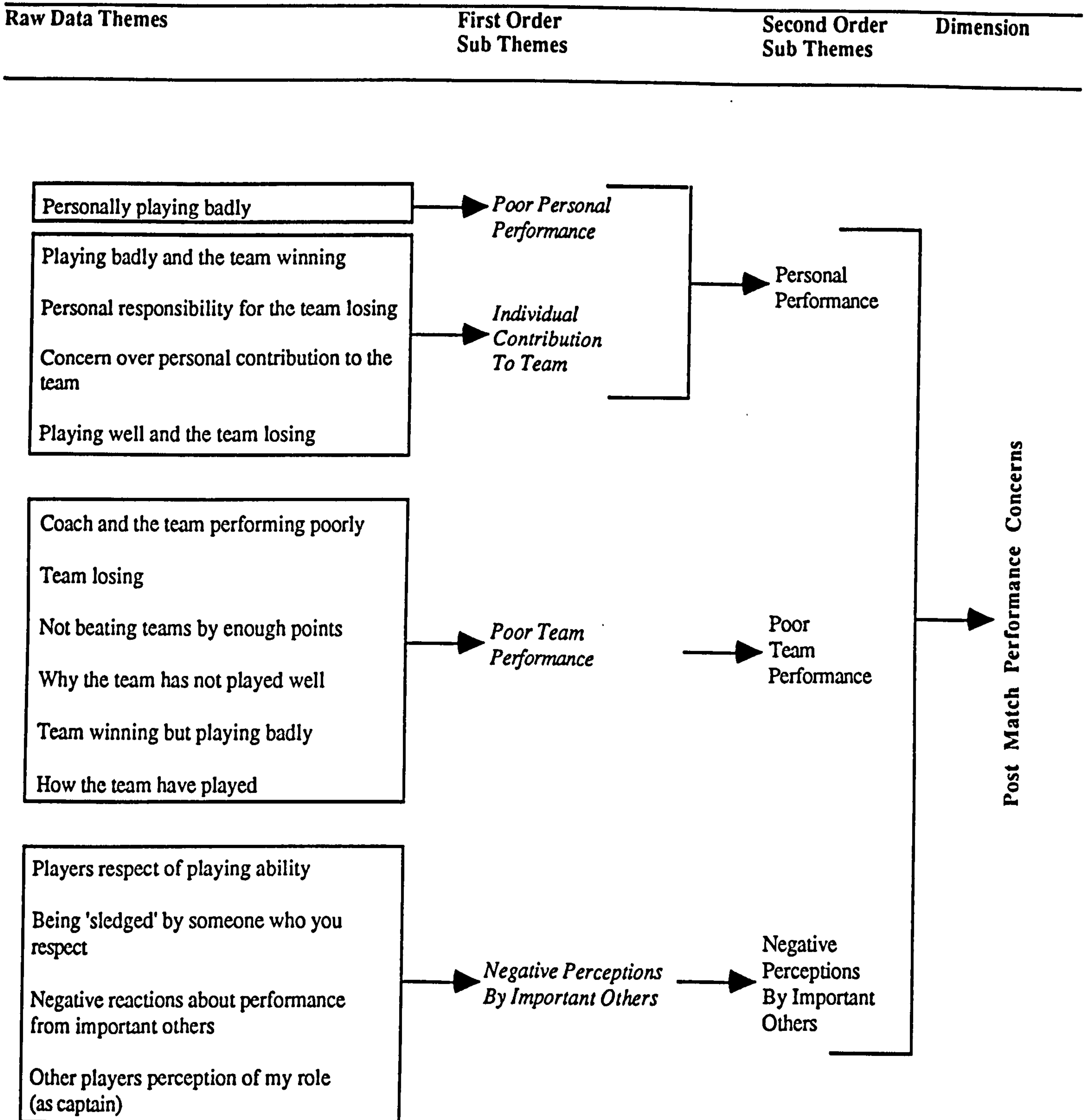


Figure 5.4 Post-Match Performance Concerns Inductive Content Analysis



experiencing concerns after matches due to their own personal performance, and also how they had contributed to the overall team performance. In addition, the team's performance itself appeared to be a source of stress to many players, as indicated in the comment below:

".. it should be a source of stress to everybody that the team hasn't played particularly well . Especially the team we've got anyway, because we have so much talent in that team and we all know when we've not had a particularly good game."

In addition, another source of stress reported by five of the players was how they believed other players perceived their basketball ability:

"If I think certain players don't respect my basketball ability, or they don't show me any respect based on my performance on-court, then that can have a real negative affect on my performance. I can really get stressed about it."

Negative Aspects of Major Event: Four second order sub-themes were abstracted from eighteen raw data themes mentioned by nine subjects (Figure 5.5). Specifically, the second order sub-themes were: 'dead time at an event', 'negative aspects of travel', 'negative social aspects' and 'poor domestic arrangements'. 'Dead time at event' was defined as time wasted due to event organisation that resulted in copious free time and subsequent boredom. Interestingly, time wastage linked to a disability-specific issue of lift availability; that is, having to spend time waiting for a lift due to large numbers of wheelchair users being resident in the same hotel. 'Negative aspects of travel' was also viewed as a source of stress and one subject highlighted how travel time may be extended due to being a wheelchair user:

"You're just sat in a seat on an aeroplane and it may be an hour before the plane takes off. You've been herded on board and thrown about all over the place and then you've got this long flight, and you know when you get to the other end you're going to be last off, and then you've got to go and sort your baggage out."

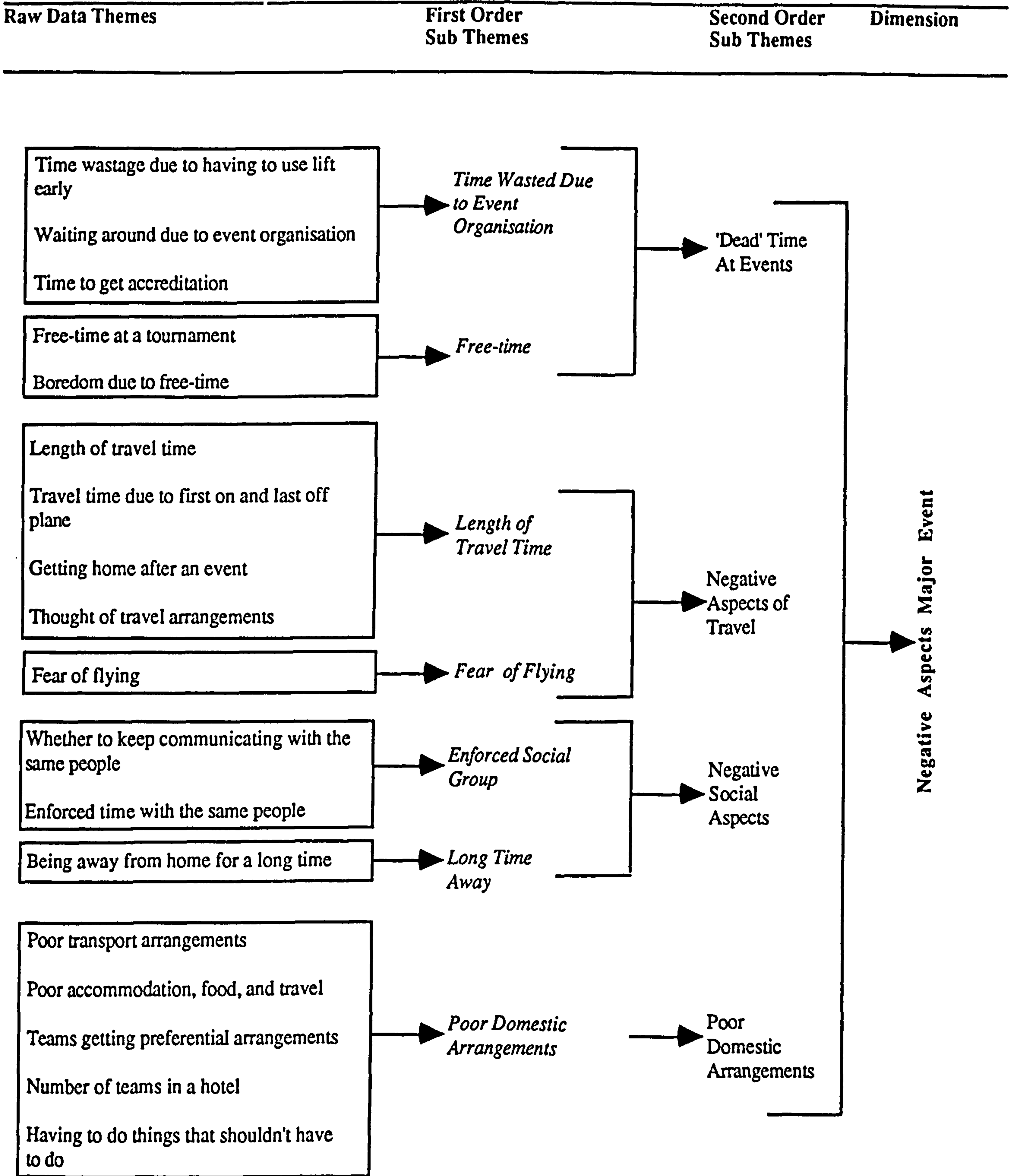
'Negative social aspects' was identified as an area of stress in terms of being restricted to the same social group whilst at a major event, and also not enjoying being away from home. These areas are nicely expressed in the following two quotes:

"there are times when I don't want to be with the same people, day after day, shower after shower."

"when I was in Paris I was really ready for home, it was a long time, I mean it's the longest time I've been away from my family, and I was ready for home."

The final second order sub-theme related to sources of stress caused by 'poor domestic arrangements' whilst at a major event. Examples of the types of factors

Figure 5.5 Negative Aspects Major Event Inductive Content Analysis



mentioned were poor transport arrangements, inappropriate food, poor accommodation, and the number of teams sharing one hotel.

Poor Group Interaction and Communication: This dimension contained twenty-three raw data themes which were mentioned by eight of the wheelchair basketball players, and abstracted into three second order sub-themes: 'ineffective communication', 'conflict on and off court' and 'negative group dynamics' (Figure 5.6). 'Ineffective communication' related to individuals concerns about going on-court and not being sure of their role, not being given appropriate feedback to rectify a poor performance, and also poor communication about team and individual performance after a game. The following comment clearly expresses this particular second order sub-theme:

"If your assistant coach, or coach or even other players just say 'unlucky', unlucky has not got anything to do with it, you want to know what you're doing wrong, and obviously, more importantly what to do to correct it, to rectify the situation. So to come off and sit down and have no communication and then be put back on court again, under your own steam can be extremely stressful, because you're going back with what you came off with."

'Conflict on and off court' emerged as an area of stress that some individuals experienced. The types of situations on-court identified as causing stress involved other players' inappropriate behaviour, and also players' perceptions of their own behaviour upsetting other team members. Conflict off court appeared to involve the coach, team manager and other players. The nature of the reported conflict off-court related to basketball and general issues, for example who they had to share a room with.

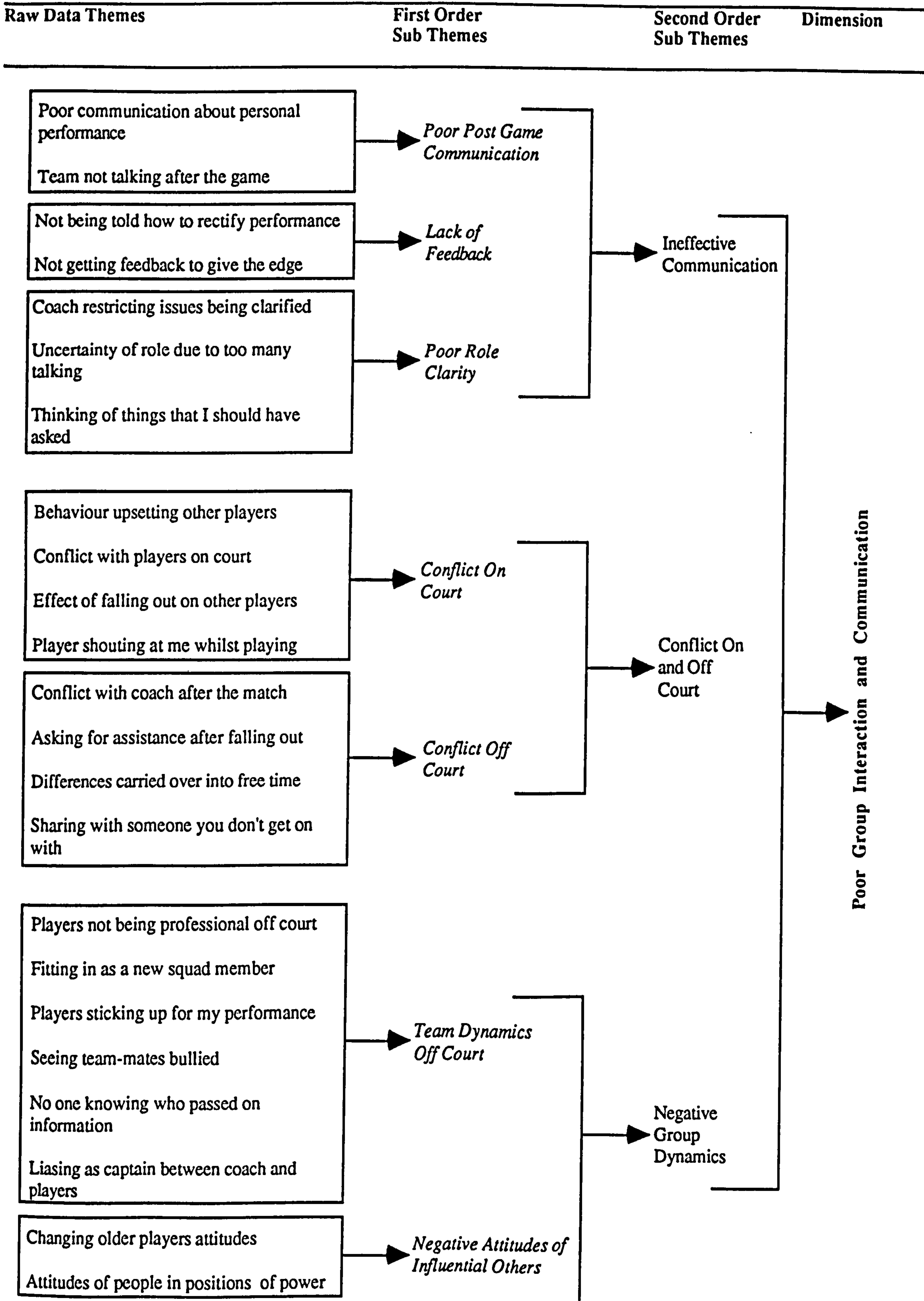
The final second order sub-theme 'negative group dynamics' was defined as team dynamics off court. Examples included bullying, unprofessional behaviour, and being a new squad member. In addition, two players reported that negative attitudes of influential others could cause them stress.

Negative Coaching Style/Behaviour: This dimension emerged from ten raw data themes and was mentioned by five of the basketball players (Figure 5.7). The raw data themes emerged into two second order sub-themes: 'poor coaching decisions', and 'negative coaching style'. This dimension shows that the coach may be a source of stress to certain players:

"if we're not playing to our maximum potential because of poor coaching decisions then that can cause me a lot of stress."

"I used to be frightened to death of doing something wrong, because, if you did anything wrong you know you were off-court."

Figure 5.6 Poor Group Interaction and Communication Inductive Content Analysis



Relationship Issues: This dimension included eight raw data themes mentioned by six players (Figure 5.8). The raw data themes were abstracted directly into two second order sub-themes: 'relationship with partner' and 'separation from partner'. The following two quotes depict the meaning of the two second order sub-themes:

"I didn't want to go home to tell our lass that I'd been picked and that I'd be going away on Friday, so that was quite stressful ... Basically, she doesn't like me playing basketball".
"The longer you're away, the worse it is, and even training sessions as well, that can be a problem if you were only away for just Saturday night, it would cause so fewer problems."

Demands or Costs of Wheelchair Basketball: Seven wheelchair basketball players mentioned sources of stress in this dimension (Figure 5.9). Two second order sub-themes were used to define this particular dimension; 'lack of finance' and 'commitments outside basketball'. 'Lack of finance' was reported by three players to be a source of stress and involved lack of finance to travel, cost of equipment, and also the cost of hiring training venues. The other area 'commitments outside basketball' referred to sources of stress players experienced relative to attempting to combine basketball, work and family commitments.

Lack of Disability Awareness: This particular dimension was mentioned by four wheelchair basketball players. Eight raw data themes emerged into two second order sub-themes; 'poor access' and 'lack of understanding of needs'. 'Poor access' encompassed access to accommodation, competition venues, and toilets. The other second order sub-theme, 'lack of understanding of needs', related to other individuals not being aware of needs relating to the nature of the disability. The following two quotes clarify the two sub-themes outlined above:

"I mean flying doesn't bother me at all, but getting to the toilet on the plane does, so things like that can upset you."

"Sometimes if you get put in with somebody like an escort, he doesn't understand the things you have to do in the morning, you know you're just not going to sit down and explain everything about it, I'm just not going to do that."

5.2.2 STRESS SOURCE CHARACTERISTICS

Figures 5.11 and 5.12 illustrate the mean ratings of the ten stress source dimensions in terms of the degree to which they were perceived to be challenging, threatening, and caused harm/loss (Figure 5.11), and also their controllability, severity, and frequency (Figure 5.12). From viewing Figure 5.11, it appears that each stress source was appraised to have a degree of challenge, threat and harm/loss. However, certain sources of stress were perceived as more threatening than challenging (e.g., 'relationship

Figure 5.7 Negative Coaching Style/Behaviour Inductive Content Analysis

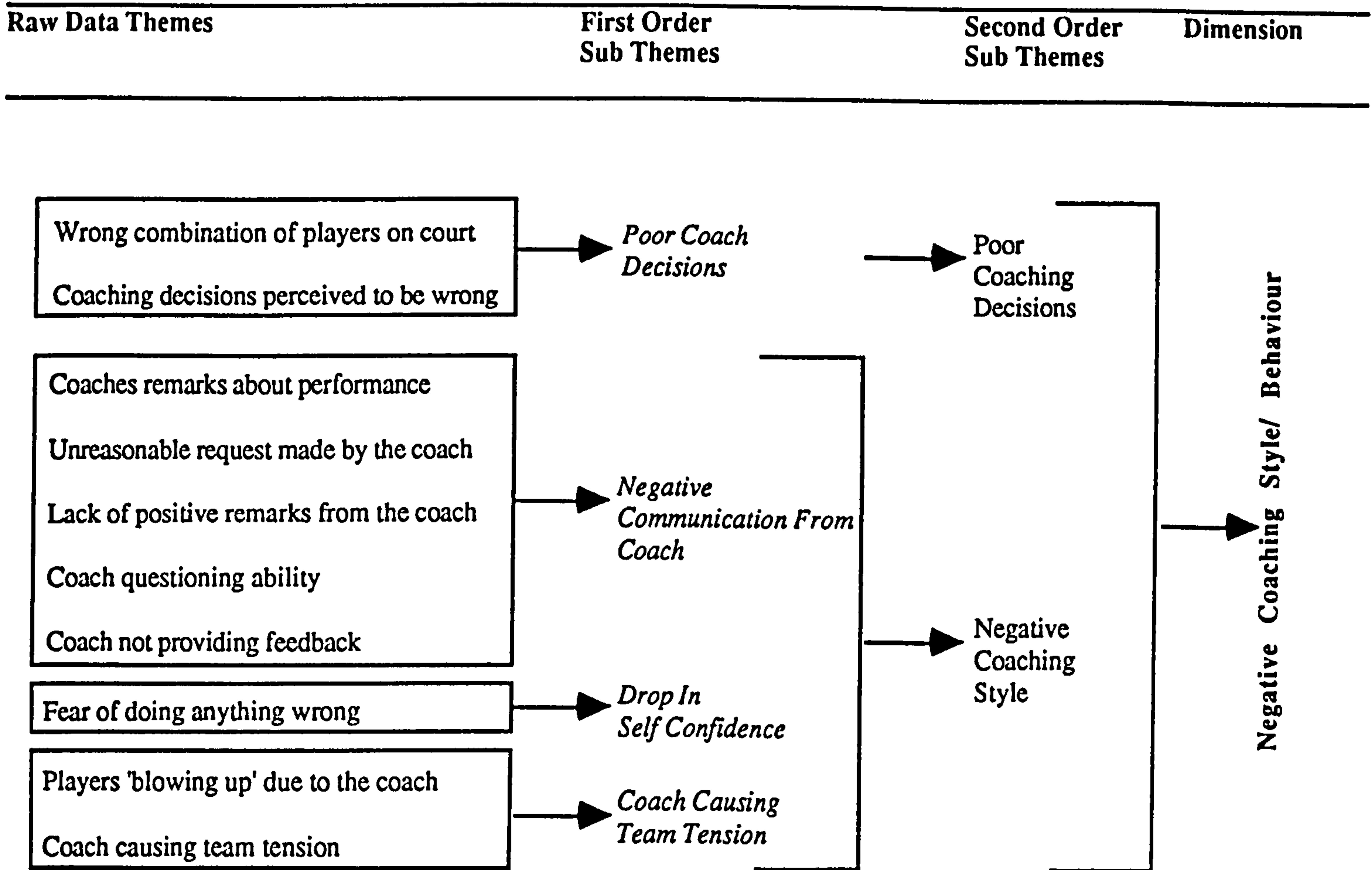


Figure 5.8 Relationship Issues Inductive Content Analysis

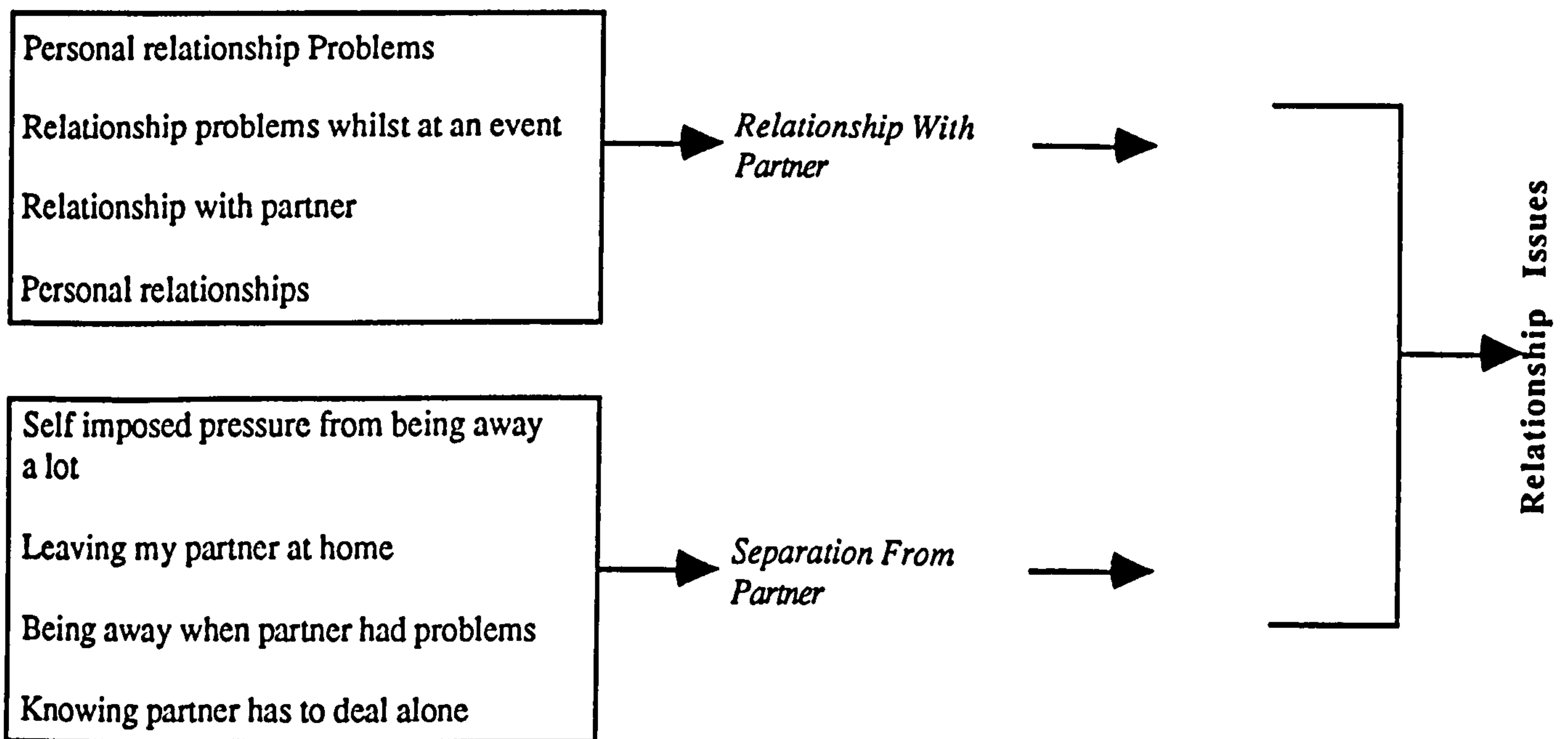


Figure 5.9 Demands or Costs of Wheelchair Basketball Inductive Content Analysis

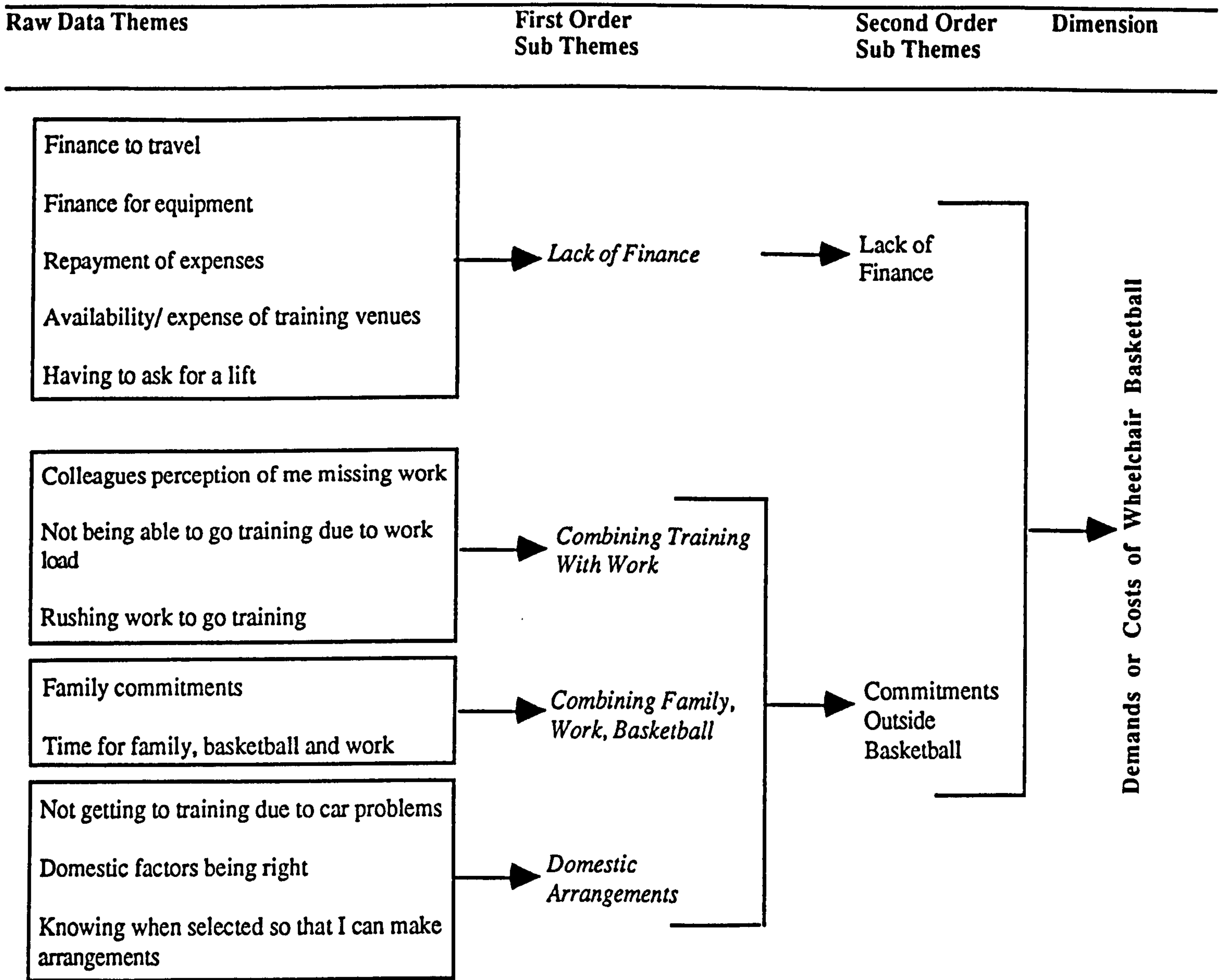
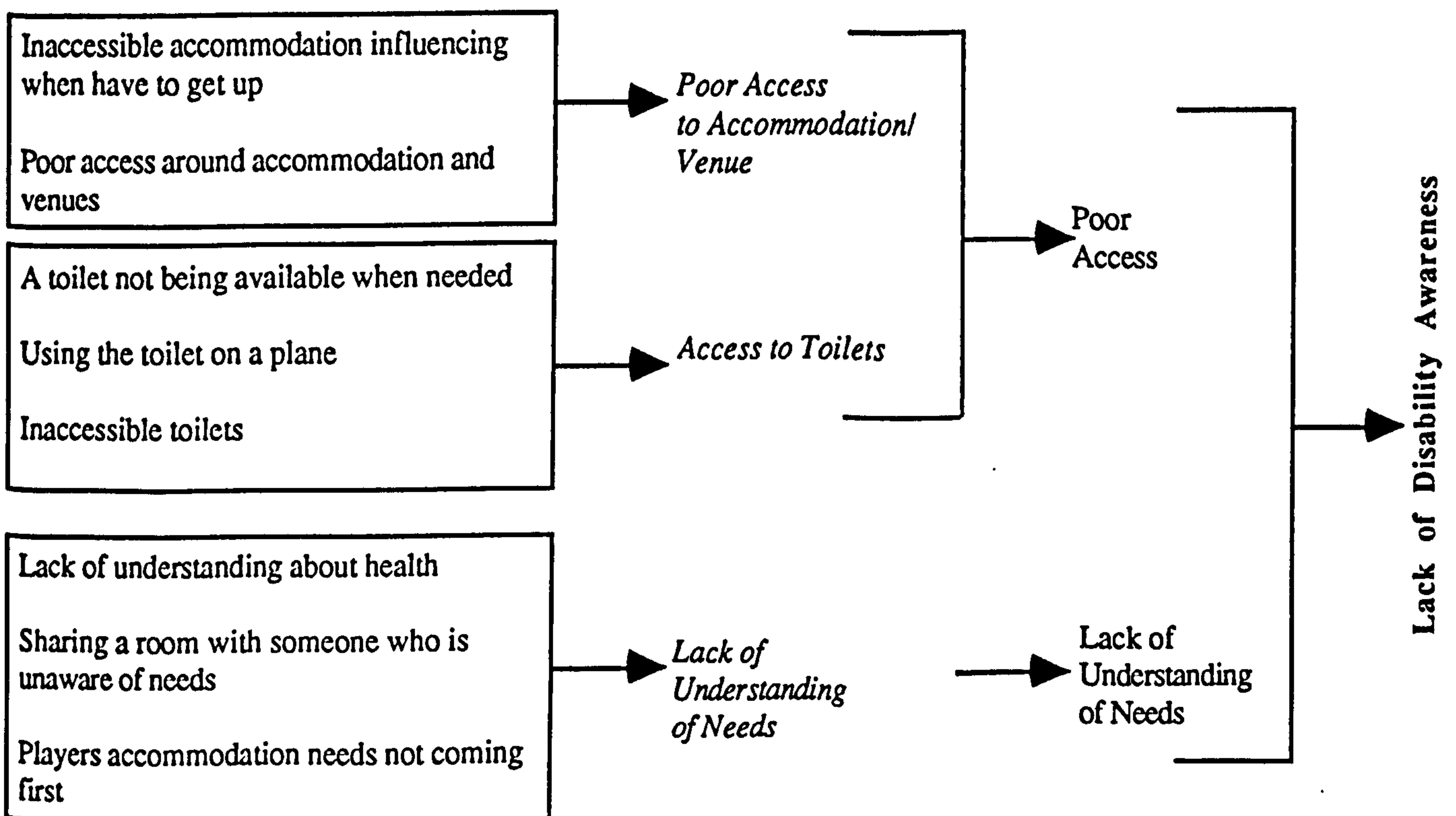


Figure 5.10 Lack of Disability Awareness Inductive Content Analysis



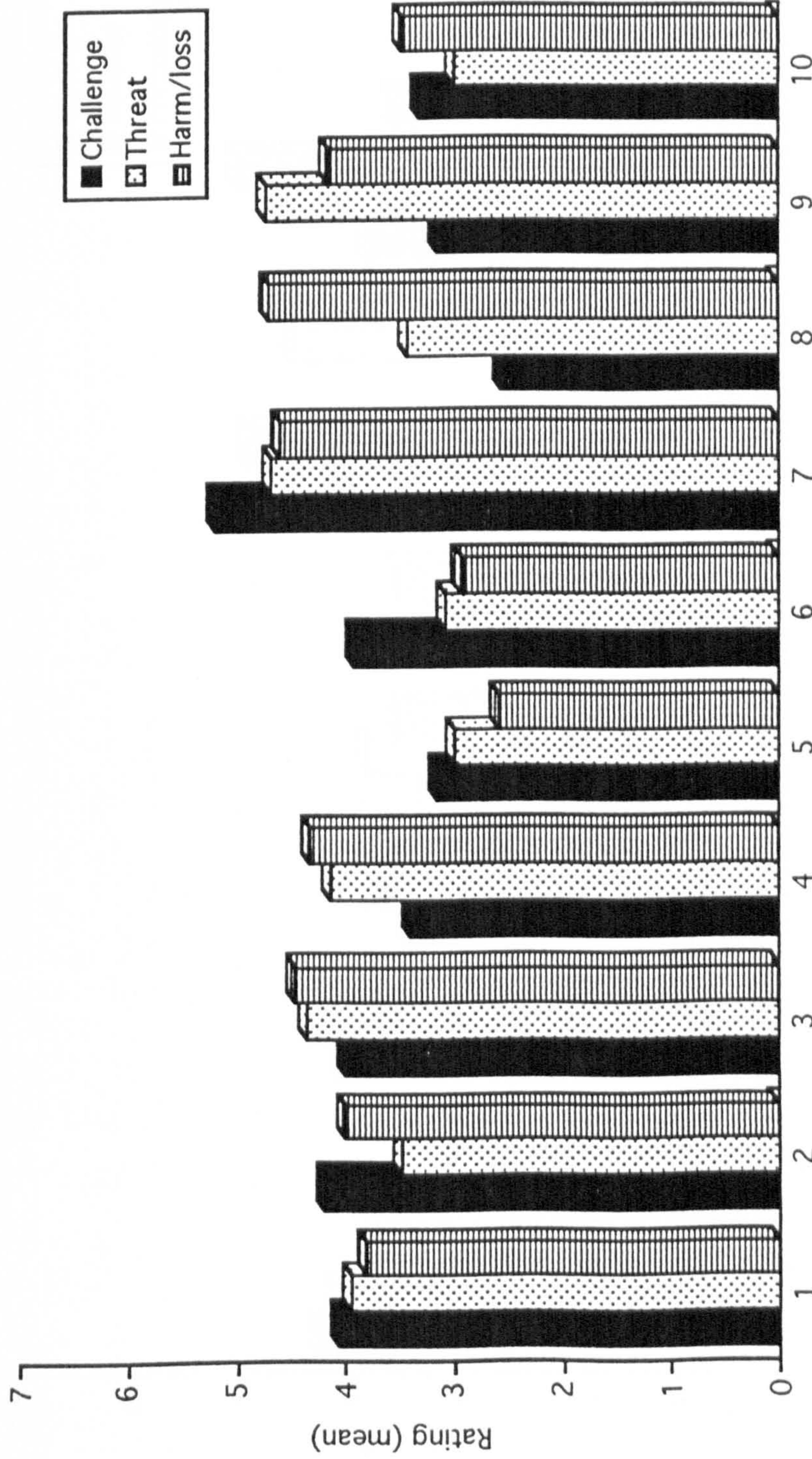
issues') and others as more challenging than threatening (e.g., 'poor group interaction and communication'). In addition, other sources of stress showed little disparity between the appraisals of challenge, threat and harm/loss (e.g., 'pre-event' and 'on-court concerns'). Figure 5.12 illustrates that each stress source was perceived to have a degree of control, severity and frequency. However, there were obvious differences between stress sources on certain characteristics; for example; 'negative coach style/behaviour' and 'demands or costs of wheelchair basketball' occurred more frequently than the other eight sources of stress, and 'relationship issues' and 'lack of disability awareness' were perceived to have the least degree of control.

Figures 5.11 and 5.12 purely enable a pictorial insight into the characteristics of the ten stress source dimensions. To facilitate a more in-depth analysis the ten stress source dimensions were rank ordered, based on their mean scores, for each of the six stress source characteristics (Table 5.2). It would appear that the source of stress perceived to be the most challenging was 'negative coach style/behaviour' (rank 1; mean = 5.2) and the least challenging was 'relationship issues' (rank 10; mean = 2.57). In terms of the perception of threat 'demands or costs of wheelchair basketball' and 'negative coach style/behaviour' were ranked the highest (mean values of 4.75 & 4.70 respectively), and 'lack of disability awareness' and 'negative aspects of a major event' the lowest (both mean values of 3.0). The two sources of stress perceived to cause the greatest harm or loss were 'relationship issues' (mean = 4.71) and 'negative coach style/behaviour' (mean = 4.60), and the lowest was 'negative aspects of a major event' (mean = 2.58). Two competition-related sources of stress were viewed as having the greatest degree of control; 'pre-event concerns' (mean = 4.32) and 'on-court concerns' (mean = 4.14). The source of stress viewed to have the least degree of control was 'relationship issues' (mean = 2.57). In terms of severity, the least severe source of stress was perceived to be 'lack of disability awareness' (mean = 2.33) and the most severe 'demands or costs of wheelchair basketball' (mean = 4.67) and 'relationship issues' (mean = 4.57). The final stress source characteristic, frequency, showed 'demands or costs of wheelchair basketball' and 'negative coach style/behaviour' to be the source of stress that occurred most frequently (mean values of 5.08 & 5.00 respectively), and the least frequently occurring was 'lack of disability awareness' (mean = 3.0).

5.2.3 RELATIONSHIP BETWEEN STRESS SOURCE CHARACTERISTICS

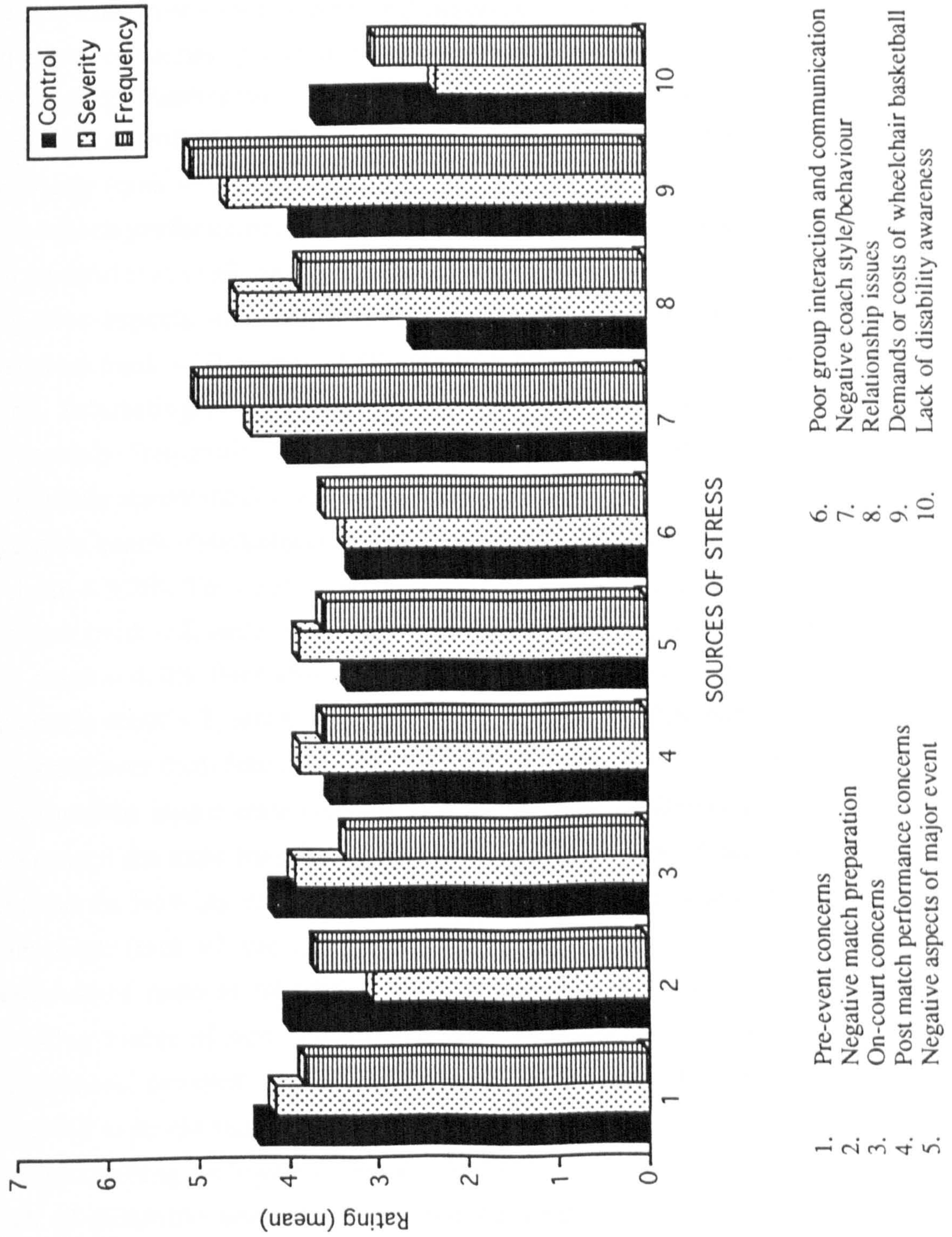
This section details the characteristics of each of the ten stress source dimensions, and then considers any trends in relationships between stress source characteristics. Delineated below are the ten stress source dimensions, drawing attention

Figure 5.11 Mean challenge, threat and harm/loss rating scores for the ten stress source dimensions



1. Pre-event concerns
2. Negative match preparation
3. On-court concerns
4. Post match performance concerns
5. Negative aspects of major event
6. Poor group interaction and communication
7. Negative coach style/behaviour
8. Relationship issues
9. Demands or costs of wheelchair basketball
10. Lack of disability awareness

Figure 5.12 Mean control, severity and frequency rating scores for the ten stress source dimensions



to interesting findings based both on their rank number and mean rating value (see Table 5.2).

- **Pre-event concerns** were viewed as being more challenging, than threatening or caused harm/loss. Interestingly, pre-event concerns were perceived to be the most controllable stress source dimension (mean = 4.32).
- **Negative match preparations** were perceived to be more challenging than threatening or caused harm/loss. In addition, relative to other stress source dimensions, individuals perceived they had a reasonable degree of control (rank = 3; mean = 4.00) over stressors occurring immediately prior to a match.
- **On-court concerns** appeared to be considered more threatening and harmful than challenging. Furthermore, sources of stress occurring on-court were viewed as relatively controllable (rank = 2; mean = 4.14) and were reported to occur moderately frequently (rank = 9; mean = 3.36).
- **Post-match performance concerns** were generally perceived to be more threatening and harmful than challenging.
- **Negative aspects of a major event** were viewed to be the lowest in terms of harm/loss (rank = 10; mean = 2.58), and also low in terms of threat (rank = 9; mean = 3.00). Interestingly, organisational stressors at major events appeared to occur moderately frequently (rank = 3; mean = 3.69), yet were not perceived to be particularly severe (rank = 8; mean = 3.33).
- **Negative coach style/behaviour** was considered to be the most challenging (rank = 1; mean = 5.20). The coaches style/behaviour was also perceived to be high in terms of threat (rank = 2; mean = 4.70), harm/loss (rank = 2; mean = 4.60), and severity (rank = 3; mean = 4.40). Furthermore, sources of stress in this area were reported to occur frequently (rank = 2; mean = 5.00). Individuals believed they had a reasonable degree of control over them (rank = 3; mean = 4.00).
- **Relationship issues** were considered to be the least challenging (mean = 2.57) and also caused the most harm/loss (mean = 4.71). In addition, individuals believed that they had the least control (mean = 2.57) over relationship issues and viewed them as quite severe (rank = 2; mean = 4.57).
- **Demands or costs of wheelchair basketball** were reported as the most frequently occurring source of stress (mean = 5.08), and also the most severe (mean = 4.67). Furthermore, stressors relating to demands or costs of wheelchair basketball were perceived to be the most threatening (mean = 4.75), yet were relatively low in terms of being challenging (rank = 8; mean = 3.17).
- **Lack of disability awareness** was ranked lowest on severity (mean = 2.33) and frequency (mean = 3.00), and was not perceived as particularly threatening (rank = 9; mean = 3.00).

Table 5.2 Mean, Range and Rank Number for the Stress Source Characteristics for Each of the Stress Source Dimensions

	CHALLENGE			THREAT			HARM/LOSS			CONTROL			SEVERITY			FREQUENCY		
	Mean	Range	Rank	Mean	Range	Rank	Mean	Range	Rank	Mean	Range	Rank	Mean	Range	Rank	Mean	Range	Rank
Pre-event concerns	4.05	3 - 7	3	3.95	2 - 6	5	3.82	2 - 6	7	4.32	3 - 7	1	4.14	3 - 7	4	3.82	3 - 7	5
Negative match preparation	4.19	3 - 7	2	3.50	3 - 6	6	4.00	3 - 6	6	4.00	3 - 7	3	3.06	1 - 5	9	3.69	2 - 5	6
On-court concerns	4.00	3 - 6	4	4.36	2 - 6	3	4.46	3 - 6	3	4.14	4 - 5	2	3.93	2 - 5	5	3.36	2 - 4	9
Post match performance concerns	3.40	1 - 7	6	4.13	3 - 6	4	4.33	3 - 6	4	3.53	3 - 5	7	3.97	3 - 6	6	3.60	2 - 5	7
Negative aspects of major event	3.17	1 - 5	8	3.00	1 - 5	9	2.58	1 - 4	10	3.33	2 - 5	8	3.33	1 - 5	8	3.69	2 - 7	3
Poor group int & communication	3.93	2 - 5	5	3.07	2 - 5	8	2.93	2 - 4	9	3.29	2 - 6	4	3.36	2 - 6	7	3.57	3 - 5	8
Negative coach style/behaviour	5.20	3 - 7	1	4.70	2 - 7	2	4.60	2 - 6	2	4.00	3 - 5	3	4.40	3 - 7	3	5.00	4 - 6	2
Relationship issues	2.57	1 - 5	10	3.43	2 - 6	7	4.71	4 - 6	1	2.57	1 - 3	10	4.57	4 - 7	2	3.86	3 - 7	4
Costs or demands of wheelchair basketball	3.17	1 - 6	8	4.75	2 - 7	1	4.17	3 - 7	5	3.92	2 - 5	5	4.67	3 - 7	1	5.08	4 - 7	1
Lack of disability awareness	3.33	2 - 4	7	3.00	1 - 4	9	3.50	1 - 4	8	3.67	3 - 6	6	2.33	1 - 4	10	3.00	1 - 3	10

The data reported in Table 5.2 suggests several trends in terms of relationships between stress source characteristics. Firstly, stress source dimensions perceived to have the greatest degree of control were also viewed as the most challenging. This trend is highlighted in Figure 5.13 where it is illustrated that the top four ranked stress source dimensions in terms of controllability were also ranked top four in terms of being challenging; 'negative coach style/behaviour', 'negative match preparations', 'pre-event concerns', and 'on-court concerns'. A further observable trend appeared to be that stress source dimensions ranked low on challenge, yet high on threat and/or harm/loss (negative cognitive appraisal), were perceived as being severe. This trend was apparent for the stress source dimensions 'relationship issues' and 'costs or demands of wheelchair basketball'. The stress source dimensions ranked highest and lowest on severity and frequency were the same i.e., lack of disability awareness (lowest on both), and costs or demands of wheelchair basketball (highest on both). However, on further investigation this relationship was not apparent for any of the other stress source dimensions (see Figure 5.14). Finally, it should be noted that although there appear to be certain trends in the data, there were individual differences reported for each stress source characteristic for each of the ten stress dimensions; these are seen in the range of scores reported in the Table 5.2.

5.3 DISCUSSION

The purpose of this chapter was to identify the sources of stress experienced by elite wheelchair basketball players. This was achieved through the use of retrospective interview techniques and inductive content analysis procedures. The study was the first to examine the sources of stress of elite wheelchair sport participants via either qualitative or quantitative methods. Furthermore, previous research using retrospective interviews has only considered elite figure skaters and wrestlers; therefore, the present study was also the first to consider team sport participants. The ensuing discussion is structured in three sections; sources of stress of elite wheelchair basketball players; stress source characteristics; summary and implications for practitioners and future research.

5.3.1 SOURCES OF STRESS OF ELITE WHEELCHAIR BASKETBALL PLAYERS

The findings from the present study supported the hypothesis that elite wheelchair basketball players would experience both competition and non-competition sources of stress. Specifically, the interviews revealed a wide range of stressors that directly related to competition ('pre-event concerns', 'negative match preparations', 'on-

Figure 5.13 Relationship Between Challenging and Controllability Ranks

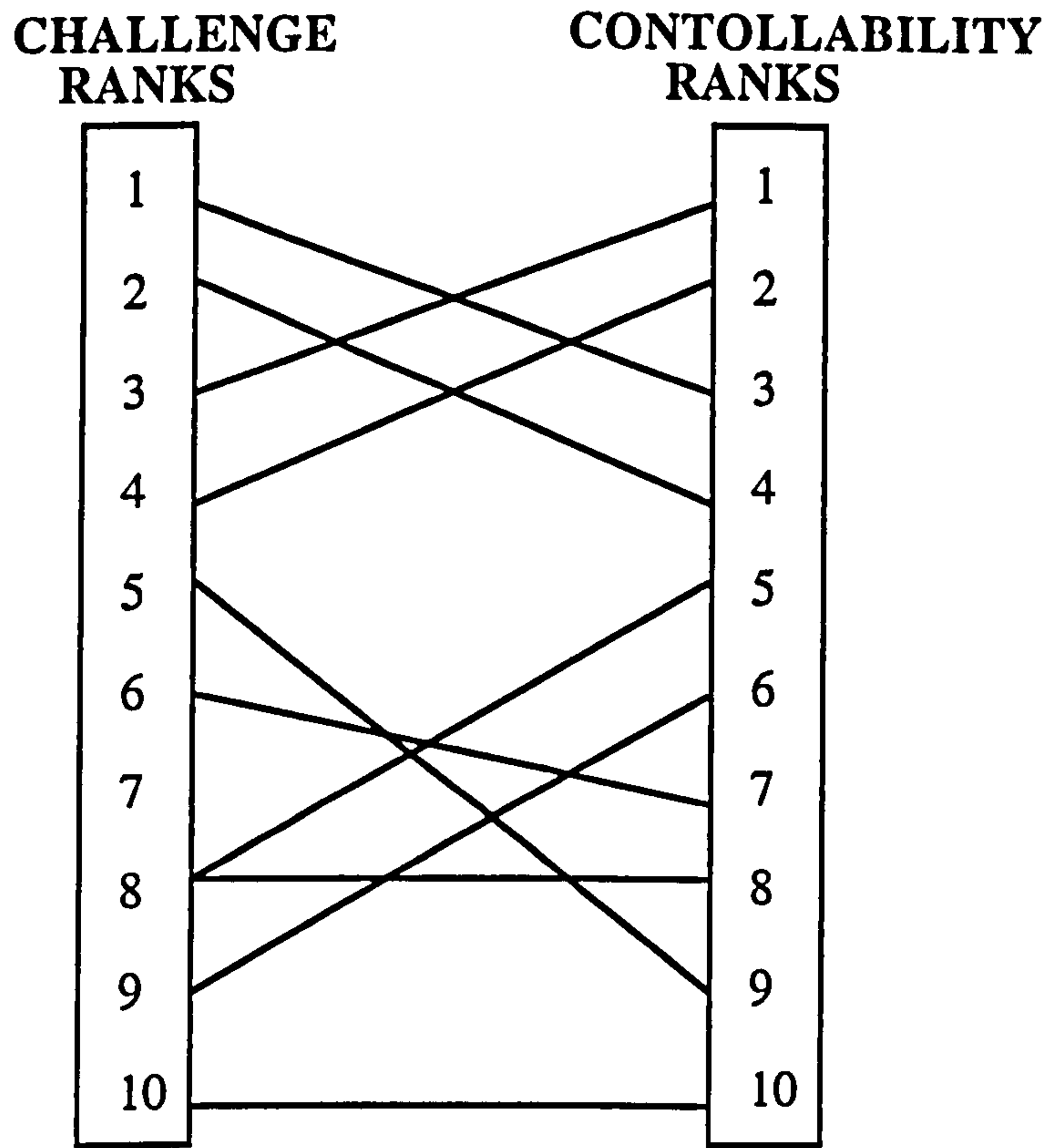
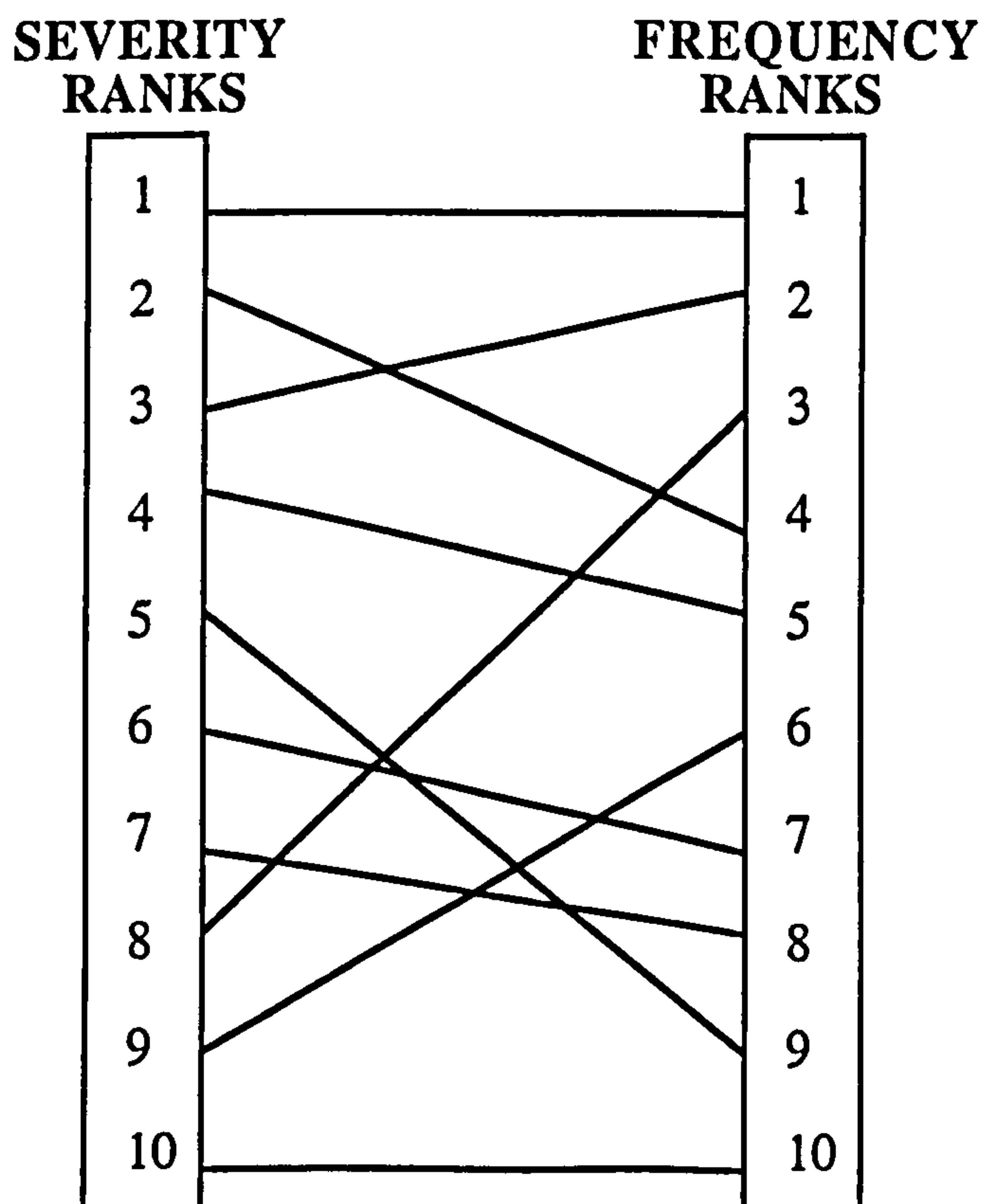


Figure 5.14 Relationship Between Severity and Frequency Ranks



court concerns', and 'post-match performance concerns') as well as stressors from outside the competition milieu ('negative aspects of major events', 'negative coach style/behaviour', 'relationship issues', 'demands or costs of wheelchair basketball', and 'lack of disability awareness'). These findings support two previous qualitative studies which reported that elite figure skaters experienced both competition and non-competition sources of stress (Gould et al., 1993; Scanlan et al., 1991).

The competition sources of stress identified in the present study depict the dynamic nature of the competition process. Specifically, the competition stressors identified categorised into four distinct time periods; pre-event, pre-match, on-court, and post-match. These findings support the importance of examining stress as a process that unfolds over time (Lazarus, 1990, 1993). Specifically, the stress source dimensions identified in the present study included: 'pre-event concerns', which involved medical factors, and individual and team preparation worries; 'negative match preparations', which was associated with concerns about environmental factors and inappropriate physical preparation; 'on-court concerns' which related to poor technical performance, perceived contribution to the team, and psychological pressure; and 'post-match preparation' which concerned individual and team performance, and negative perceptions of ability by important others. Interestingly, the specific stressors mentioned during 'pre-event concerns' and 'negative match preparations' are similar to those previously reported as antecedents of cognitive anxiety and self-confidence in elite middle-distance runners; these were perceived readiness to perform and performance environment (Jones, et al., 1990).

The stress source dimension 'negative aspects of major event' incorporated stressors such as; boredom due to 'dead' time, length of travel time, enforced time with the same social group, and poor domestic arrangements. These findings support previous research which has reported that major international events such as the Olympic games have the potential to be extremely stressful (Feigley, 1987; Gould et al., 1990; Murphy, 1986; Orlick & Partington, 1988). These results have implications in terms of educating event organisers and support staff as to the nature of major event stressors and how they may assist in eliminating or alleviating them. Furthermore, athletes need to be personally aware of the factors which cause them stress at major events, and ensure that they have strategies to deal with them.

The non-competition sources of stress identified by elite wheelchair basketball players were diverse; 'poor group interaction and communication', 'negative coach style/behaviour', 'relationship issues', 'demands or costs of wheelchair basketball', and 'lack of disability awareness'. Three of these general dimensions appear to relate to interaction and communication with important others (i.e., coaches, other players and partner): 'poor group interaction and communication' (e.g., ineffective communication,

conflict on and off court, negative group dynamics); 'negative coaching style/behaviour' (e.g., poor coaching decisions, negative coaching style); and 'relationship issues' (e.g., relationship with partner, separation from partner). Sources of stress relating to important others (i.e. coach, other players, and partner) were also identified as stressors for elite figure skaters (Gould et al., 1993; Scanlan et al., 1991). The findings reported in the present study, and previous research in the sport area, provide support for Carpenter and Scott's (1992) suggestion that important others, whom individuals may rely on, can also be major sources of stress.

A further non-competition source of stress was 'costs or demands of wheelchair basketball'. Specifically, wheelchair basketball players reported experiencing stress related to finance (cost of equipment, travel expenses, and hiring training venues), and also balancing time commitment between work, family and basketball. These findings once again support those reported for elite figure skaters (Gould et al., 1993; Scanlan et al., 1991). It would appear that appropriate others (e.g., sport associations, sponsors) need to be made aware that finance is a potential stressor and assist, wherever possible in raising appropriate funds or helping to alleviate fears. In addition, wheelchair basketball players need to consider developing more effective time management skills to effectively deal with the various commitments which make demands on their time.

As stated earlier, the present study was unique in two respects; it was the first to investigate the sources of stress experienced by elite wheelchair sport participants, and also the first to consider team, as opposed to individual, sport participants. Irrespective of these differences, it would appear that some of the findings from the present study are similar to those reported for elite figure skaters (Gould et al., 1993; Scanlan et al., 1991). Specifically, both elite figure skaters and wheelchair basketball players reported experiencing stress from; significant others, competitive anxiety doubts, physical demands and environmental demands. However, although experiencing stressors in similar general areas, further exploration suggests that there are differences in the specific nature of certain stressors. For example, in the stress source dimension 'physical demands' figure skaters reported weight problems, whereas wheelchair basketball players reported concerns over pressure sores. These findings highlight that some stressors experienced are specific to the population under investigation (i.e., sport participants with disabilities). Further to this, one of the stress source dimensions that emerged in the present study was very specific to disability; 'lack of disability awareness'. This dimension was characterised by stressors relating to poor access to competition venues, hotel accommodation and toilets, and a lack of understanding of the needs relating to disability. These results clearly suggest that possessing a disability may create additional stressors to those experienced by able-bodied sport participants. However, it would appear that the sources of stress experienced are not necessarily caused by an individual's disability per

se, but by the handicaps created by society in terms of physical and attitudinal barriers. This supports suggestions made by Knussen and Cunningham (1990) that disability itself may not be a stressor, but it may create vulnerabilities to experience stress due to barriers imposed by society. However, it must be noted that only four of the ten wheelchair basketball players mentioned experiencing stressors in this particular stress source dimension. Future research should consider exploring the nature of sources of stress experienced by elite sport participants with different disabilities; for example sight impairment, cerebral palsy and individuals with a learning disability.

The second unique aspect of the present study was that it considered team sport participants. In this respect, the findings appear to suggest that team sport participants experience certain sources of stress that are directly associated to being a member of a team. For example, 'pre-event concerns' are not purely related to concerns about personal preparation but to the preparation of other team members and the team as a whole. Similarly, 'post-match performance concerns' are not solely concerned with an individual's own performance but with the performance of the whole team. Other stress source dimensions which also appeared to be associated to playing a team sport included: 'poor group interaction and communication' (e.g., conflict on and off court, poor role clarity, negative group dynamics); 'negative coach style/behaviour' (e.g., poor coaching decisions); and 'on-court concerns' (e.g., perceived role in the team, lack of court time). Some of the stress sources identified appear to be generic to participating in any team sport (e.g., 'poor group interaction and communication' and 'negative coach style/behaviour'). Other stressors, on the other hand, appear to be directly related to the nature of 'wheelchair basketball'. These findings suggest that team and individual sport participants may experience similar and also dissimilar sources of stress. In addition, certain sources of stress may be related to the specific nature of a particular sport. Future research needs to investigate further the sources of stress that may be common across team sports, and also identify those that are specific to particular sports.

In summary, elite wheelchair basketball players in the present study reported experiencing a diverse range of competition and non-competition sources of stress. The specific stress source dimensions that emerged appear to support those that Jones (1995) summarised elite able-bodied sport performers to experience: readiness and performance problems; interpersonal and management problems within the team; competition organisation and officiating problems; and financial and time pressures. However, the findings also suggest that elite wheelchair basketball players experience stressors related to their disability, and other stressors associated to participating in a team sport. The next section considers the characteristics of the sources of stress discussed in the present section.

5.3.2 STRESS SOURCE CHARACTERISTICS

In addition to asking wheelchair basketball players to describe their sources of stress, individuals were also asked to rate each source of stress, in terms of the degree to which they perceived it to be challenging, threatening, harmful, controllable, severe and the frequency with which it occurred. Obtaining information about the characteristics of sources of stress has been suggested as important in both the sport and general psychology literature (Bjork & Cohen, 1993; Bouffard & Crocker, 1992; Hardy et al., 1996; McCrae, 1984). The findings from the present study generally showed a mixture of appraisals in terms of the degree to which a source of stress was perceived to be challenging, threatening and caused harm/loss. This supports previous research which suggests that, due to the dynamic nature of stress, it is very difficult to label stressors as being purely challenging, threatening or causing harm/loss (Bjork & Cohen, 1993; Folkman & Lazarus, 1985; McCrae, 1984). Previous research in sport psychology has attempted to categorise situations as either challenging, threatening or harm/loss in an attempt to determine how individuals cope (Bouffard & Crocker, 1992; Crocker & Bouffard, 1990). The present study's findings suggest a limitation in previous studies due to a lack of acknowledgement of the dynamic nature of stress, and the consequent diverse appraisal patterns. Future research should, therefore, consider assessing the appraisal patterns of sources of stress by perhaps adopting a similar method to that successfully used in the present study; that is, combining qualitative and quantitative methods.

The findings from the present study support the second hypothesis made that sources of stress perceived to be the most controllable would also be viewed as the most challenging. Specifically, the top four rated sources of stress in terms of controllability were also rated as the top four in terms of degree of challenge: these were; 'negative coach style/behaviour', 'negative match preparation', 'pre-event concerns', and 'on-court concerns'. The current study's findings, therefore, support previous research that has demonstrated a positive relationship between controllability and challenging appraisals (Lazarus & Folkman, 1984; McCrae, 1984). Interestingly, the sources of stress identified were all related to competing in wheelchair basketball. Perceived challenge has previously been identified as a critical factor in determining positive affect and continued involvement in physical activity (Crocker & Bouffard, 1992; Wankel & Berger, 1990). Therefore, it would seem encouraging that elite wheelchair basketball players perceive competition as challenging since this will assist in maintaining commitment to the training necessary to compete at an elite level.

The third hypothesis that sources of stress viewed as uncontrollable would be appraised as high in terms of threat or harm/loss, was not supported. However, the findings do suggest that sources of stress appraised as low on challenge and high on threat or harm/loss (i.e., negative appraisal) rated high in terms of severity in comparison

to other sources of stress. Two sources of stress showed this particular trend; 'relationship issues' and 'costs or demands of wheelchair basketball'. These findings have implications for coaches and sport psychologists in assisting athletes to develop strategies to enable them to re-appraise situations to be more challenging, less threatening and hopefully less severe.

Interestingly, 'lack of disability awareness' was rated lowest in terms of severity and frequency and was viewed not to be very challenging, threatening, or harm/loss. Subjects experiencing sources of stress in this area did not appear to perceive them as particularly major sources of stress. Similarly, the stress source characteristic data for 'negative aspects of a major event' does not support it being a major source of stress. Specifically, 'negative aspects of a major event' was viewed as low on challenge, threat, harm/loss and severity. However, a source of stress that does appear to be major was 'negative coach style/behaviour'; ranked high on all stress source characteristics i.e., challenge, threat, harm/loss, control, severity, and frequency. These findings appear to support the importance of assessing stress source characteristics in attempting to fully understand stress in sport. Without stress source characteristic data, it may not be possible for researchers to distinguish between individual stress sources. In reality, however, some stressors may be mere 'niggles' (e.g., 'lack of disability awareness', 'negative aspects major event'), whereas others might represent relatively major sources of stress (e.g., 'negative coach style/behaviour').

5.3.3 SUMMARY

Elite wheelchair basketball players appear to experience a diverse range of sources of stress that are both competition and non-competition-specific. The competition sources of stress reflected the dynamic competition process and were generally viewed to be challenging and controllable. Findings were similar to those reported for elite figure skaters, in that all experienced sources of stress relating to 'relationship issues', 'demands or costs of wheelchair basketball', and 'negative aspects of competition' (Gould et al., 1993; Scanlan et al., 1991). Furthermore, the dimensions which emerged were essentially the same as those stressors which Jones (1995a) reported elite able-bodied sport participants to experience. The present study also identified stressors that were disability-specific and others that were sport-specific (e.g., 'lack of disability awareness' and 'on-court concerns'). The most severe sources of stress appeared to be 'relationship issues' and 'costs and demands of wheelchair basketball'. It was interesting to note that although certain stressors were identified, they were not perceived to be major stressors (e.g., 'lack of disability awareness' and 'negative aspects of major event'). These findings support the need to acquire information about the characteristics of stress sources to thus enable

researchers and practitioners to gain a greater understanding of the stress sources. By increasing the awareness of the nature of sources of stress sport participants experience, coaches and sport psychologists can assist performers deal more effectively with them. In addition, athletes themselves need to become more aware of personal sources of stress and the way they appraise them, and the subsequent impact they have on performance. Previous researchers have advocated that self-awareness of stress sources is a vital first step in effectively being able to deal with them (Folkman, 1992; Hardy et al., 1996). The issue of effectively coping with sources of stress is explored in the next chapter which presents data on how elite wheelchair basketball players cope with the sources of stress identified in the present chapter. Through inductive content analysis, coping dimensions are identified and their perceived effectiveness in dealing with particular stress source dimensions considered.

CHAPTER 6

STUDY 3 - RESULTS (ii)

COPING STRATEGIES OF ELITE WHEELCHAIR BASKETBALL PLAYERS

6.1 INTRODUCTION

Opportunities to compete in elite level sport for people with a disability have increased dramatically over the last ten years (Campbell & Jones, 1994). As a consequence, elite level sport participants with a disability are exposed to high pressure competitive situations which, if they are to be successful, need to be coped with effectively. However, little if any attention has been given to the sources of stress and coping strategies used by elite sport participants with a disability. Therefore, the purpose of Study 3 was to consider the sources of stress and coping strategies of elite wheelchair basketball players via in-depth qualitative interviews^{6.1}. Chapter 5 investigated purpose 1 of Study 3 by identifying and describing the sources of stress experienced by elite wheelchair basketball players. The findings showed that the sources of stress were diverse and included both competition and non-competition stressors. The purpose of the present chapter was to further examine the data to address purposes 2 and 3 of Study 3; specifically these were: (1) identify and describe the coping strategies used by elite wheelchair basketball players (purpose 2); and (2) to examine relationships between coping strategies and stress source dimensions reported in Chapter 5 (purpose 3). The following two sub-sections highlight pertinent information concerning the theoretical rationale of purposes 2 and 3, and also the hypotheses associated with each purpose.

6.1.1 NATURE OF COPING (PURPOSE 2)

A detailed review of the coping literature from both the general psychology and sport psychology literature has been presented in Chapter 4 (sections 4.2.4, 4.2.5). However, to re-emphasise, the model of coping adopted in the present thesis is that advocated by Lazarus and Folkman (1984), which views coping from a transactional-process perspective. This view defines coping as a process rather than a simple reaction to a stressor. Specifically, coping involves an individual's constantly changing cognitive and behavioural efforts to manage internal or external conflicts. Coping is only initiated

6.1 See Chapter 4 section 4.3 and 4.4 for a detailed rationale and specific purposes of Study 3.

when an individual appraises a situation as stressful, whether that be challenging, threatening, or harmful. Coping encompasses a range of purposeful responses to a stressor, from appraisal of the situation, to stress management via effortful response. However, it must be noted that Lazarus and Folkman's (1984) definition of coping views all attempts as coping irrespective of outcome^{6.2}.

Research in the sport domain has examined, via in-depth qualitative interviews, how elite figure skaters and wrestlers cope with specific sources of stress (Gould et al., 1993 a,b). The findings clearly supported Lazarus and Folkman's (1984) transactional model, with both elite wrestlers and figure skaters employing a variety of coping strategies which differed depending on the source of stress experienced. Gould and colleagues' studies have made a tremendous contribution to the understanding of the stress-coping process; however, they also had several limitations^{6.3}. One limitation was that only the individual sports of figure skating and wrestling were considered. The present study therefore extends past research in two respects; firstly by considering elite athletes with a disability, and secondly by investigating elite team sport participants.

Previous researchers have suggested that coping behaviours should be categorised into coping categories/taxonomies (Carpenter, 1992; Cox & Ferguson, 1991). Cox and Ferguson (1991) believed that the existence of coping categories helps researchers and practitioners to gain a greater understanding of coping behaviours. Hardy et al. (1996) highlighted four coping categories which may be useful in the study of coping in sport; problem-focused, emotion-focused, appraisal-reappraisal and avoidance (Billings & Moos, 1984; Cox & Ferguson, 1991; Endler & Parker, 1990; Lazarus & Folkman, 1984). The present study, therefore, used these proposed categories to formulate a tentative hypothesis as to the nature of coping used by elite wheelchair basketball players. Specifically, the hypothesis proposed for purpose 2 of Study 3 was:

- A range of coping strategies would be identified including problem-focused, emotion-focused, appraisal-reappraisal and avoidance coping.

6.1.2 RELATIONSHIP BETWEEN COPING AND STRESS SOURCE DIMENSIONS (PURPOSE 3)

A major purpose of Study 3 was to investigate the relationship between identified coping strategies and stress source dimensions. Previous research in both the general and sport psychology literature has highlighted the importance of studying stress and coping in combination (Gould et al., 1993 a,b; Hardy et al., 1996; Lazarus &

6.2 Recent literature has suggested, however, that it is important to consider the effectiveness of coping, see section 4.4.1.5.

6.3 The limitations of Gould and colleagues studies are detailed in full in Chapter 4 section 4.1.

Folkman, 1984; Perlin, 1991). However, only one study to date has reported links between sources of stress athletes face and the coping strategies mobilised to alleviate these stressors (Gould et al., 1993b). Specifically, Gould and colleagues reported that elite figure skaters clearly implemented different types of coping strategies depending on the stressors they encountered. This was apparent with unique clusters of coping being reported to relate to particular stress sources. However, certain coping strategies appeared to be adopted across a variety of stressors. It would appear that more research is needed to examine links between sources of stress and coping. In addition, researchers have suggested that future studies of stress and coping should assess the effectiveness of strategies (Gould et al., 1993b), and also the extent of use of coping strategies (i.e., frequency) (Bar-Tal et al., 1994). Consequently, the present study was unique in examining the link between sources of stress and coping in conjunction with the effectiveness and extent of use of coping strategies associated to particular sources of stress.

Specifically, to investigate purpose 3 the data was analysed from two perspectives: (1) identification of the coping strategies associated with each stress source dimension; and (2) determination of the generality and specificity of each coping strategy dimension. Due to the limited amount of research in the area, tentative hypotheses were made; these were:

- Sources of stress perceived by the wheelchair basketball players as having a high degree of control would be dealt with by predominantly problem-focused coping.
- Sources of stress perceived by the wheelchair basketball players as having a low degree of control would be dealt with by predominantly emotion-focused coping.
- Certain coping strategies would be unique to specific stressors.
- Certain coping strategies would be used across a range of stressors.

This Chapter is structured to present results and then discuss pertinent findings in light of previous research. Specifically, the results section presents data in two sections to address purposes 2 and 3 of Study 3; (1) nature of coping of elite wheelchair basketball players (purpose 2); (2) relationship between stress sources and coping (purpose 3). The discussion section is similarly structured to discuss findings relative to purpose 2 and 3. The chapter concludes by summarising the major findings and suggesting possible implications for practitioners and future research.

6.2 RESULTS

The results section presents findings in two sections; the first section considers the nature of the coping strategies used by elite wheelchair basketball players, and the second section examines the relationship between coping strategies and stress source

dimensions. The second section is further sub-divided into two parts; range of coping strategies used with sources of stress, and specificity and generality of coping strategies. Specifically, the first section (section 6.2.1) investigates purpose 2 of Study 3, and the second section (section 6.2.2) examines purpose 3.

6.2.1 NATURE OF COPING STRATEGIES

Coping strategies were defined as the various methods elite wheelchair basketball players used to deal with the stressors they experienced as a consequence of being an elite sport performer^{6.4}. The ten in-depth interviews were analysed using inductive content analysis which involved an eight step procedure detailed in Chapter 4 section 4.7.5. As a consequence of the analysis, two hundred and thirty one raw data themes were identified and these are shown in Figures 6.1- 6.13.

The inductive analysis revealed thirteen distinct general coping strategy dimensions used by the ten elite wheelchair basketball players. The thirteen dimensions were abstracted from thirty one second order sub-themes and these from sixty nine first order sub-themes. The thirteen dimensions and their respective second order sub-themes are presented in Table 6.1 with the number of raw data themes they comprise. In addition, Table 6.1 indicates the number of wheelchair basketball players who reported using coping strategies in each of the dimensions.

Generally, the findings showed that the elite wheelchair basketball players use a diverse range of coping strategies. The dimensions identified appeared to compartmentalise into previously proposed coping categories; emotion-focused, problem-focused, appraisal-reappraisal and avoidance (see Table 6.2). Table 6.2 shows that over half of the coping strategies identified by wheelchair basketballers were categorised as problem-focused (57.75%), and approximately a third were emotion-focused (38.50%). The categories appraisal-reappraisal and avoidance coping appeared to comprise a smaller proportion of the coping strategies reported (16.81% and 8.62% respectively). Three of the dimensions appeared to reflect both problem-focused and emotion-focused strategies; on-court strategies, seek social support and provide support. Each of the thirteen dimensions is delineated below.

Active Coping Off-Court: Twenty two raw data themes comprised this dimension and were mentioned by all ten of the subjects (Figure 6.1). Specifically, the dimension included strategies that involved subjects taking positive action to deal with a particular source of stress off court. The dimension comprised of three second order sub-themes:

6.4 Elite was defined as being a current member of the Great Britain Wheelchair Basketball squad at the time of the interview.

Table 6.1 Number of Raw Data Themes Falling into Major Categories

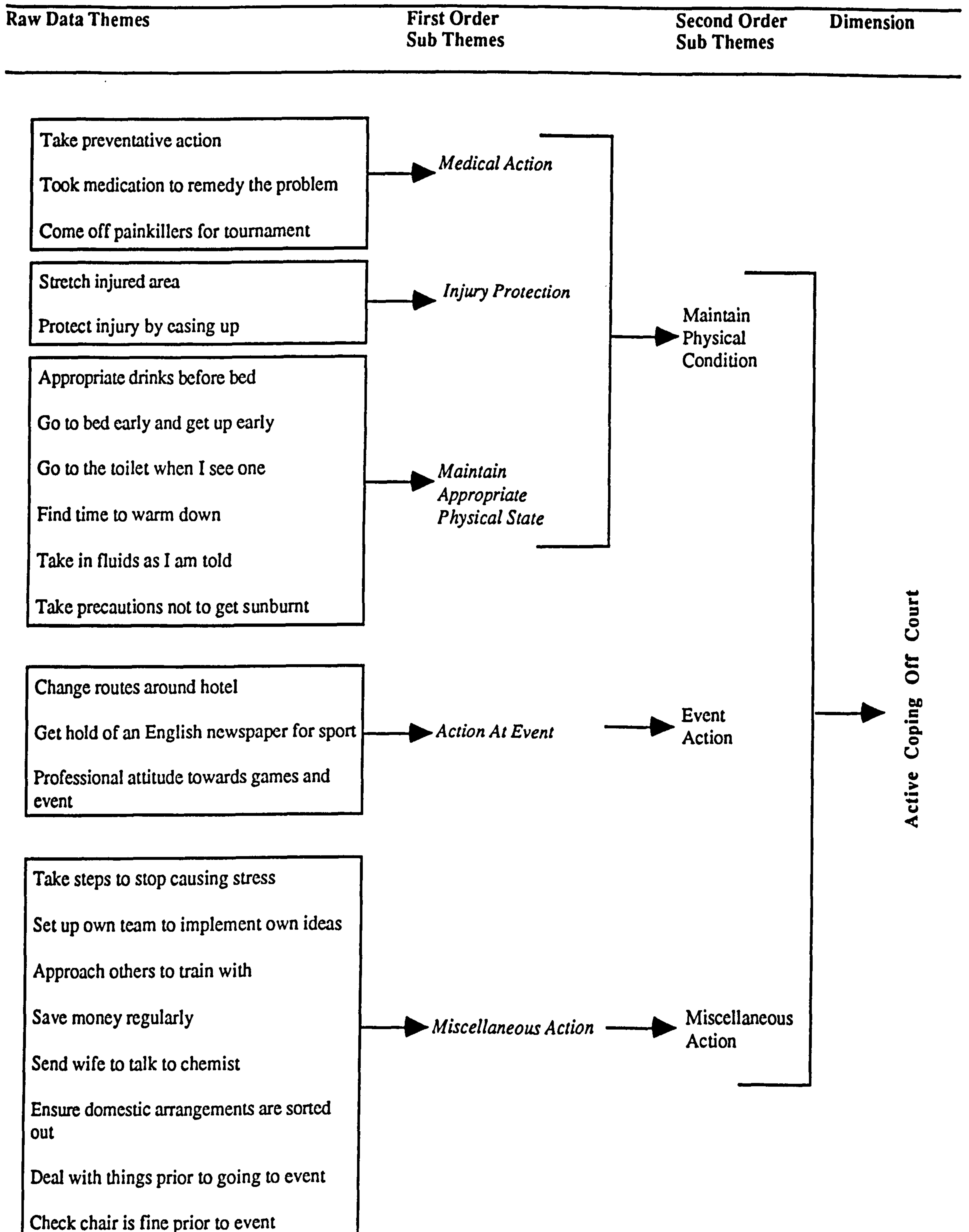
General Dimension/ 2nd Order Sub-theme	Raw Data Themes No. (%)	No. Subjects
Active Coping Off Court	22 (9.48%)	10
Maintain physical condition	11	
Event action	3	
Miscellaneous	8	
Time Management and Prioritisation	14 (6.03%)	6
Active self-isolation	8	
Time utilisation	6	
Intra-Squad Communication	25 (11.21%)	8
Communication team performance	10	
Communication personal performance	7	
Discuss coaching decisions with coach	3	
Communication domestic arrangements	5	
Analysis and Planning	24 (10.34%)	10
General planning	6	
Pre-event physical preparation	10	
Personal analysis of performance	8	
Precompetition Mental Prep. & Anxiety Management	17 (7.33%)	9
Anxiety management	5	
Mental preparation	12	
Vent Thoughts and Emotions	22 (9.48%)	8
Reactive behaviours	3	
Negative communication	4	
Express thoughts and feelings	15	
On-court Strategies	16 (6.90%)	8
Try-harder	4	
Focusing strategies	12	
Seek Social Support	22 (9.48%)	7
Seek emotional support	9	
Tangible assistance	2	
Seek advice	11	
Provide Support	10 (4.31%)	6
Provide support	10	
Positive Thinking and Self-talk	18 (7.76%)	6
Self-talk	7	
Positive belief and determination	11	
Acceptance and Rationalisation	21 (9.05%)	8
Rationalisation strategies	13	
Accept the situation	7	
Compromise	1	
Active No Coping	6 (2.59%)	4
No coping	6	
Mental Disengagement	14 (6.03%)	6
Ignore the situation	8	
Block out stress	6	

Table 6.2 General Dimensions Falling into Major Coping Categories

Coping Category	General Dimension	% of Total RawDataThemes
Problem-focused	Active Coping Off-Court	9.48
	Time Management & Prioritisation	6.03
	Intra-Squad Communication	11.21
	Analysis & Planning	10.34
	*On-Court Strategies	6.90
	*Seek Social Support	9.48
	*Provide Social Support	<u>4.31</u>
	Total	57.75
Emotion-focused	Pre-comp. Mental Prep. & Anxi. Manage	7.33
	Vent Thoughts & Emotions	9.48
	*On-Court Strategies	6.90
	*Seek Social Support	9.48
	*Provide Social Support	<u>4.31</u>
	Total	38.50
Appraisal-reappraisal	Positive Thinking and Self-talk	7.76
	Acceptance & Rationalisation	<u>9.05</u>
	Total	16.81
Avoidance	Active No Coping	2.59
	Mental Disengagement	<u>6.03</u>
	Total	8.62

* General dimension comprising raw data themes that fall into both problem-focused and emotion-focused coping categories

Figure 6.1 Active Coping Off Court Inductive Content Analysis



'maintain physical condition', 'event action', and 'miscellaneous action'. 'Maintain physical condition' was defined by three first order sub-themes: 'medical action', 'injury protection', and 'maintain appropriate physical state'. The following quotes highlights these strategies:

"After playing for so long I think you know the sort of things that you've got to be doing to build up for the Paralympics, so that helps."

"I try and make sure that my training is up to scratch, and at least if nothing else that I can't look back after the tournament and say, 'I could have done more and I didn't'."

'Event action' involved action undertaken to deal with stressors at major international basketball events, for example changing routes around the hotel to avoid people, and getting hold of an English newspaper. The third second order sub-theme 'miscellaneous action' involved a diverse range of actions including: 'send wife to talk to the chemist', 'approach others to train with', 'ensure domestic arrangements are sorted out'.

Time Management and Prioritisation: This dimension emerged from fourteen raw data themes that were identified by six of the ten wheelchair basketball players (Figure 6.2). The dimension comprised of six first order sub-themes that abstracted into two second order sub-themes: 'active self-isolation' and 'time utilisation'. 'Active self-isolation' involved strategies that prioritised spending time alone in order to deal with particular stressors. The second order sub-theme 'time utilisation' comprised of strategies such as using free time constructively, managing time, and interacting socially. Below are quotes depicting the dimension:

"Get away from it, leave the situation to satisfy my own needs."

"Probably get down there half an hour early so I can get straight into the lift, you're probably there half an hour earlier than you need to be, but it is better than being late and spending time queuing for a lift."

Intra-squad Communication: This dimension was mentioned by eight of the subjects and emerged from 25 raw data themes which were combined to form four second order sub-themes: 'communication team performance', 'communication personal performance', 'discuss coaching decisions with coach', and 'communication domestic arrangements' (Figure 6.3). 'Communication team performance' was defined in terms of communication between players and the coach about the teams performance, both pre and post game. In addition, individuals also identified strategies which involved communicating with important others (i.e., certain players and the coach) about their own personal performance. These coping strategies are highlighted in the following comments:

"I talk to my roommate, people I'm close to, to discuss what went right and what went wrong with the team's performance."

Figure 6.2 Time Management and Prioritisation Inductive Content Analysis

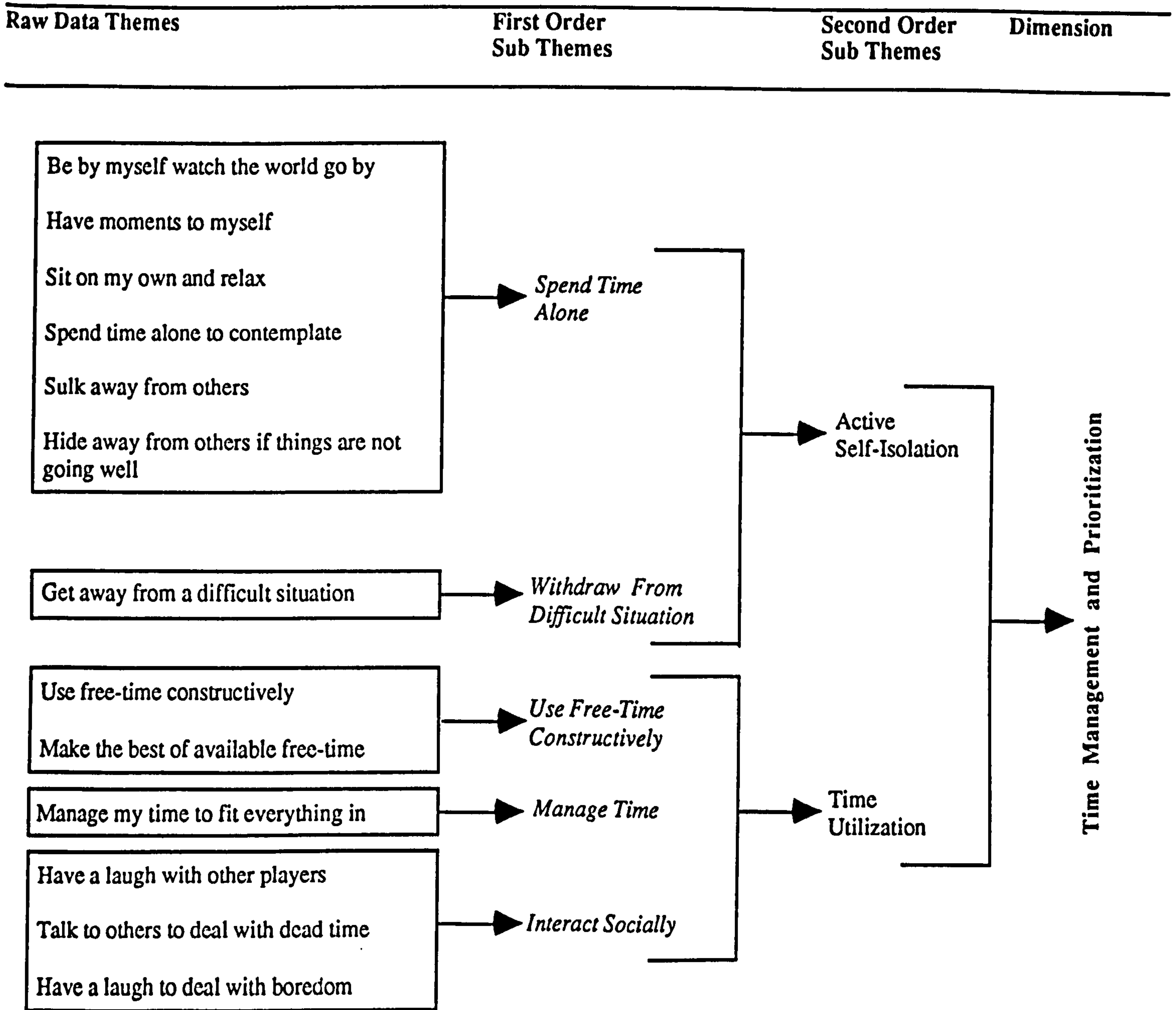
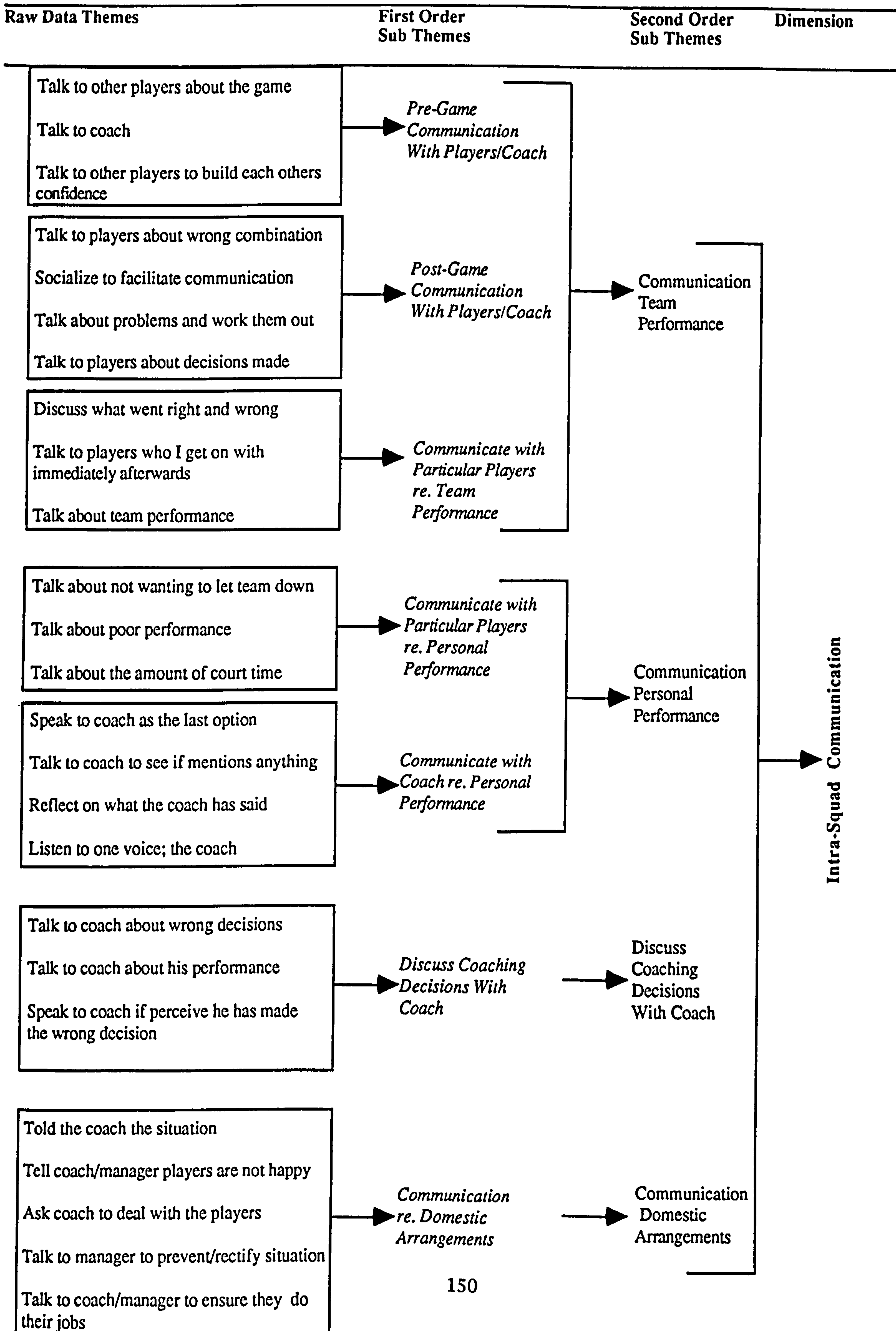


Figure 6.3 Intra-Squad Communication Inductive Content Analysis



"I talk to a few people who I respect about my performance, but usually I like them to ask me, I usually wait for them to talk to me; I do like to talk to certain players."

The third second order sub-theme 'discuss coaching decisions with coach' appeared to involve talking to the coach about perceived wrong coaching decisions he had made:

"you've probably only got a few seconds, and you just try and say what you think, because I mean you're out there playing, and you know you try and get your thoughts over to him (the coach). Sometimes he'll accept that, sometimes he won't."

The final second order sub-theme involved communicating with the team manager or coach about dealing with domestic arrangements that they were not happy with. Generally, the dimension highlights communication within the squad as a strategy used to deal with stressors related to the team's performance, individual performance and domestic issues.

Analysis and Planning: This dimension was mentioned by all ten subjects and emerged from twenty-four raw data themes that abstracted into three second order sub-themes: 'general planning', 'pre-event physical preparation', and 'personal analysis of performance' (Figure 6.4). 'General planning' included planning ahead and being prepared for potential stressors in advance. Strategies such as preparing to peak, doing extra training, and practising areas of concern combined to define 'pre-event physical preparation'. The third second order sub-theme 'personal analysis of performance' included strategies where individuals themselves reviewed their own performance, decided what they needed to work on, and also compared themselves against others. Below are some comments made by subjects that highlight the types of strategies comprising this dimension:

"Think about the game more and decide what I need to train harder on."

"Get a measure of how well I am playing against other players in training."

Pre-competition Mental Preparation and Anxiety Management: This particular dimension was mentioned by nine subjects and included two second order sub-themes that abstracted from seventeen raw data themes (Figure 6.5). The dimension involved strategies that predominantly assisted individuals to deal with their emotions through 'anxiety management' and 'mental preparation'. 'Anxiety management' was defined as strategies assisting individuals to relax whether by listening to music, lying down, or doing something different. 'Mental preparation' involved a diverse range of strategies that enabled subjects to go on-court in the appropriate mental state. These strategies included: association strategies, focusing techniques, thinking through forthcoming performance, resting pre-game, visualisation, and being superstitious. The following quotes depict strategies in this dimension:

Figure 6.4 Analysis and Planning Inductive Content Analysis

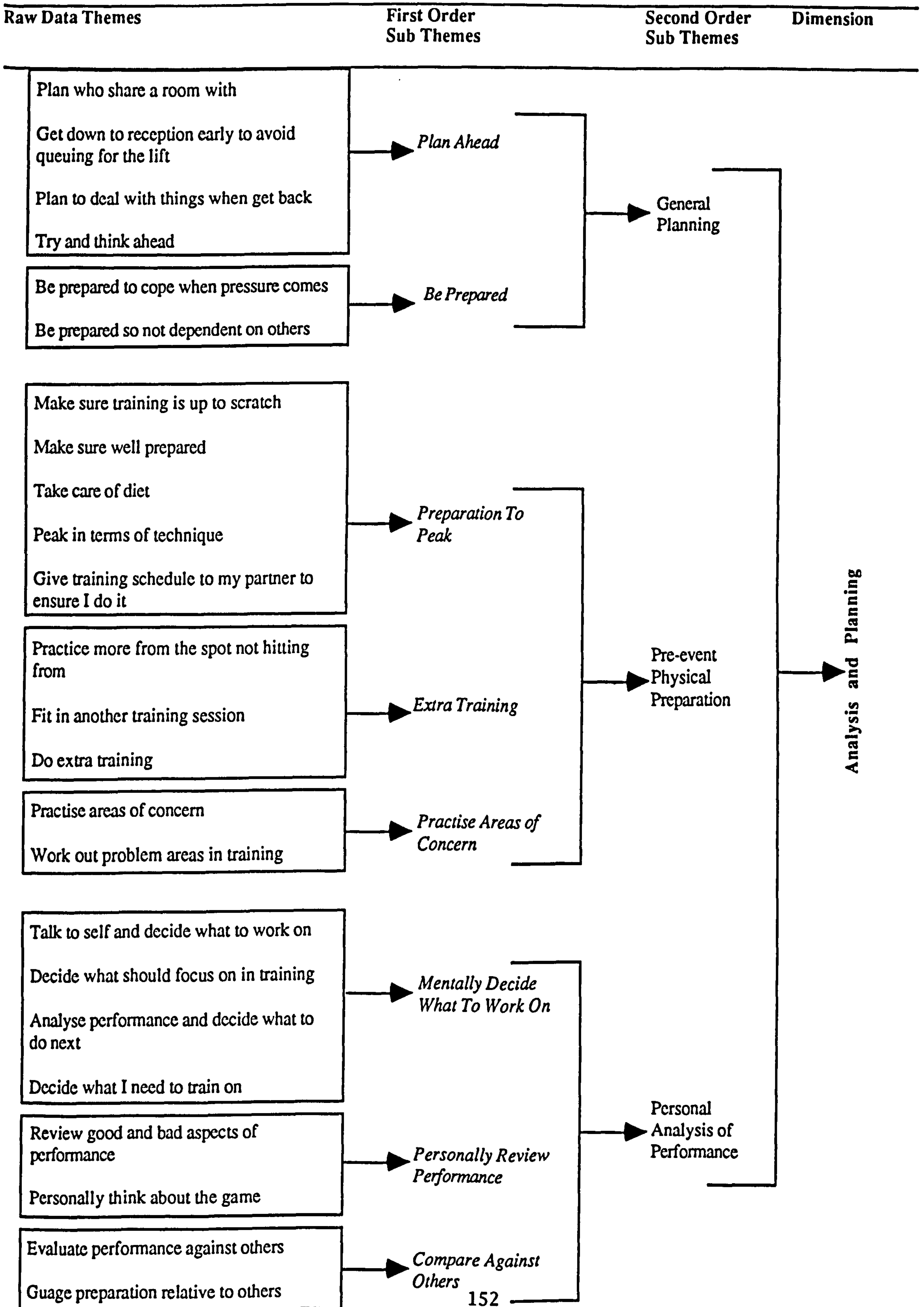
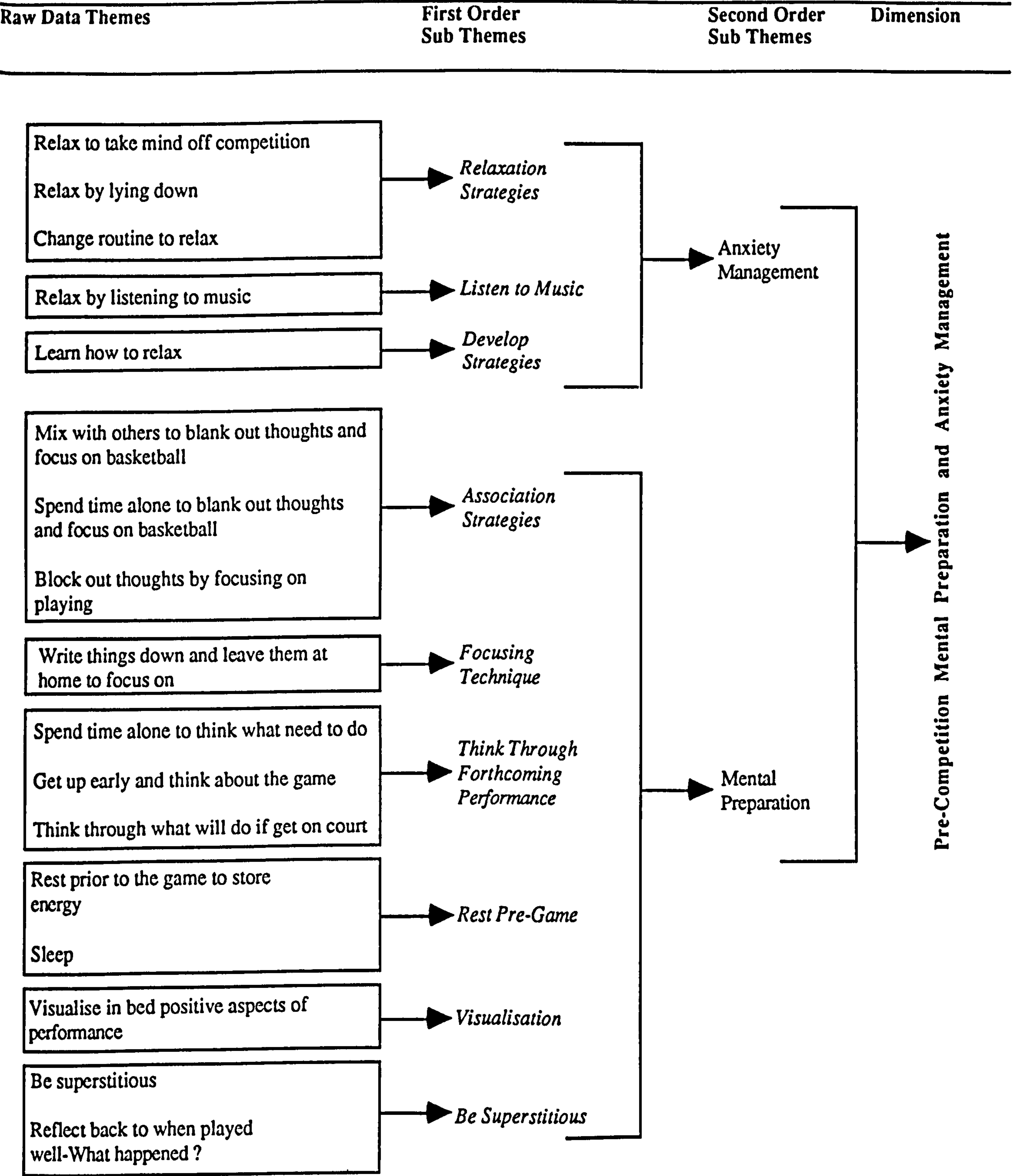


Figure 6.5 Pre-competition Mental Preparation and Anxiety Management Inductive Content Analysis



"Try and relax and not let the event get to me, sometimes I listen to music and get lost in it, often I will just sit on my own and talk to nobody."

"I visualise a lot... I go to sleep very often falling asleep thinking about, or visualising the game, and it is always something good, so I visualise a positive aspect of the game."

"You've got to be right in the mind to have a good game, therefore, a couple of hours before a game I'll look and assess the situation, what I'm I going to do, I find I play a lot better than when I'm rushing to a game and I only get 20 minutes to warm-up. I've got to have time to think about what I'm going to do and how I'm going to do it."

Vent Thought and Emotions: This dimension comprised of twenty-two raw data themes mentioned by eight of the subjects and abstracted into three second order sub-themes: 'reactive behaviours', 'negative communication', and 'express thoughts and feelings' (Figure 6.6). 'Express thoughts and feelings' comprised fifteen of the twenty-two raw data themes and is expressed in the following comments:

"apologise straight away - shake hands, say sorry, sort it out straight away."

"we all talked together to air our feelings about the situation, it helped to know that other players felt the same."

The other two second order sub-themes involved individuals communicating negatively by complaining or using sarcasm, or by reacting by being abrasive, rude, or losing temper in a controlled manner, for example:

"I lose my temper but I try to keep it controlled. People often remember a more aggressive tone than a passive one."

On-court Strategies: This dimension incorporated sixteen raw data themes mentioned by eight of the subjects (Figure 6.7). The dimension was defined by two second order sub-themes 'trying harder' and 'focusing strategies'. 'Try harder' was a strategy used to deal with poor performance and is depicted in the following quote:

"Make sure the next pass is a good one, make sure you don't make the same mistake twice, the same bad pass twice."

'Focusing strategies' incorporated strategies such as self-talk ('stay sharp', and 'not worth bothering about'), and behaviour management (e.g., 'getting wound up to snap back in'). Other focusing strategies acknowledged the need to focus on the game by using a variety of methods, for example:

"My definition of playing badly is more to do with playing offensively badly, and making mistakes at that end, whereas, at the defensive end I think I feel I'm a lot more in control, there's a lot less that can go wrong ..., it's just me on the chair and there is no ball. So I try and put the bad bits out of my head by concentrating on my defence."

Figure 6.6 Vent Thoughts and Emotions Inductive Content Analysis

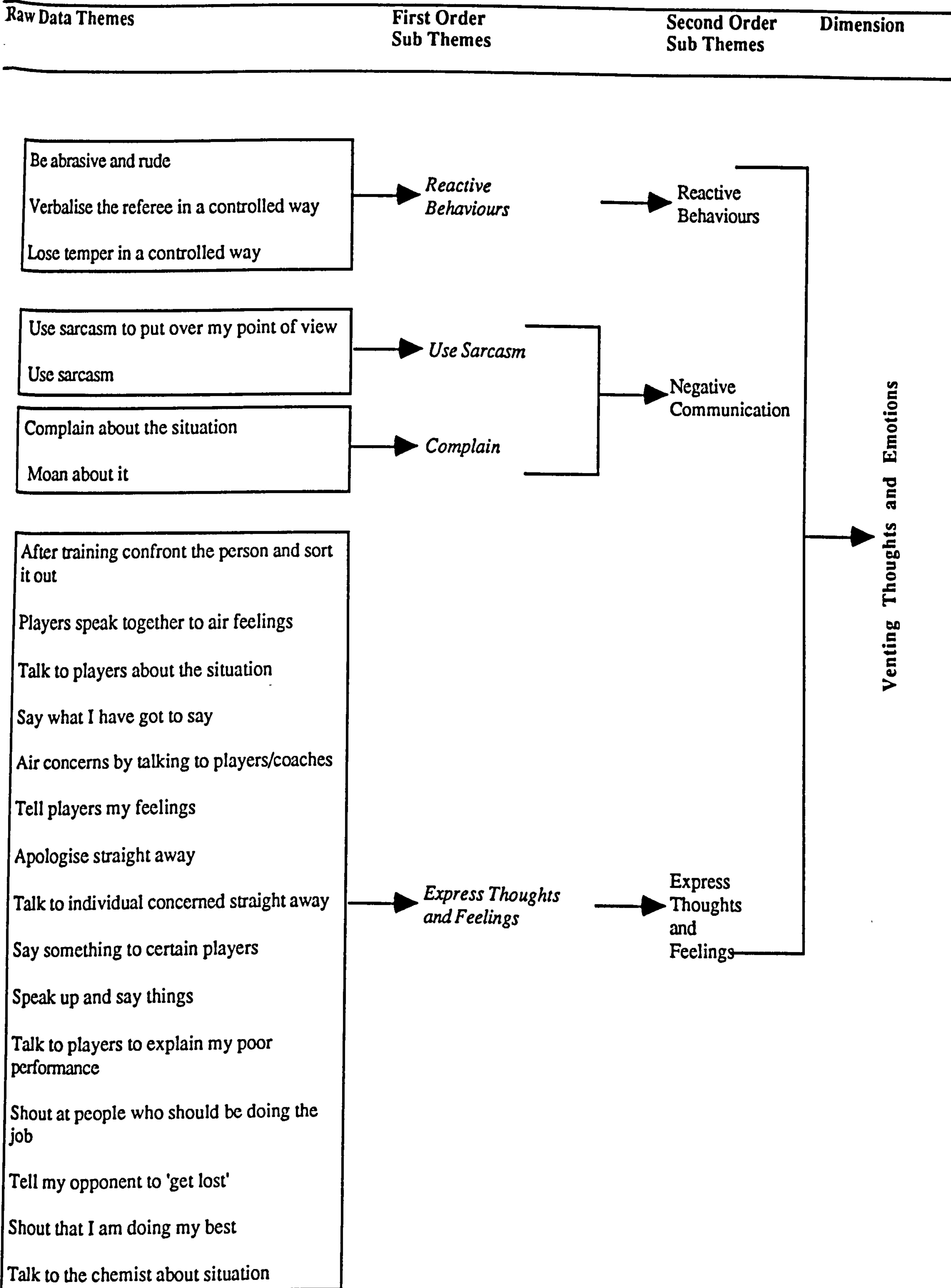
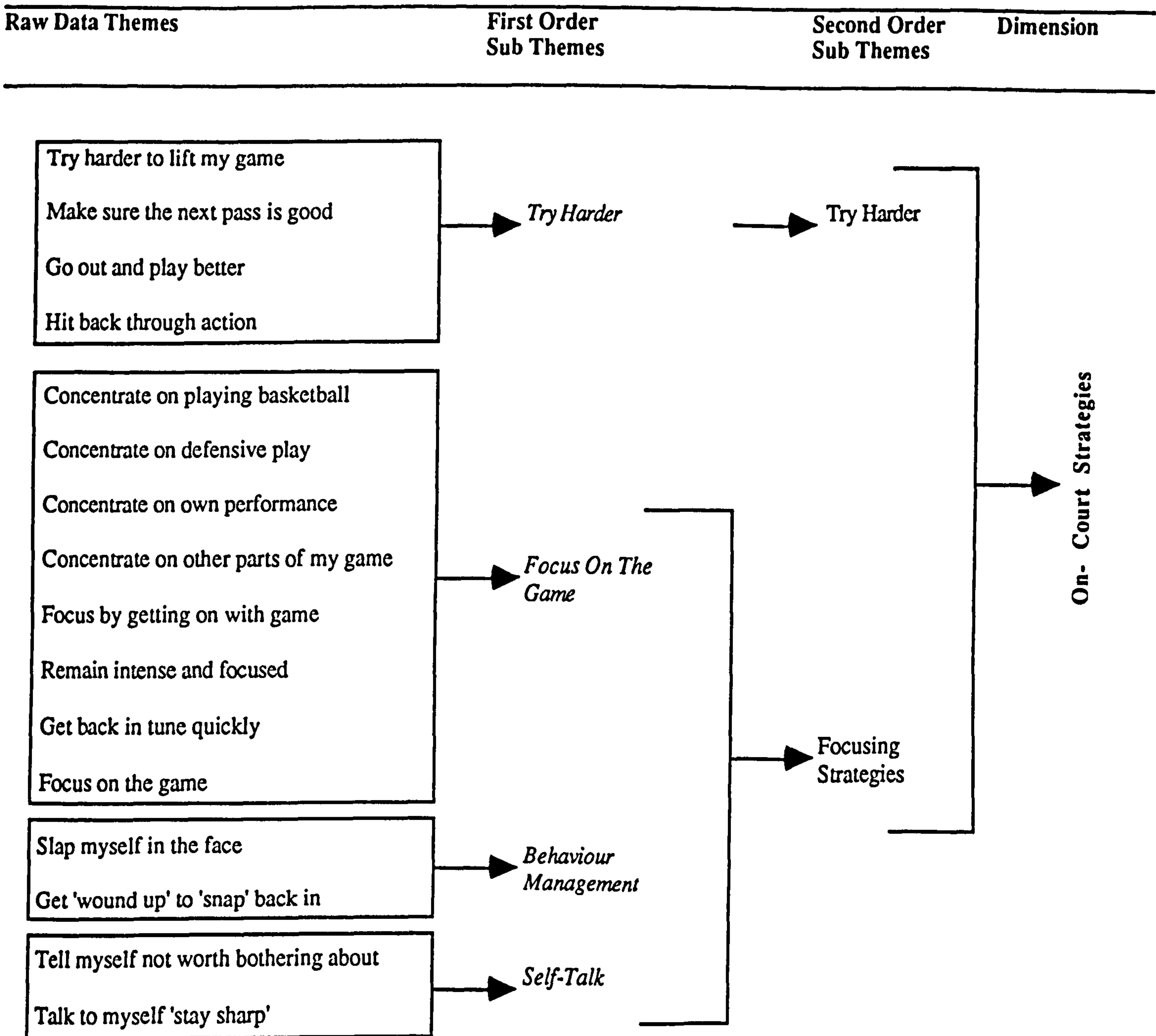


Figure 6.7 On-Court Strategies Inductive Content Analysis



Generally, this particular dimension involved strategies that enabled subjects to deal with specific problems and also the emotions that the stressor generated.

Seek Social Support: Twenty-two raw data themes comprised this dimension and they were mentioned by seven of the subjects (Figure 6.8). Seek social support was defined by three second order sub-themes; 'seek emotional support', 'tangible assistance', and 'seek advice'. 'Seek emotional support' appeared to be sought from important other(s) (partner, family, friends, and particular players) to support decisions that had already been made and also to gain reassurance about personal playing ability. Therefore, it would appear that emotional support is used to deal with both basketball and non-basketball stressors. 'Tangible assistance' was sought in the form of financial assistance from both parents and wheelchair basketball clubs, to help assist with financial difficulties associated to playing wheelchair basketball. As well as seeking emotional support, players also sought advice on issues directly and indirectly linked to wheelchair basketball. The advice would be sought from others including; partner, family friends, other players, and medics concerning medical issues. It would appear, therefore, that social support is used to help individuals solve problems and also to provide necessary emotional support. The following statements help to illustrate this:

"You're looking for reassurance all of the time, I suppose from different people."

"I talked to my room-mate because he knew I was upset; I had to if I was going to share a room, it helped."

"I try to get feedback from other players about whether other certain players think I am a good player."

"Probably look for advice from other people so as I can make sure I do my utmost, and ... I look for guidance really."

Provide Support: Interestingly, six players mentioned using coping strategies which involved providing support to others (Figure 6.9). The strategies used appeared to be in the form of offering constructive help to others, and motivating the team and individuals. In providing support individuals suggested that it simultaneously assisted them in dealing with their own emotions:

"I cope by trying to help others, this has a good effect on me."

"I try to gee other players up, I try to be enthusiastic - this helps me to get back in the game."

"As a senior player I will try and put something constructive into the situation to help the problem."

Additionally, two players stated that a strategy was to with-hold negative comments in an attempt not to effect others.

Figure 6.8 Seek Social Support Inductive Content Analysis

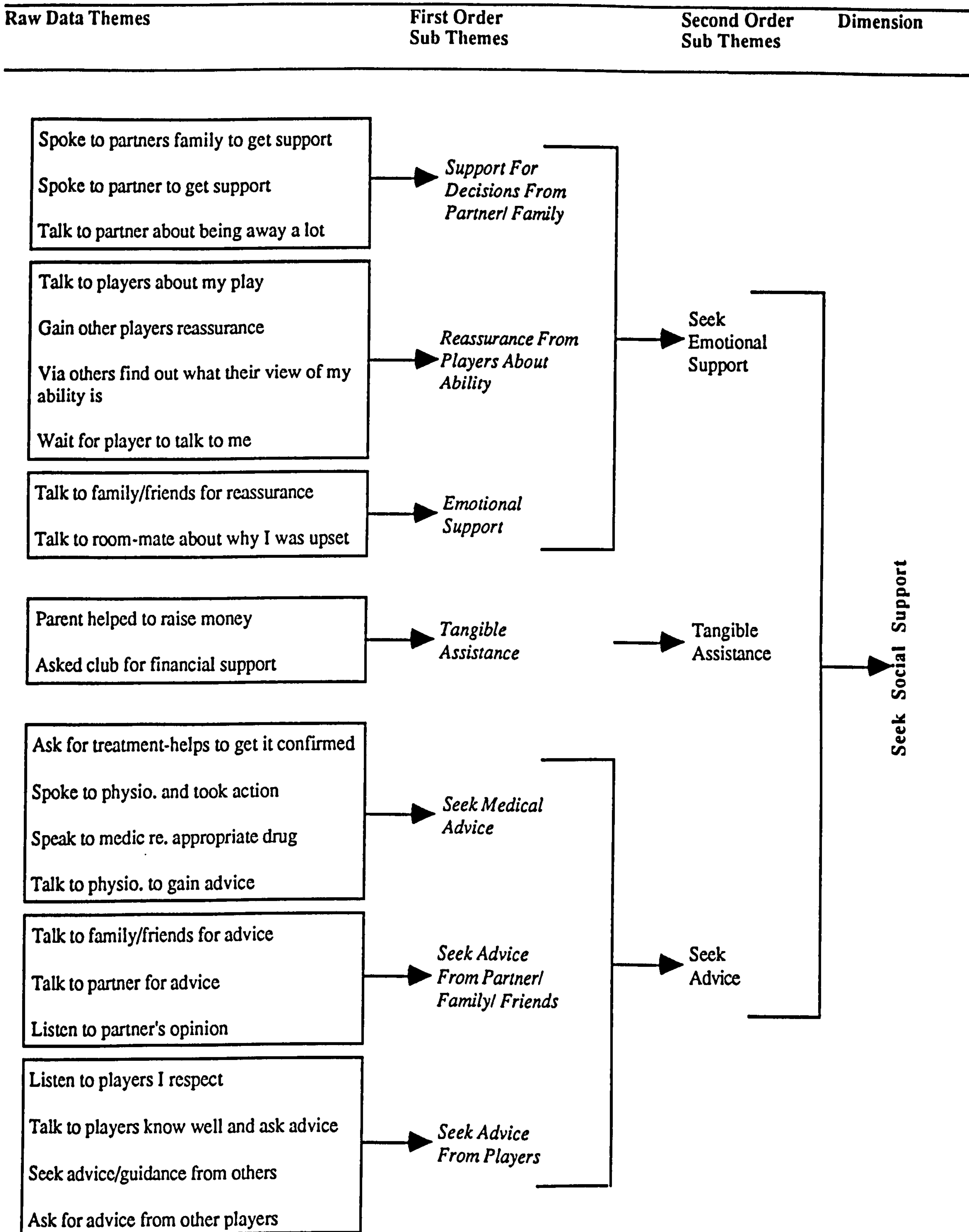
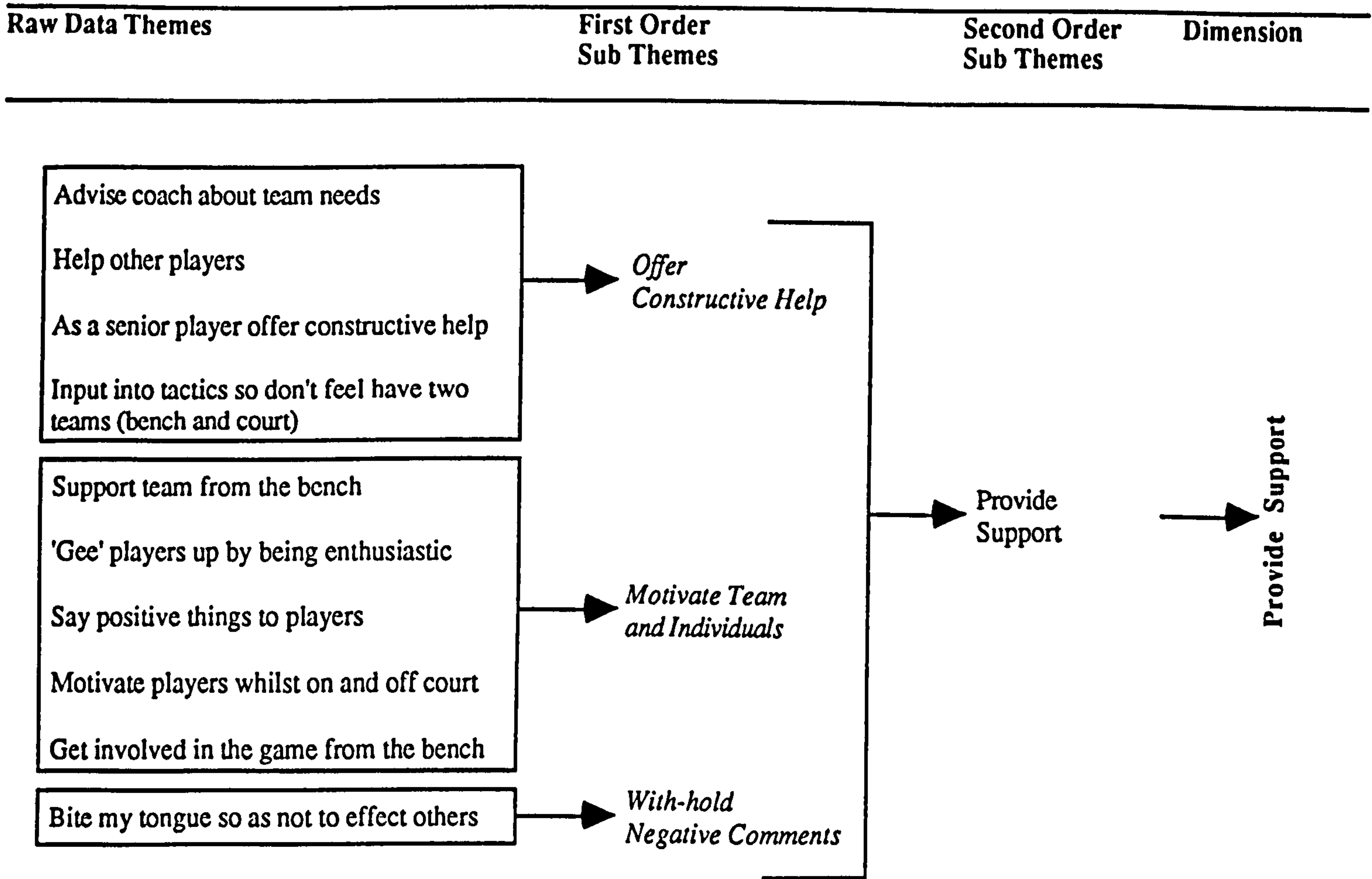


Figure 6.9 Provide Support Inductive Content Analysis



Positive Thinking and Self-talk: This dimension incorporated eighteen raw data themes, mentioned by six players, which formed two second order sub-themes: 'self-talk' and 'positive belief and determination' (Figure 6.10). 'Self-talk' primarily involved individuals saying positive things to themselves such as 'don't be afraid to fail', 'can only do so much', 'enjoy it and then go home and have my tea'. However, certain individuals used a strategy of criticising themselves in certain situations. 'Positive belief and determination' was defined by three first order sub-themes that reflected taking a positive perspective, having positive self-belief and a determination that can win. The following quotes depict nicely this particular dimension:

"Say to myself 'Don't be afraid to fail', the more I worry about it the more it is likely to happen."

"I just try and turn it on its head, and in my mind I try and think well at least I won't be stale, or something like that."

"Get positive about it and think 'well I have done the training'."

Acceptance and Rationalisation: Twenty-one raw data themes comprised this particular dimension and they were mentioned by eight of the subjects (Figure 6.11). The dimension was defined by three second order sub-themes: 'rationalisation strategies', 'accept the situation', and 'compromise'. 'Rationalisation strategies' included rationalisation of both the situation and individuals' thoughts. Rationalisation of the situation included strategies such as:

'It is due to stupid fouls or something like that.'

Examples of rationalisation of thoughts included: 'think about what I am doing and why', 'rationalise the game has gone, and focus on the next'. The second order sub-theme 'accept the situation' emerged directly from raw data themes such as 'just pay the money out', 'accept it as can't do anything about it'.

Active No Coping: Active no coping emerged from six raw data themes mentioned by only four of the subjects (Figure 6.12). Active no coping was defined by three first sub order sub-themes which abstracted directly in to the general dimension 'active no coping'. Specifically, these specific coping strategies were; 'nothing, let it happen', 'wait and see what happens', and 'just hope'. The following quote highlights these:

"No there is nothing you can do ! You've got to wait I think. Just got to wait until you either get your chance or you don't."

Mental Disengagement: Six of the subjects mentioned fourteen raw data themes that abstracted into two second order sub-themes: 'ignore the situation', and 'block out stress' (Figure 6.13). 'Ignore the situation' was defined as both ignoring and consciously

Figure 6.10 Positive Thinking and Self-Talk Inductive Content Analysis

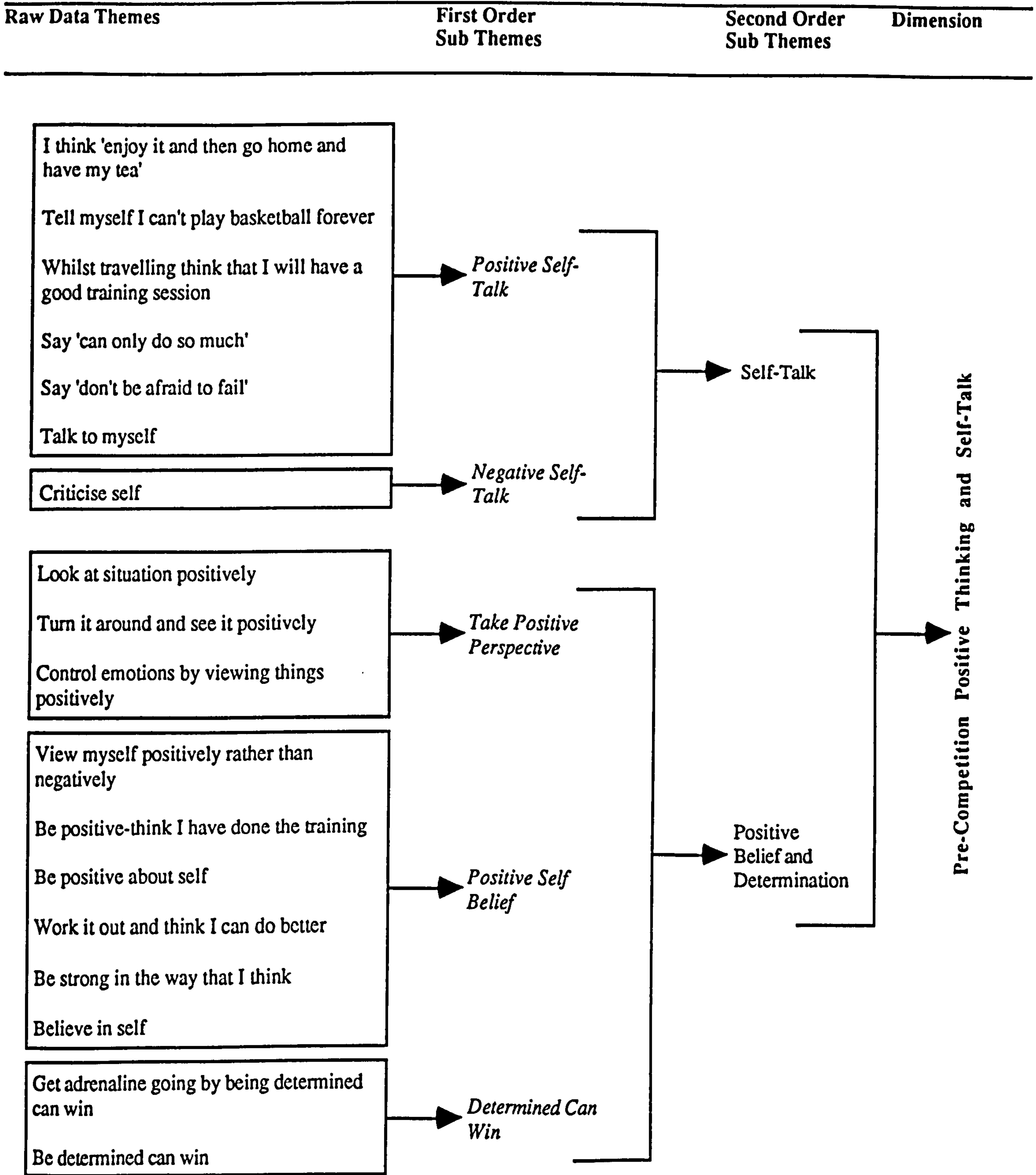


Figure 6.11 Acceptance and Rationalisation Inductive Content Analysis

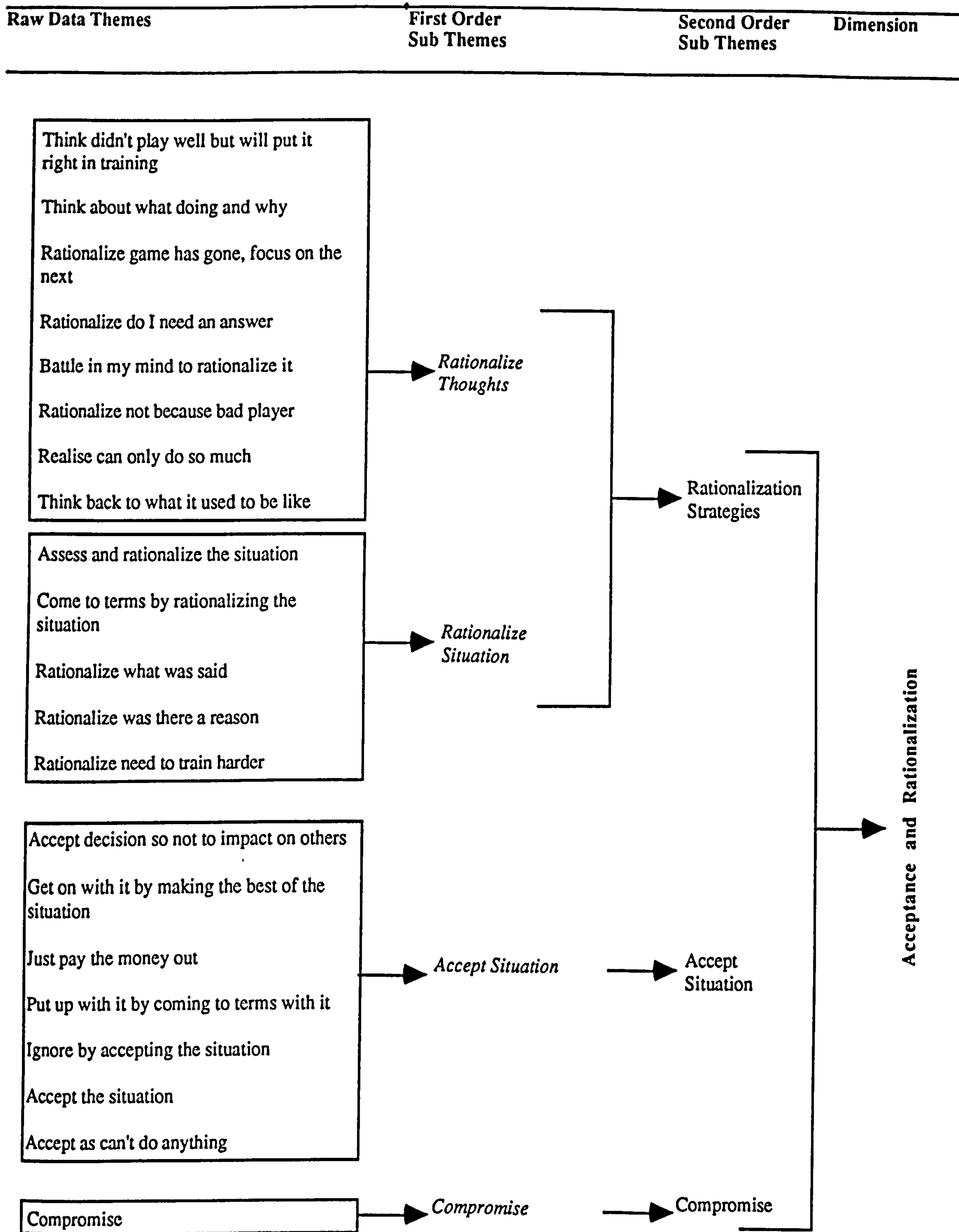


Figure 6.12 Active No Coping Inductive Content Analysis

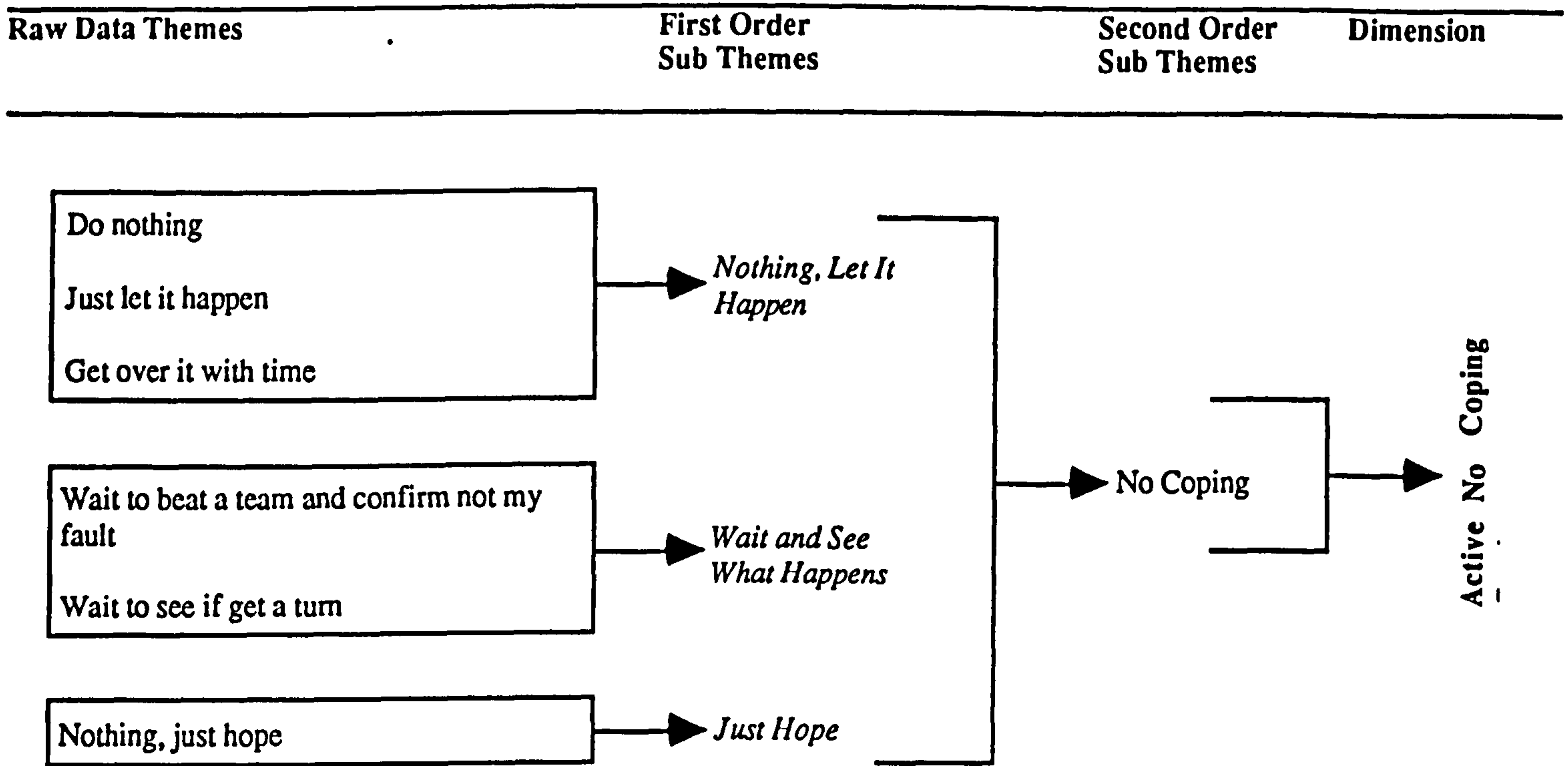
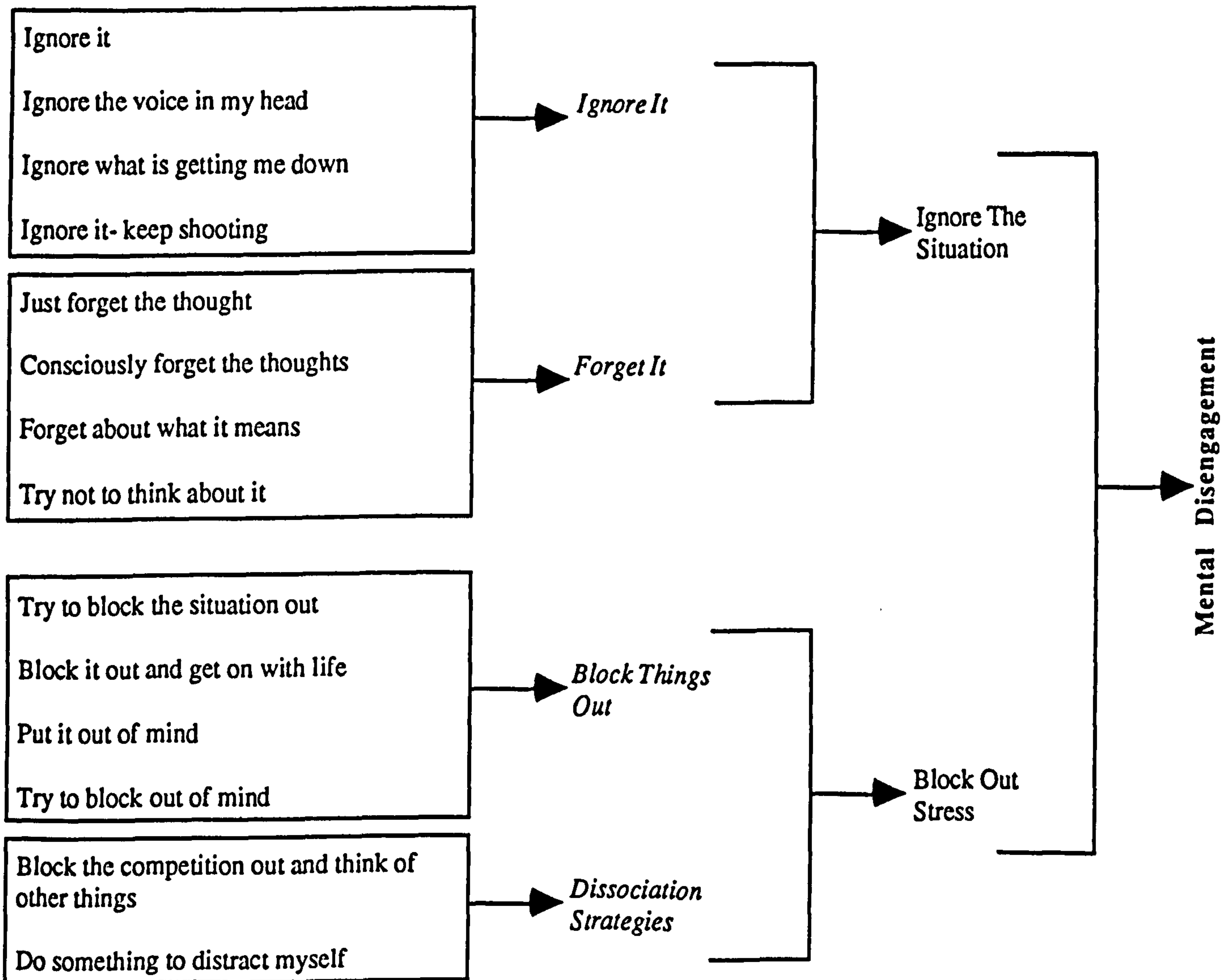


Figure 6.13 Mental Disengagement Inductive Content Analysis



attempting to forget about thoughts or a situation:

"Try and forget about it. Ignore the little voice inside me, or whatever, that's getting me down."

'Block out stress' comprised of two first order sub-themes: 'block things out' and 'dissociation strategies'. Dissociation strategies involved doing something else to assist the stressor being blocked out, for example:

"I try to do something else to block it out, like talk to other people."

In summary this section has identified and described thirteen distinct coping dimensions used by elite wheelchair basketball players. In general the findings showed that the elite wheelchair basketball players used a diverse range of coping which compartmentalised into previously identified coping categories; problem-focused, emotion-focused, appraisal-reappraisal, and avoidance. The next section examines the relationship between the thirteen coping strategy dimensions and the ten stress source dimensions identified in Chapter 5.

6.2.2 RELATIONSHIP BETWEEN COPING STRATEGIES AND STRESS SOURCE DIMENSIONS.

This section considers the relationship between the coping strategy dimensions and the stress source dimensions identified in Chapter 5. To re-emphasise, the ten stress source dimensions included: 'pre-event concerns', 'negative match preparations', 'on-court concerns', 'post match performance concerns', 'negative aspects major event', 'poor group interaction and communication', 'negative coach style/behaviour', 'relationship issues', 'costs or demands of wheelchair basketball', 'lack of disability awareness'. To consider the relationship between coping and sources of stress, the following section is sub-divided into two parts: the first section considers the coping strategies used to deal with each of the ten sources of stress; and the second section determines the range of stress sources which each of the thirteen coping strategy dimensions deals with. The present study used the same procedure to link sources of stress and coping together as that outlined by Gould et al. (1993b); the only previous study to investigate the link. The linking procedure is detailed below before presenting the finding of the analyses.

As a reminder, wheelchair basketball players (see section 4.8) were asked about particular coping strategies they used with each stressor they experienced. Therefore, this enabled determination of the coping strategy dimensions employed to deal with each stress source dimension. Specifically, coping strategy dimensions were linked to stress source dimensions by analysing the number of times they were cited as a coping strategy

for each stress source raw data theme comprising a stress source dimension. The number of times a coping strategy dimension was cited was then transformed into a percentage of all the coping strategies cited for that stress source dimension. Consequently, the most frequently cited coping strategies for each stress source were identified. Gould et al.'s (1993b) study only reported coping strategies that comprised at least 9% of the coping strategies linked to a particular stress source dimension. The present study selected a slightly more conservative figure in reporting coping strategies that comprised at least 10% of a stress source dimension (see Tables 6.3 & 6.4). In addition, Tables 6.3 and 6.4 also show the mean perceived effectiveness and frequency of use of each coping strategy dimension to deal with each stress source dimension. It should be noted that individuals were asked to rate effectiveness on a likert type scale from 1 ('not at all') to 7 ('extremely'), and frequency on a similar scale from 1 ('not at all') to 7 ('all of the time').

The following two sections present results concerning firstly the range of coping strategies used with specific sources of stress, and secondly the specificity and generality of coping strategy dimensions.

6.2.2.1 Range of Coping Strategies used with Specific Sources of Stress

Detailed below are the findings concerning nature of coping, effectiveness, and extent of use for each of the ten stress source dimensions (Table 6.3):

- **Pre-event Concerns:** Three coping strategies accounted for 50.99% of the coping strategies used with stressors related to 'pre-event concerns', these were; 'analysis and planning', 'seek social support', and 'acceptance and rationalisation'. All strategies appeared to be reasonably effective (mean scores ranging from 4.33 to 4.71) and also used relatively frequently (mean scores ranging from 4.42 to 5.0).
- **Negative Match Preparations:** Stressors occurring prior to a game were dealt with by a range of coping strategies that accounted for 74.0% of the total number of strategies used: 'pre-competition mental preparation and anxiety management', 'mental disengagement', 'active coping', 'analysis and planning', and 'positive thinking and self-talk'. All the strategies appeared to be effective (mean values above 4.8); however, the most effective strategy appeared to be 'active coping' (mean value of 6.15). In addition, although all the strategies appeared to be used relatively frequently (mean scores above 4.0), the coping strategies of 'active coping', 'analysis and planning', and 'positive thinking and self-talk', appeared to be used more extensively (mean scores above 6.0).
- **On-court concerns:** The largest majority of coping strategies used to deal with concerns on-court were 'on-court strategies' (46.67% of total strategies used). Three other strategies accounted for a further 40% of the coping strategies used and these were; 'providing social support,' 'venting thoughts and emotions', and 'mental

Table 6.3 Most Frequently Cited Coping Strategy General Dimension Associated with Specific Stress Sources

Stress source/ coping strategy general dimension	Percent of total coping used		Effectiveness		Frequency	
	Mean	Range	Mean	Range	Mean	Range
Pre-event Concerns						
Analysis and planning	4.42	2-6	4.42	2-6	4.42	2-6
Seek social support	4.71	4-6	4.71	4-6	4.71	4-6
Acceptance and rationalisation	4.33	3-5	5.0	5-6	5.0	5-6
Total	50.99					
Negative Match Preparations						
Precomp. mental prep. & anxiety management	20.0	3-7	4.7	3-7	4.7	3-7
Mental disengagement	16.0	3-6	4.0	2-6	4.0	2-6
Active coping	16.0	5-7	6.14	6-7	6.14	6-7
Analysis and Planning	12.0	5-6	6.0	5-7	6.0	5-7
Positive thinking and self-talk	10.0	5-6	6.2	5-7	6.2	5-7
Total	74.0					
On-court Concerns						
On-court strategies	46.67	2-5	3.79	2-5	3.5	2-5
Provide social support	20.0	3-6	5.17	3-6	3.83	2-5
Vent thoughts and emotions	10.0	2-2	2.0	2-2	3.5	2-5
Mental disengagement	10.0	2-4	3.0	2-4	3.33	2-5
Total	86.67					
Post Match Performance Concerns						
Intra-squad communication	29.41	3-6	4.38	3-6	4.63	3-7
Analysis and planning	14.71	4-6	5.0	4-6	5.2	4-6
Seek social support	11.76	2-6	4.5	2-6	4.0	2-5
Total	55.88					
Poor Group Interaction and Communications						
Venting thoughts and emotions	36.67	2-5	3.82	2-5	4.09	3-6
Intra-squad communication	26.67	5-6	5.63	5-6	5.13	4-7
Mental disengagement	10.0	2-2	2.0	2-2	5.0	5-5
Total	73.34					

Table 6.3 (cont.) Most Frequently Cited Coping Strategy General Dimension Associated with Specific Stress Sources

Stress source/ coping strategy general dimension	Percent of total coping used		Effectiveness		Frequency	
	Mean	Range	Mean	Range	Mean	Range
Negative Aspects of Major Event						
Acceptance and rationalisation	20.59	3-5	4.0	3-5	3.5	2-5
Time manage. & prioritisation	17.65	5-6	5.5	5-6	4.33	3-5
Analysis and planning	14.71	4-6	5.2	4-6	4.6	4-5
Precomp. mental prep. & anxiety management	11.76	5-5	5.0	5-5	4.5	4-5
Vent thoughts and emotions	11.76	4-6	4.5	4-6	4.25	4-5
Total	76.47					
Negative Coach Style/Behaviour						
Intra-squad communication	44.0	4-6	5.38	4-6	6.25	5-7
Venting thoughts and emotions	16.0	1-3	1.5	1-3	3.5	3-5
Mental disengagement	12.0	2-2	2.0	2-2	5.5	5-5
Total	72.0					
Relationship Issues						
Active coping	36.36	7-7	7.0	7-7	7.0	7-7
Seek social support	36.36	5-7	5.75	5-7	5.75	5-6
Total	72.72					
Demands or Costs of Wheelchair Basketball						
Seek social support	25.0	7-7	7.0	7-7	6.8	6-7
Active coping	16.0	2-4	2.75	2-4	5.5	5-7
Mental disengagement	12.0	2-2	2.0	2-2	5.0	5-5
Total	53.0					
Lack of Disability Awareness						
Acceptance and rationalisation	27.78	5-6	5.5	5-6	5.0	5-5
Analysis and planning	16.67	4-4	4.0	4-4	4.0	4-4
Venting thoughts and emotions	16.67	4-4	4.0	4-4	4.0	4-4
Active coping	16.67	5-6	5.67	5-6	6.33	6-7
Time management and prioritisation	11.11	4-4	4.0	4-4	5.0	5-5
Intra-squad communication	11.11	4-4	4.0	4-4	4.0	4-4
Total	100.0					

disengagement'. It would appear that the most effective coping dimension was 'providing social support' (mean value 5.17). Two of the coping strategies were reported as not being particularly effective and these were 'venting thoughts and emotions' (mean value 2.0) and 'mental disengagement' (mean value 3.0). All the coping dimensions were reported to be used moderately frequently (mean values ranging from 3.33 to 3.83)

- **Post Match Performance Concerns:** Three coping strategy dimensions accounted for 55.88% of coping strategies used: 'intra-squad communication', 'analysis and planning', and 'seeking social support'. Generally, all three were effective (mean scores above 4.3); however, 'analysis and planning' did appear to be slightly more effective (mean value 5.0; range 4 - 6). A similar trend was also apparent in the extent of use of coping strategies with all three being perceived to be used relatively frequently (mean value above 4.0). However, 'analysis and planning' was reported as being used slightly more frequently (mean 5.2, range 4 - 6).
- **Negative Aspects of Major Event:** A range of different coping strategies accounted for 76.47% of the coping strategies used to deal with 'negative aspects of major events'; 'acceptance and rationalisation', 'time management and prioritisation', 'analysis and planning', 'pre-competition mental preparation and anxiety management', and 'vent thoughts and emotions.' The most effective of these strategies appeared to be 'time management and prioritisation', 'analysis and planning', and 'pre-competition mental preparation and anxiety management' (mean values above 5.0). Furthermore, all the strategies appeared to be used frequently (mean value above 4.0), apart from 'acceptance and rationalisation' which showed large individual differences and a lower mean score (range 2 - 5, mean value 3.5).
- **Negative Coach Style/Behaviour:** Three coping strategies were predominantly used to deal with sources of stress associated with the coaches style/behaviour (72.0%). The large majority of strategies involved communicating with other squad members (44.0%), and these strategies were also reported to be the most effective (mean value 5.38), and frequently used (mean value 6.25). The two other strategies of 'venting thoughts and emotions' and 'mental disengagement', did not appear to be perceived as very effective, recording mean values of 1.5 and 2.0 respectively. Interestingly, 'mental disengagement', although not perceived to be particularly effective, was still used frequently (mean value 5.5).
- **Relationship Issues:** Two coping strategies were reported to account for 72.2% of coping strategies used to deal with stressors related to 'relationship issues': 'active coping' and 'seek social support'. Both coping strategy dimensions were perceived to be effective and extensively used. However, it must be noted that 'active coping' was perceived as being extremely effective (mean value 7.0) and used all of the time (mean value 7.0).

- **Demands or Costs of Wheelchair Basketball:** 'Seek social support', 'active coping', and 'mental disengagement' were the predominant strategies used with stressors experienced in this area (53%). 'Seeking social support' accounted for the largest proportion of coping strategies used (25%) and these strategies were also the most effective (mean value 7.0) and frequently used (mean value 6.8). The other two strategies of 'mental disengagement' and 'active coping' were reported as not being particularly effective with mean values of 2.0 and 2.75 respectively. However, both strategies of 'mental disengagement' and 'active coping' were used quite frequently (mean values of 5.0 and 5.5 respectively).
- **Lack of Disability Awareness:** A diverse range of six coping strategy dimensions accounted for 100% of the strategies used to deal with stressors in this particular area: 'acceptance and rationalisation', 'analysis and planning', 'venting thoughts and emotions', 'active coping', 'time management and prioritisation', and 'intra-squad communication'. Two of the strategies were reported to be relatively more effective than the other four strategies. These were; 'acceptance and rationalisation' (mean value 5.5) and 'active coping' (mean value 5.67). Furthermore, 'active coping' was the most extensively used strategy (mean value 6.33).

In summary it would appear that each of the ten sources of stress were dealt with by a range of coping strategies that could be categorised into at least two of the four coping categories identified in section 6.2.1 (problem-focused, emotion-focused, appraisal-reappraisal, avoidance) (see Table 6.2).

6.2.2.2 Specificity and Generality of Coping Strategy Dimensions

Table 6.4 shows the most frequently cited sources of stress associated with each coping strategy general dimension; sources of stress are only included where a coping strategy dimension accounted for at least 10% of the total coping strategies used with a particular stress source dimension. Also presented in Table 6.4 are the mean effectiveness scores for the coping strategy dimension dealing with each particular stress source dimension it is associated with.

- *Active coping off court* was reported to be used with a range of competition and non-competition sources of stress: 'relationship issues', 'lack of disability awareness', 'negative match preparation', and 'demands or costs of wheelchair basketball'. 'Active coping' appeared to be least effective with stressors related to 'demands or costs of wheelchair basketball' (mean value 2.75). However, taking action seems to be a positive strategy with the other identified stress source dimensions (mean values above 5.67).
- *Time management and prioritisation* was reported to be used effectively with two sources of stress; 'negative aspects of major event' (mean value 5.5) and 'lack of

**Table 6.4 Most Frequently Cited Sources of Stress Associated with Each Coping Strategy
General Dimension**

Coping strategy dimension/ source of stress	Percent used with each source of stress (%)	Effectiveness Mean
Active Coping off Court		
Relationship issues	36.36	7.0
Lack of disability awareness	16.67	5.67
Negative match preparation	16.0	6.15
Demands or costs of wheelchair basketball	16.0	2.75
Time Management and Prioritisation		
Negative aspects of major event	17.65	5.5
Lack of disability awareness	11.11	4.0
Intra-squad Communication		
Negative coach style behaviour	44.0	5.38
Post match performance concerns	29.41	4.38
Poor group interaction and communication	26.67	5.63
Lack of disability awareness	11.11	4.5
Analysis and Planning		
Pre-event concerns	23.53	4.42
Lack of disability awareness	16.67	5.67
Post match performance concerns	14.71	5.0
Negative aspects of major event	14.71	5.2
Negative match preparation	12.00	5.25
Pre-competition Mental Prep. & Anxiety Management		
Negative match preparations	20.0	5.4
Negative aspects of major event	11.76	5.0
Vent Thoughts and Emotions		
Poor group interaction and communication	36.67	3.82
Lack of disability awareness	16.67	4.0
Negative coach style/behaviour	16.0	1.5
Negative aspects of major event	11.76	4.5
On-court concerns	10.00	2.0
On-court Strategies		
On-court concerns	46.67	3.79
Seek Social Support		
Relationship issues	36.36	5.75
Demands or costs of wheelchair basketball	25.00	7.0
Pre-event concerns	13.73	4.71
Post match performance concerns	11.76	4.5
Provide Support		
On-court concerns	20.00	5.17

**Table 6.4 (cont.) Most Frequently Cited Sources of Stress Associated with Each Coping Strategy
General Dimension**

Coping strategy dimension/ source of stress	Percent used with each source of stress (%)	Effectiveness Mean
Positive Thinking and Self-talk		
Pre-event concerns	13.73	4.57
Negative match preparation	10.00	5.8
Acceptance and Rationalisation		
Lack of disability awareness	27.78	5.5
Negative aspects of major event	20.59	4.0
Pre-event concerns	13.73	4.33
Active No Coping		
<hr/>		
Mental Disengagement		
Negative match preparations	16.00	4.86
Negative coach style/behaviour	12.00	2.00
Demands or costs of wheelchair basketball	12.00	2.00
On-court concerns	10.00	3.00
Poor group interaction and communication	10.00	2.00

- disability awareness' (mean value 4.0).
- ***Intra-squad communication*** was identified as being used with four sources of stress and appeared to be relatively effective with all of them (mean values above 4.5); 'negative coach style/behaviour', 'post-match performance concerns', 'poor group interaction and communication', and 'lack of disability awareness'. Generally, this strategy dealt with sources of stress related to ineffective communication.
 - ***Analysis and planning*** was reported to be implemented with a range of stress sources and appeared to be effective with all of them (mean value above 4.42); 'pre-event concerns', 'lack of disability awareness', 'post-match performance concerns', 'negative aspects of major event', 'negative match preparations'.
 - ***Pre-competition mental preparation and anxiety management*** appeared to be a specific coping strategy dimension used effectively with 'negative match preparations', and 'negative aspects of major event'.
 - ***Venting thoughts and emotions*** was used with a range of stress source dimensions. However, it appeared to be a strategy that was relatively effective in dealing with 'poor group interaction and communication', 'lack of disability awareness', and 'negative aspects of major event' (mean value above 3.82), but was not particularly effective when dealing with 'negative coach style/behaviour' and 'on-court concerns' (mean values of 1.5 and 2.0 respectively).
 - ***On-court strategies*** were coping responses used specifically with 'on-court concerns'. The strategies used were reported as being moderately effective (mean value of 3.79).
 - ***Seeking social support*** was used with sources of stress not occurring immediately prior to competition. Specifically, 'seeking social support' appeared to be effective when dealing with the following sources of stress; 'relationship issues', 'demands or costs of wheelchair basketball', 'pre-event concerns', and 'post-match performance concerns'. Furthermore, it was perceived as being extremely effective when dealing with stressors related to 'cost or demands of wheelchair basketball' (mean value 7.0).
 - ***Providing social support*** appeared to be a specific coping strategy dimension used very effectively with 'on-court concerns' (mean value 5.17)
 - ***Positive thinking and self-talk*** was reported as being effective when used with two pre-competition sources of stress; 'pre-event concerns' and 'negative match preparations'. Although effective with both it was reported as being particularly effective with 'negative match preparations' (mean value 5.8).
 - ***Acceptance and rationalisation*** was used primarily with three sources of stress; 'lack of disability awareness', 'negative aspects of major event', and 'pre-event concerns'. In terms of effectiveness, 'acceptance and rationalisation' was perceived to be effective with all three source of stress (mean values above 4.0). However, it was particularly effective in coping with 'lack of disability awareness' (mean value 5.5).

- *Active no coping* , interestingly, was not a coping strategy predominantly used to deal with any of the ten stress source dimensions.
- *Mental disengagement* was used with a range of stressors; however, it was not reported as being particularly effective with 'negative coach style/behaviour' (mean = 2.0), 'demands or costs of wheelchair basketball' (mean = 2.0), 'on-court concerns' (mean = 3.0), and 'poor group interaction and communication' (mean = 2.0). 'Mental disengagement' was perceived as relatively effective in dealing with sources of stress related to 'negative match preparations' (mean = 4.86).

This particular section of the results has considered the relationship between coping strategies and sources of stress by examining the range of coping strategies used to deal with each of the ten stress source dimensions identified in Chapter 5, and also the generality and specificity of each of the thirteen identified coping strategies. Furthermore, effectiveness and frequency data were reported, thereby enabling an insight into which strategies were most effective in dealing with each of the ten stress sources, and similarly which stress sources each of the thirteen coping strategies was most effective in dealing with. In general, it would appear that some sources of stress were dealt with by a range of coping strategies, whereas others were dealt with by just a few coping strategies. Furthermore, certain coping strategies appeared to be more effective with some stressors than others (e.g., 'active coping', 'vent thoughts and emotions', 'mental disengagement'). However, other strategies were reported as being effective across a range of different stressors (e.g., 'analysis and planning', 'intra-squad communication' and 'seeking social support').

6.3 DISCUSSION

The purpose of the present chapter was to identify and describe the coping strategies used by elite wheelchair basketball players, and also to examine the relationship between the coping strategies identified and the sources of stress reported in Chapter 5. To re-emphasise, the study was the first to examine the coping strategies used by elite team sport participants with a disability via either qualitative or quantitative methods. Furthermore, the study was the first to consider the effectiveness and extent of use of coping strategies in the sport domain. The following discussion is structured to address purposes 2 and 3 of Study 3. Specifically, the first section (section 6.3.1) considers findings relating to purpose 2, that is the nature of coping used by elite wheelchair basketball players. The second section (section 6.3.2) of the discussion considers findings relating to purpose 3 by examining the relationships between coping strategies and stress source dimension. The discussion section concludes by identifying implications for practitioners and future research.

6.3.1 NATURE OF COPING (PURPOSE 2)

The findings from this study clearly indicate that coping is a complex process for elite wheelchair basketball players. This supports previous research on coping in the general psychology literature (Compas, 1987; Folkman & Lazarus, 1985) and sport psychology literature (Crocker, 1992; Crocker & Graham, 1995; Gould et al. 1993a,b). Similar to Gould et al's (1993b) study of skaters, elite wheelchair basketball players used a range of coping strategies that varied according to the nature of the stressor experienced. The coping strategies identified were diverse, including cognitive and behavioural strategies and ongoing appraisal-reappraisal of a situation. The findings, therefore, clearly support Lazarus and Folkman's (1984) view that coping involves cognitive and behavioural efforts to manage the specific internal or external demands that have been appraised as taxing or exceeding the person's resources.

Specifically, the inductive content analysis of the ten interview transcripts revealed thirteen distinct coping strategies which, as hypothesised, included strategies in four previously identified coping categories (problem-focused, emotion-focused, appraisal-reappraisal, and avoidance) used by sport performers (Hardy et al., 1996). Problem-focused strategies involved dealing directly with stressors and included the following strategies; 'active coping', 'time management and prioritisation', 'intra-squad communication', and 'analysis and planning'. The content analysis revealed two strategies which related to regulating emotions and these were 'pre-competition mental preparation and anxiety management', and 'venting of thoughts and emotions'. Problem-focused and emotion-focused coping categories were initially highlighted in the literature by Lazarus and Folkman (1984). The appraisal-reappraisal coping category was identified by Billings and Moos (1984) and Cox and Ferguson (1991) and incorporates strategies in which a source of stress is dealt with by viewing it from an alternative, or more appropriate, perspective. The present study identified two strategies which involved these types of strategies; 'positive thinking and self-talk', and 'acceptance and rationalisation'. The wheelchair basketball players also reported two coping strategy dimensions that were classified in the coping category of avoidance (Endler & Parker, 1990); 'mental disengagement' and 'active no coping'. 'Mental disengagement' involved strategies to actively block out stressors, whereas 'active no coping' involved consciously electing to 'do nothing' and 'just hope or let it happen'. The content analysis also highlighted three other coping strategy dimensions that did not clearly delineate into one of the four identified coping categories; these were 'on-court strategies', 'seek social support' and 'provide support'. On examination of the higher order themes comprising these coping dimensions, it appeared that they included strategies which directly influenced the stressor (i.e., problem-focused coping), and yet also dealt with emotions caused by a stressor (i.e., emotion-focused coping). For example, seeking social support involved seeking advice from knowledgeable others and also gaining emotional support.

When comparing the present study's findings to those of two previous qualitative studies of coping strategies used by elite figure skaters and wrestlers (Gould et al. 1993a,b), many of the higher-order themes and dimensions were very similar. A detailed comparison with Gould et al's (1993b) study of skaters is appropriate since they also considered coping strategies from a broad context (i.e., practice as well as competition). Gould et al's (1993a) study of wrestlers, however, purely examined coping with adversity experienced at an Olympic Games. Coping strategies identified for elite figure skaters included 'rational thinking and self-talk', 'positive focus and orientation', which are similar to those reported by the wheelchair basketball players as 'acceptance and rationalisation', and 'positive thinking and self-talk'. Both skaters and wheelchair basketball players reported using strategies of 'seeking social support', 'time management and prioritisation', and 'pre-competition mental preparation and anxiety management'. Gould et al. (1993b) also reported that elite figure skaters used the strategy 'no coping'. On examination of the raw data themes comprising this dimension it appeared they were very similar to those forming the dimension 'active no coping' for wheelchair basketball players. However, the present study selected the term 'active no coping' because the wheelchair basketball players consciously made the decision to do nothing. The second order sub-themes of the wheelchair basketball players strategies of 'mental disengagement' and 'venting thoughts and emotions' were very similar to those strategies which emerged into the dimensions of 'isolation and deflection' and 'reactive behaviours' for skaters. Furthermore, the strategies comprising the dimension of 'taking action' by wheelchair basketball players were apparent in such strategies as 'training hard and smart', and 'changing to healthy eating attitudes' in the skaters. Gould and colleagues compared their findings for elite skaters and wrestlers and identified many similarities; however, they also reported additional categories for skaters due to assessing coping strategies from a broader perspective. These strategies were; 'social support', 'time management and prioritisation', 'training hard and smart', 'ignoring' and 'reactive behaviours'. Interestingly, the present study also identified similar strategies for elite wheelchair sport participants. Therefore, future research into coping responses of elite performers should acknowledge the potential use of strategies such as, social support, time management and prioritisation, ignoring and reactive behaviours.

Detailed above are the similarities of the present study's findings to previous research. However, there were also several different strategies which emerged; these were 'on-court strategies', 'intra-squad communication' and 'provide support'. On examination of the raw data themes comprising these dimensions, it would appear that they are coping strategies related to the nature of the sport (i.e., wheelchair basketball). Previous research has been limited to examining the coping strategies employed by individual sport participants (i.e., skaters and wrestlers), whereas the present study considered the coping strategies of team sport participants. The additional strategies

which emerged appeared to deal with sources of stress occurring during a match, and also strategies relating to dealing effectively with other team members. The present study's findings would support future research examining the specific demands and coping strategies of different sports. For example, the sources of stress, and consequently the coping strategies required, may be different in individual sports, such as golf, table tennis and sprinting due to the specific sport characteristics.

It would appear from the present study that being able to deal effectively with important others (i.e., coach and other players) is vital for wheelchair basketball players, and this is highlighted in the following identified coping strategies; 'intra-squad communication', 'social support', 'provide support'. These coping strategies support previous research in the general and sport psychology literature which indicates that social support from important others is an important coping resource (Cohen & Wills, 1985; Hardy & Crace, 1991; Madden et al., 1989). In addition, the present study also provides additional evidence that social support is multidimensional in nature, comprising of three major dimensions; providing advice, emotional support and tangible support (Schafer, Coyne & Lazarus, 1982). The three dimensions previously reported are identical to the three second order sub-themes identified in the present study's 'seeking social support' dimension. In addition to 'seeking social support', another dimension was also identified, that of 'providing support'. The general psychology literature has identified that within a group setting an individual may be both a seeker and a provider of social support (Dunkel-Schetter et al., 1987). From examination of the raw data themes in the present study, it is apparent that wheelchair basketballers sought support from particular players, and also from family and friends; that is, they actively selected whom they sought support from. This supports Folkman's (1992) suggestion that support seekers know the style of support they prefer, and, whenever possible, will seek support from a person with a preferred style that matches his or her needs. Carpenter and Scott (1992) also discussed the importance of relational competence in being able to effectively use social support. Relational competence involves personal skills that facilitate effectively seeking and providing social support. The above findings have several implications for sport psychologists, including; creating an environment in which individuals can communicate effectively, encouraging individuals to identify people they can openly communicate with about potentially sensitive issues, and also assisting individuals develop relational competence. Sport psychologists may consider organising workshops on effective communication for players and support staff, as well as running more traditional workshops on mental skills training. The aim of the communication workshops would be to facilitate effective two-way communication, both on and off court, between coach and player(s), and player and player(s).

Previous research on sport performers (Crocker & Graham, 1995, Madden et al., 1989) and community populations (Bjork & Cohen, 1993; Endler & Parker, 1990;

Folkman & Lazarus, 1985) has shown that the most predominantly used type of coping strategies are problem-focused. Findings from the present study provide additional support for this with a population of elite wheelchair sport participants. Specifically, elite wheelchair basketball players identified four coping dimensions that were specifically problem-focused in nature and these comprised 37.05% of the total number of coping strategies identified ('active coping', 'time management and prioritisation', 'intra-squad communication', and 'analysis and planning'). It has been suggested that the reason more problem-focused coping is used relates to individuals preferring to alter their external environment rather than altering their own internal environment (Brown & Siegel, 1988; McCrae, 1992; Vitaliano et al., 1990).

The wheelchair basketball players, similar to the skaters in Gould et al's (1993a) study, reported using both adaptive and maladaptive coping strategies, thus supporting the work of Carver et al. (1989). The majority of the strategies reported appeared to be adaptive (e.g., 'pre-competition mental preparation and anxiety management', 'on-court strategies', 'seek social support', 'active coping', 'analysis and planning', and 'intra-squad communication') and complement current strategies advocated by sport psychologists. Furthermore, the adaptive strategies identified for elite wheelchair basketballers agree with strategies highlighted by Orlick and Partington (1988) as being used by successful able-bodied sport performers. The wheelchair basketballers also reported using certain strategies which sport psychologists would argue are maladaptive; for example, ignoring the coach or verbally abusing the referee. These findings suggest that elite wheelchair basketballers need to be educated as to strategies which are potentially adaptive and those which are maladaptive.

The discussion section, thusfar, has highlighted the nature of coping of elite wheelchair basketball players and considered the findings relative to previous research from the sport and general psychology literature. The following section examines the relationship between these coping strategies and the stress source dimensions identified in Chapter 5.

6.3.2 RELATIONSHIP BETWEEN COPING STRATEGIES AND STRESS SOURCE DIMENSIONS (PURPOSE 3).

A further aspect of the present study was to replicate Gould et al's (1993b) study of skaters and to consider the link between coping strategies and stress source dimensions. It also attempted to extend Gould and colleagues' work, based on recommendations from the sport and general psychology literature, that future research needed to consider coping effectiveness (Bar-Tal et al., 1994; Carpenter, 1992; Hardy et al., 1996). In addition, Bar-Tal and colleagues suggested that the extent of use of coping strategies should be examined simultaneously with coping effectiveness. The rationale

for this suggestion was that a coping strategy may be perceived as effective, yet be used infrequently, or alternatively a coping strategy may be perceived as ineffective, yet be used frequently. Both these scenarios could imply that an individual, in reality, is not coping effectively. Therefore, the present study attempted to follow these recommendations and evaluated both perceived effectiveness and extent of use of coping strategies with specific stress source dimensions. To examine the relationship between coping and sources of stress the data was analysed from two different perspectives. Firstly, the range of coping strategies used with a particular source of stress were identified, and secondly, the generality and specificity of each of the thirteen coping dimensions was determined. To facilitate a logical discussion of these findings, this section is split into two subsections to examine each perspective.

6.3.2.1 Range of Coping Strategies used with Specific Sources of Stress

The findings from the present study showed that elite wheelchair basketball players implement different coping strategies depending on the nature of the stressors they encounter, therefore supporting Gould et al's (1993b) study of elite skaters. The specific findings are discussed below.

Stressors experienced prior to and post-competition appeared to be alleviated by a diverse range of strategies, including problem-focused, emotion-focused and appraisal-reappraisal categories of coping. Generally, individuals perceived the coping strategies they used with sources of stress occurring pre- and post-competition to be effective and used relatively frequently. Coping strategies used to deal with stressors occurring immediately prior to competition included; 'pre-competition mental preparation and anxiety management', 'active coping', 'analysis and planning', and 'positive thinking and self-talk'. These findings support the work of sport psychologists who advocate that sport performers should learn to deal with problems in the environment and also manage their own personal emotional response immediately prior to competition. Sources of stress occurring outside the immediate competitive situation (i.e., prior to a major event and post-match sources of stress) were dealt with by fewer coping strategies. Specifically, pre-event and post-match performance concerns were dealt with by seeking 'social support' and 'analysing and planning'. Once again, the nature of these coping strategies supports Orlick and Partington's (1988) suggestion that successful sport performers comprehensively plan for competition.

On-court sources of stress were primarily dealt with by four coping strategies; 'on-court strategies', 'provide support', 'vent thoughts and emotions' and 'mental disengagement'. The strategies perceived to be the most effective were 'provide support' and 'on-court strategies' such as try harder and focusing techniques. The two other identified strategies (i.e., 'mental disengagement' and 'vent thoughts and emotions') were reported as being relatively ineffective. Therefore, 'mental disengagement' and 'vent

thoughts and emotions' may be considered as maladaptive when dealing with stressors occurring on-court. Practically these findings would support elite wheelchair basketball players being educated as to which strategies are the most appropriate in dealing with stressors occurring on-court.

The sources of stress, 'negative aspects of participating at a major event' and 'lack of disability awareness', were reported to be alleviated using a wide range of coping mechanisms. Lack of disability awareness issues were primarily perceived to be effectively dealt with by problem-focused coping strategies; for example, 'analysis and planning', 'active coping', 'time management and prioritisation', and 'intra-squad communication'. Lack of disability awareness stressors were also dealt with effectively by strategies from other coping categories; 'acceptance and rationalisation' and 'venting thoughts and emotions'. It would appear that individuals with a disability need to develop a range of strategies to deal with disability issues created by a lack of awareness of others. The strategies developed to deal with such stressors could potentially be transferred to other sources of stress. Carpenter (1992) stated that skills developed through effective coping in one situation may generalise to other life endeavours. Therefore, wheelchair sport participants may be educated to transfer coping skills to the sport environment, which they have potentially developed in everyday life to deal with lack of disability awareness.

'Negative coach style/behaviour' and 'poor group interaction and communication' were reported as sources of stress that involved dealing with important others (i.e., coach, and other players). The coping strategies reported to alleviate these two stress source dimensions were the same; 'intra-squad communication', 'mental disengagement', and 'venting thoughts and emotions'. In both circumstances the strategy perceived to be the most effective was 'intra-squad communication'. Once again, this highlights the importance of elite wheelchair basketball players developing effective communication skills. The coping strategy perceived to be the least effective was 'mental disengagement'. Therefore, it would appear not to be appropriate to mentally disengage from sources of stress relating to important others. Furthermore, 'venting thoughts and emotions' was not perceived to be very effective in dealing with stressors associated with the coach's style or behaviour. These findings indicate the importance of sport psychologists educating sport performers as to the most appropriate coping strategies to use with particular stressors.

The final two sources of stress to be highlighted are 'relationship issues' and 'demands or costs of wheelchair basketball'. Both of these sources of stress were reported as being dealt with by 'active coping' and 'seeking social support'. 'Seeking social support' was reported as an effective strategy for both stress source dimensions. However, 'active coping' was not particularly effective in dealing with demands or costs of wheelchair basketball (mean = 2.75), yet, was perceived to be extremely effective in dealing with

relationship issues (mean = 7.0). These two stress source dimensions provide further support for the importance of wheelchair basketball players using social support as a coping strategy.

Considering the relationships between coping strategies and stress source dimensions leads to the conclusion that certain stress source dimensions were dealt with by a wide range of coping strategies, whereas others were dealt with by just a few coping strategies. These findings support Gould et al's (1993b) study of skaters. In addition, the findings from the present study extended Gould and colleagues' work by giving an insight into the effectiveness and extent of use of coping strategies used. The additional information concerning the effectiveness of coping strategies suggests that certain sources of stress may be dealt with by a range of strategies, however, only particular strategies may be effective. It must be noted that the findings from the present study are limited to ten elite wheelchair basketball players and individual differences were apparent within the group.

The final part of the current section addresses two tentative hypotheses that were proposed in relation to the characteristics of sources of stress identified in Chapter 5. Specifically, it was hypothesised that sources of stress perceived as most controllable would be dealt with by problem-focused coping and those perceived as least controllable would be dealt with by emotion-focused coping. The findings in Chapter 5 showed that the four stress source dimensions perceived to be the most controllable were also perceived to be the most challenging; 'pre-event concerns', 'negative match preparations', 'on-court concerns' and 'negative coach style/behaviour'. The present chapter's findings support the hypothesis in that problem-focused coping was predominantly used with these four sources of stress. Specifically, the predominant coping strategies used were; 'analysis and planning', 'active coping', 'intra-squad communication', 'social support' and 'on-court strategies'. It must be noted that other strategies were also perceived to be effective in dealing with these stressors; for example, 'acceptance and rationalisation', and 'positive thinking and self-talk'. Interestingly, coping strategies reported not to be particularly effective in dealing with 'on-court concerns' and 'negative coach style behaviour', were 'venting thoughts and emotions' and 'mental disengagement'. Generally, it would appear that problem-focused coping was predominantly used to deal with sources of stress perceived to be controllable and challenging. These findings, therefore, support previous findings of Bjork and Cohen (1993).

Sources of stress perceived to be the least controllable were relationship issues, poor group interaction and communication, and negative aspects of major events. All three sources of stress were dealt with by emotion-focused coping ('pre-competition mental preparation and anxiety management', 'venting thoughts and emotions' and 'emotional social support'). Specifically, emotion-focused coping formed a large proportion of the total coping strategies used to deal with all three source of stress

dimensions ('relationship issues', 36.36%; 'poor group interaction and communication' 36.67%; and 'negative aspects of major event', 23.53%). However, it must be noted that problem-focused coping was also used extensively with the three stress sources (relationship issues, 36.36%; poor group interaction and communication, 26.67%; and negative aspects of a major event, 32.36%). The hypothesis, therefore, that sources of stress perceived to be the least controllable would be dealt with by emotion-focused coping is supported. In addition, the findings support Carver et al's (1989) belief that sources of stress are generally dealt with by both emotion-focused and problem-focused coping.

6.3.2.2 Generality and Specificity of Coping Strategies

The present study proposed two tentative hypotheses relating to generality and specificity of coping strategies. These were (1) certain strategies would be specific to particular sources of stress, and (2) certain coping strategies would be used with a diverse range of sources of stress. Due to the lack of research in the area and the study using inductive analysis, it was not possible to specify which coping strategies would be specific, and which coping strategies would be applied to a range of sources of stress.

The findings from the present study support the two hypotheses forwarded, with certain strategies being used exclusively with particular sources of stress and other strategies being used with a range of sources of stress. Specifically, the strategies used with a range of sources of stress were; 'active coping off court', 'intra-squad communication', 'analysis and planning', 'venting thoughts and emotions', 'seeking social support', and 'mental disengagement'. Examination of the mean perceived effectiveness scores for the ten elite wheelchair basketball players enabled an insight into whether these coping strategies were effective across a range of stress source dimensions. Certain coping strategies were reported as being perceived as effective across a range of sources of stress; these were 'analysis and planning', 'intra-squad communication', and 'seeking social support'. These findings have implications for sport psychologists in terms of ensuring that sport performers develop such multipurpose coping strategies. Three coping strategy dimensions reported to be effective with particular sources of stress were, however, not very effective with other sources of stress; 'active coping', 'venting thoughts and emotions' and 'mental disengagement'. Specifically, 'active coping' was perceived to be particularly effective with 'relationship issues', 'lack of disability awareness', 'negative match preparation', but not as effective with 'demands or costs of wheelchair basketball'. Similarly, 'vent thoughts and emotions' was perceived as quite effective with stressors related to 'poor group interaction and communication', 'lack of disability awareness', 'negative aspects of major event', but relatively less effective with 'negative coach style/behaviour' and 'on-court concerns'. Finally, 'mental disengagement' was not perceived to be particularly effective with 'negative coach style/behaviour', 'demands or

costs of wheelchair basketball', 'on-court concerns', and 'poor group interaction', but it was perceived to be relatively effective with 'negative match preparations'. The strategy 'venting thoughts and emotions' appeared to be less effective with severe sources of stress e.g., 'lack of disability awareness' (see Chapter 5 section 5.1). The analysis of generality and specificity of coping strategies, in combination with perceived effectiveness data, illustrates that strategies such as 'mental disengagement' may be adaptive in certain situations (e.g., 'negative match preparations'), yet maladaptive in others (e.g., 'negative coach style/behaviour').

Particular coping strategies were identified as being specific to dealing with a certain source of stress. These coping strategies primarily were associated with dealing with pre- and during competition sources of stress: 'pre-competition mental preparation and anxiety management', 'on-court strategies', 'provide support', 'positive thinking and self-talk'. 'Time management and prioritisation' was specifically used with just two non-competition sources of stress; 'negative aspects of major event' and 'lack of disability awareness'. Interestingly, the coping dimension 'active no coping' was not used extensively with any stress source dimension (i.e., accounting for above 10% of coping strategies used). However, the strategy of 'active no coping' was identified as a strategy used by elite figure skaters (Gould et al., 1993a) (termed 'no coping'). Future research may need to acknowledge that actively deciding to do nothing may be a strategy used by elite performers.

It would appear that certain coping strategies used by elite wheelchair basketball players are applied effectively across a range of stress source dimensions. However, other coping strategies may be used with a range of stressors but are perceived to have varying degrees of effectiveness. These findings imply that sport psychologists need to consider educating sport performers as to which coping strategies are effective to deal with which particular source of stress. Interestingly, certain coping strategies appear to relate specifically to competition; therefore, it is important that sport performers develop appropriate strategies to deal with sport-specific stressors. Finally, it would appear that information concerning coping effectiveness, and extent of use of coping, is valuable for sport psychologists and coaches wanting to ensure that sport performers develop a repertoire of appropriate coping skills to deal with a range of potential stress sources.

In summary, purpose 3 of Study 3 was to explore links between stress source characteristics and the nature and effectiveness of coping. As previously highlighted, the present study considered ten elite wheelchair basketball players with the primary aim being to gain an in-depth understanding from the subjects' own personal perspectives. The findings, therefore, are limited to this particular sample. Consequently, future research is needed to gain a complete understanding of the complex interaction between stress source characteristics and coping in the sport domain. This may mean identifying methods which enable trends to be identified across a large number of subjects, to then

generalise the findings to a larger population. This may necessitate using quantitative methods and statistical analyses such as structural modelling to fully understand the complex interactions within the stress coping process.

6.3.3 SUMMARY

The findings from the present study suggest that elite wheelchair basketball players use a plethora of coping strategies to alleviate the sources of stress they experience. Furthermore, the findings support previous research of elite able-bodied sport performers that individuals do not possess one coping strategy to deal with all situations. The coping strategies reported were very similar to those previously identified for elite figure skaters and wrestlers (Gould et al. 1993 a,b), and any differences that did emerge appeared to be related to the present study investigating elite team sport performers. For example, the elite wheelchair basketballers reported three coping strategies that require being able to communicate effectively; 'intra-squad communication', 'seek support', and 'provide support'. Specifically, these strategies were used to deal with sources of stress relating to important others both in competitive and non-competitive environments (i.e., coach, other players and partners). Whilst effective communication was a skill required for coping strategies used by elite figure skaters and wrestlers, there appeared to be a greater need in the present study due to the sample being elite team sport participants. These findings suggest that future research should investigate different sport types to identify any key coping strategies associated with operating effectively within a particular sport.

Findings also supported previous research of able-bodied sport performers and community populations, that the most predominantly used coping strategies are problem-focused in nature (Bjork & Cohen, 1993; Crocker & Graham, 1995; Endler & Parker, 1990; Folkman & Lazarus, 1985; Madden et al., 1989). Carpenter (1992) suggested that this has implications for psychologists in teaching problem-focused coping skills as well as the more traditional emotion-focused strategies, such as relaxation techniques. The findings also supported the hypothesis that the coping strategies identified would be able to be categorised into four separate coping categories: problem-focused, emotion-focused, appraisal-reappraisal, avoidance. In general, the implications are that elite wheelchair basketballers need to develop a broad range of coping strategies, thus supporting what several researchers have promoted for able-bodied sport performers (Crocker 1989a,b; Mace & Carroll, 1986).

The present study extended previous research by examining not only the link between stress and coping but also the effectiveness and extent of use of coping strategies. The findings concerning the link between stress and coping appeared to support previous research in the general psychology literature, with sources of stress

perceived to be the most controllable being dealt with by problem-focused coping (Bjork & Cohen, 1993). With regards to the effectiveness data, it seemed that certain coping strategies were only effective when used with particular sources of stress, whereas other strategies could be used effectively with a wide range of sources of stress. Consequently, sport psychologists need to assist sport performers in developing an awareness of the generality and specificity of coping strategies, and also the effectiveness of coping strategies with particular sources of stress. The present study's findings suggest that examining stress and coping simultaneously, and assessing the perceived effectiveness and extent of use of coping, is extremely important in gaining a full understanding of the stress-coping process.

Finally, the present study has provided additional evidence to support Lazarus and Folkman's transactional view of coping, with elite sport performers with a disability reporting using a diverse range of coping strategies dependent largely on the source of stress experienced. Furthermore, the study has extended our understanding of coping in elite sport participants with a disability, whilst simultaneously supporting and extending previous research in the sport domain.

CHAPTER 7

SUMMARY, DISCUSSION & CONCLUSIONS

This chapter is structured in three sections; summary, discussion and conclusions. The summary section briefly outlines each of the three studies reported in this thesis, highlighting their purposes and major findings. The discussion section is sub-divided into four areas; stress-coping process in wheelchair sport participants, practical implications, methodological considerations and future research directions. The final section in the chapter offers a brief conclusion to the thesis.

7.1 SUMMARY

This doctoral thesis has attempted to examine stress and coping responses in wheelchair sport participants. The underlying purpose has been to facilitate a greater understanding of how wheelchair sport participants operate in highly stressful sporting situations. The thesis also attempted to test and extend current research findings in the area of stress and coping in the general sport domain. This section is structured to provide a brief summary of each of the three studies, highlighting the purpose, how it extended previous research, major findings and also any similarities and differences to previous research into able-bodied sport participants.

7.1.2 STUDY 1

Due to a lack of research into sport performers with a disability in sport psychology, the first study of this thesis examined an area which has attracted much research interest with able-bodied sport participants; specifically, competitive anxiety responses. The specific purpose of Study 1 was to examine normative competitive anxiety and self-confidence responses in wheelchair sport participants. A modified version of the CTAI-2 was used to measure intensity, frequency and direction of pre-competition anxiety and self-confidence responses at three pre-event time periods (1 week, 2 hours and 30 minutes before). The study extended previous research by considering the patterning of *normative* as opposed to *state* anxiety and self-confidence responses. The study was also unique in examining the patterning of directional perceptions of anxiety during the pre-competition period. The subjects comprised 103 male and female wheelchair sport participants who

participated in a range of sports (wheelchair basketball, swimming and track and field). The changes reported in pre-competition anxiety were similar to those previously reported for the state responses of non-disabled sport participants. However, the mean somatic anxiety intensity scores seemed rather high when compared to Jones and Swain's (1995) study, which used the same normative measure of anxiety. The results for self-confidence intensity showed an inverted-U pattern with an increase from 1 week to 2 hours before competition, and then a decrease from 2 hours to 30 minutes before competition. This finding does not support Multidimensional Anxiety Theory which predicts that self-confidence should remain stable unless expectations of success are changing. However, the decrease in self-confidence was not necessarily unexpected since previous research has shown similar patterning in female athletes (Jones & Cale, 1989; Jones et al., 1991). In general, study 1 provided additional support with normative anxiety and self-confidence responses for the importance of considering the dynamics of the pre-competition time period. In addition, the study showed intensity and frequency dimensions of anxiety and self-confidence to have differential patterning, thus providing further support, with a disabled sport population, for Jones' (1991, 1995a) argument that the intensity-alone approach to competitive anxiety is limited. In summary, the study appeared to produce two findings which warranted further investigation; 1) the high somatic anxiety mean scores, and 2) the possible drop in self-confidence immediately prior to competition. However, it was beyond the scope of this thesis to investigate both of these areas, Study 2 focused specifically on understanding the reported drop in self-confidence immediately prior to competition^{7.1}.

7.1.2 STUDY 2

Study 2 investigated the possible drop in self-confidence immediately prior to competition, by examining the psychosocial resources of wheelchair and able-bodied sport participants, and appraisal of important competitive events. The study had three specific purposes: 1) to determine if disability status (i.e., possessing or not possessing a disability) influences psychosocial resources; 2) to examine the influence of disability status on appraisal of an important competitive event; and 3) to investigate whether disability status influences the predictors of primary appraisal of an important competitive event. The subjects were 75 wheelchair and 44 able-bodied sport participants. The subjects completed a series of psychosocial and appraisal measures; COPE scale (Carver et al., 1989), Self Control Schedule (Rosenbaum, 1980); Social Support Inventory (Brown et al., 1988); secondary appraisal factors (Crocker & Bouffard, 1992); and

7.1 The high somatic anxiety mean score would appear to be an important area for further investigation and is detailed in the section on future research directions (section 7.2.4).

primary appraisal (degree of challenge and threat). In general, the results showed no differences between wheelchair and able-bodied sport participants in terms of coping style, self-control and social support. The wheelchair sport participant group, however, did report needing and being supplied with more tangible support and material-aid than able-bodied sport participants. Interestingly, both groups perceived they wanted to be supplied with more social support than they received. Furthermore, both groups reported using predominantly problem-focused coping, therefore supporting previous research of community (Bjork & Cohen, 1993; Endler & Parker, 1990) and sport populations (Crocker & Graham, 1995; Madden et al., 1989). Wheelchair and able-bodied sport participants reported similar appraisals of an important competitive event, with both groups perceiving important competitive events to be more challenging than threatening. One difference which did emerge was that wheelchair sport participants reported events as more predictable than able-bodied sport participants. The findings for purpose 3 of the study indicated that wheelchair and able-bodied sport participants reported different coping strategies as predictors of perceiving an important competitive event as challenging. It was suggested that this might be because wheelchair and able-bodied sport participants experience different sources of stress and therefore require different coping strategies. Study 3 of this thesis specifically examined the sources of stress and coping responses of elite wheelchair sport participants. The findings were also compared to the sources of stress and coping responses previously reported for elite able-bodied sport participants.

7.1.3 STUDY 3

The finding from Study 2 suggested that wheelchair sport participants may experience different sources of stress and, therefore, might require different coping strategies. Consequently, the purpose of Study 3 was to explore, via in-depth qualitative interviews, the sources of stress and coping responses in 10 elite wheelchair basketball players. Study 3 extended previous qualitative research of stress and coping in sport by: 1) examining wheelchair sport participants; 2) examining team sport participants; 3) adopting a definition of stress which enabled identification of sources of stress which could be appraised as both positive and negative; and 4) using qualitative and quantitative methods in combination to enable examination of stress source characteristics (degree of challenge, threat, harm, severity, control and frequency) and coping details (effectiveness and frequency). The study had three specific purposes:

- Identification and description of the sources of stress of elite wheelchair basketball players;

- Identification and description of the coping strategies of elite wheelchair basketball players;
- Investigation of relationships between stress sources and coping.

The major findings of the study are described in three sections; sources of stress, coping strategies and the relationship between sources of stress and coping.

7.1.3.1 Sources of Stress

Content analysis revealed 10 diverse stress source dimensions that incorporated both competition and non-competition stressors. The findings were generally similar to those previously reported for elite figure skaters and wrestlers (Gould et al., 1993 a,b). However, there were differences and these appeared to relate to subjects possessing a disability (e.g., lack of disability awareness) and also being team sport participants (e.g., poor group interaction and communication). The information obtained concerning stress source characteristics enabled distinctions to be made between stress sources; for example, certain stress sources were rated as severe (e.g., relationship issues, negative coach style/behaviour), yet others were reported as mere 'niggles' (e.g. lack of disability awareness, negative aspects of major event). Furthermore, detailed information about stress source characteristics showed two particular relationships between stress source characteristics: firstly, sources of stress that were the most challenging were also the most controllable; and secondly, sources of stress that were low on challenge and high on harm/loss or threat, were also the most severe. In general, the findings support previous research which has highlighted the importance of obtaining detailed information about stress source characteristics (Bjork & Cohen, 1994; McCrae, 1992).

7.1.3.2 Coping

The inductive content analysis identified 13 coping strategy dimensions that compartmentalised into 4 previously-identified coping categories; problem-focused, emotion-focused, avoidance and appraisal-reappraisal (Billings & Moss, 1984; Cox & Ferguson, 1991; Endler & Parker, 1990; Hardy et al., 1996; Lazarus & Folkman, 1984). In general, the findings were similar to those previously reported for elite figure skaters and wrestlers (Gould et al., 1993 a,b). Furthermore, the nature of the dimensions appeared to support previous research that the most appropriate quantitative measure to use in the sport domain is the COPE scale (Carver et al., 1989) (Crocker & Graham, 1995; Hardy et al., 1996). In addition to demonstrating some similarities with previous research findings, there were also differences. In particular, certain coping strategies appeared to relate to subjects being team sport participants; for example, on-court strategies and intra-squad communication.

7.1.3.3 Relationship Between Stress Sources and Coping

The findings clearly showed that certain sources of stress (e.g. pre-event concerns) were dealt with by a range of coping strategies, whereas others (e.g., on-court concerns) were dealt with by only specific strategies. Furthermore, analyses showed that some coping strategies (e.g., analysis & planning) dealt with a range of sources of stress, whereas other coping strategies (e.g., on-court strategies) only dealt with particular sources of stress. The data on effectiveness enabled an insight into whether coping strategies, when used with particular sources of stress, were effective. The findings showed that some coping strategies were only effective with certain sources of stress, whereas others were effective across a range of situations (e.g. active coping off court, analysis and planning and seek social support). The findings also supported suggestions made in the general psychology literature that sources of stress perceived as controllable should be predominantly dealt with by problem-focused coping, and uncontrollable sources of stress by emotion-focused coping (Folkman, 1992).

In summary, Study 3 enabled an in-depth examination of the sources of stress and coping responses of elite wheelchair sport participants. The findings were generally similar to those previously reported for elite able-bodied athletes (Gould et al., 1993 a,b; Hardy et al., 1996; Jones & Hardy, 1992). However, the differences which did emerge appeared to relate to the study being unique in examining elite team sport participants with a disability. Furthermore, the unique nature of the study obtaining information on stress source characteristics, and effectiveness and extent of use of coping strategies, proved to be extremely useful in gaining a more in-depth understanding of the complex stress-coping process.

7.2 DISCUSSION

The findings for each of the three studies have been discussed in detail in earlier chapters. The aim of this section is, therefore, merely to draw together the findings from the three studies. Specifically, the section is divided into four areas: stress and coping in wheelchair sport participants: a dynamic process; practical implications; methodological considerations; and future research directions.

7.2.1 STRESS & COPING IN WHEELCHAIR SPORT PARTICIPANTS: A DYNAMIC PROCESS

The dominant model of stress and coping adopted in the general psychology literature, and more recently in sport psychology, is Lazarus and Folkman's (1984) transactional model. This model adopts a process orientation, viewing stress as a dynamic

unfolding process, and coping as a dynamic sequence of steps, involving both cognitive and behavioural efforts, to manage stress^{7.2}. This section considers the degree of support offered by the findings from the three studies in this thesis for Lazarus and Folkman's model. Lazarus and Folkman's model views stress, appraisal, coping and emotion as being inextricably linked. For convenience, however, this section considers sources of stress, appraisal, coping and emotion separately and then draws them together in a summary section which presents a model of stress and coping for wheelchair sport participants.

7.2.1.1 Sources of Stress

Study 3 of this thesis reported elite wheelchair basketball players to experience competition and non-competition sources of stress. The competition sources of stress clearly depicted the dynamic nature of the competition process, with stressors being categorised into four distinct time periods: pre-event, pre-match, on-court and post match. These findings support previous research which showed the importance of considering the dynamics of a stressful examination period (Folkman & Lazarus, 1985). The specific stressors experienced at each time period indicate the dynamics of a stressful competitive event: pre-event stressors included medical factors and individual preparation worries; pre-match concerns were associated with environmental factors and inappropriate physical preparation; on-court stressors related to poor technical performance, perceived contribution to the team and psychological pressure; and post-match stressors related to poor individual and team performance and poor perception of ability by important others. The nature of the stressors at each time point underline the changing nature of the competition stressors experienced by elite wheelchair basketball players. The non-competition sources of stress, whilst not linked to a particular time period, appeared to be factors that could occur at various time points and involved issues relating directly (e.g., negative coach style/behaviour) and indirectly (e.g., relationship issues) to playing wheelchair basketball.

In general, the findings support previous research of elite able-bodied sport performers that competitive sport is a dynamic interaction between the person and environment, and that as a consequence a diverse range of sources of stress are experienced (Hardy et al., 1996; Jones & Hardy, 1991). However, the findings also extend previous research in the sport domain by highlighting the specific nature of the sources of stress experienced at different time points of the competition process. Furthermore, the findings also suggest the importance of considering individual difference variables, such as sport type and disability, to clearly understand the dynamic

7.2 Lazarus and Folkman's (1984) transactional model is detailed in Chapter 4 section 4.2.

nature of the sources of stress experienced by sport participants.

7.2.1.2 Appraisal

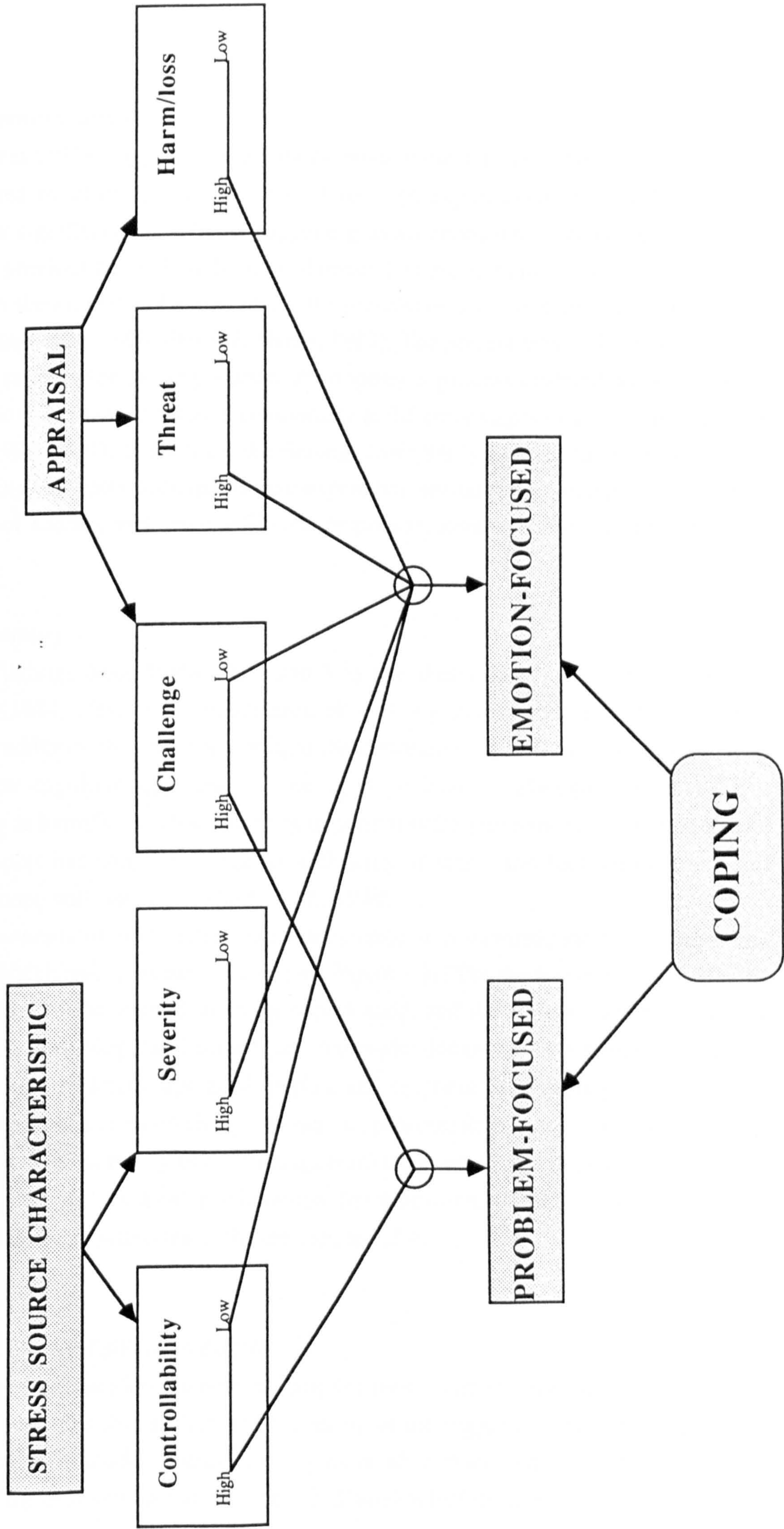
Cognitive appraisal is defined as the process by which individuals interpret what is happening in their environment and the implications it has for personal well-being (Gage, 1992; Lazarus & Folkman, 1984, 1987; Smith & Lazarus, 1993). Lazarus and Folkman (1984) identified three types of primary appraisal of a stressful event; challenge, threat and harm or loss^{7.3}. Studies 2 and 3 of this thesis assessed primary appraisal. Specifically, Study 2 considered appraisal of an important competitive event, and Study 3 appraisal of specific sources of stress. The findings from both studies suggested that a stressful encounter may generate a range of appraisals; that is, a stressor might be appraised as both challenging and threatening. Lazarus and Folkman's transactional model appears to explain these findings in that it views stress as an interaction between person and the environment that alters as the environment and people's motives change. Therefore, a particular source of stress experienced across a period of time may generate a range of appraisals due to continually altering environmental and personal motives. The present thesis also supports previous research from the general psychology literature that it is difficult to categorise a stressor as being either challenging or threatening, due to constantly changing personal and situational circumstances (Bjork & Cohen, 1993). The findings appear to extend previous research in the sport domain by highlighting the importance of considering appraisal patterns of stressors. Furthermore, the findings cause questions to be raised about the appropriateness of several studies in the sport psychology literature which have categorised stressors as being either challenging or threatening (Bouffard & Crocker, 1992; Crocker & Bouffard, 1992).

7.2.1.3 Coping

Studies 2 and 3 of this thesis identified that wheelchair sport participants use a diverse range of coping strategies, depending upon the characteristics and appraisal of sources of stress (see Figure 7.1). These findings clearly support previous empirical evidence from the general psychology literature (Bjork & Cohen, 1994; Folkman & Lazarus, 1985; McCrae, 1992), and Lazarus and Folkman's view, that coping and stress are inextricably linked. Furthermore, the findings extend previous research in the sport domain by indicating the importance of considering the relationship between stress source characteristics and coping responses. In general, it would appear that wheelchair sport participants require a diverse range of strategies to deal with the dynamic and diverse sources of stress and appraisal patterns they experience.

7.3 Appraisal is discussed in detail in Chapter 3 section 3.2.1

Figure 7.1 Relationship Between Stress Source Characteristics, Appraisal and Coping Categories



7.2.1.4 Emotion: anxiety

Lazarus (1993) suggests that emotions experienced during a stressful encounter are characterised by change. The sequence of feelings experienced reflects the changing meaning or significance of what is happening as an encounter unfolds. Study 1 of this thesis, and previous research in the sport domain, has focused attention on the emotion of anxiety and shown that it changes during the pre-competition time period (Jones & Cale, 1989; Martens et al., 1990; Parfitt & Hardy, 1987). The present thesis, therefore, provides additional support for the importance of adopting a process-oriented perspective that examines how individuals respond emotionally at different stages of a stressful encounter (Lazarus, 1993, 1991). In addition, the findings from Study 1 extended previous research by suggesting that sport participants may experience *normative* pre-competition temporal patterning of anxiety and self-confidence responses, similar to that reported for *state* responses.

7.2.1.5 Summary

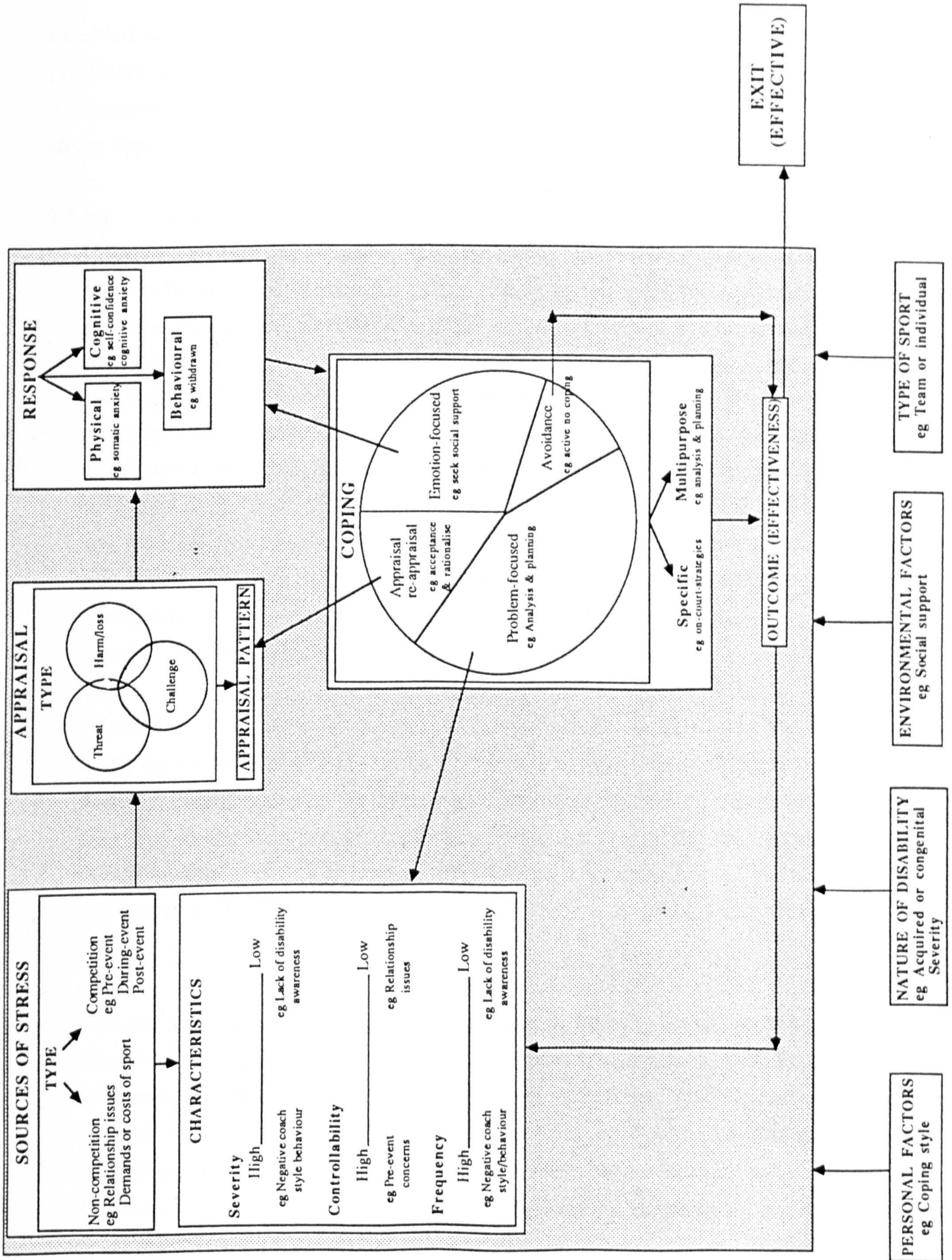
The findings from Studies 1, 2 and 3 in this thesis clearly support Lazarus and Folkman's (1984) view of the importance of studying stress and coping as a dynamic process. In addition, the findings highlight the importance of using a definition of stress that enables cognitive appraisals to be both positive (challenging) and negative (threatening or harm/loss). This finding is important since previous research of stress and coping in sport has adopted a negative definition of stress and focused on how sport performers cope with adversity (Hardy et al., 1996).

The contents of this section are summarised in a dynamic model of stress and coping for wheelchair sport participants (see Figure 7.2). The model aims to highlight the possible nature of the sources of stress experienced, and the coping responses used by wheelchair sport participants. Furthermore, the model demonstrates potential interactions between sources of stress, appraisal, coping and responses which may vary from one encounter to another, and also change within an encounter across time. Finally, the model provides a pictorial summary of the findings from the three studies in this thesis, and also a basis for making practical implications for practitioners (see section 7.2.2) and recommendations for future research (see section 7.2.4).

7.2.2 PRACTICAL IMPLICATIONS

This section considers the practical implications which emerge for wheelchair sport participants from this thesis. Furthermore, many of the suggested practical implications are evident from the model of stress and coping in wheelchair sport participants proposed at the end of the previous section (Figure 7.2). Since each of the three studies in this thesis

7.2 Stress and Coping Model for Wheelchair Sport Participants



extended previous research of able-bodied sport participants, it is feasible that some of the practical implications may also be relevant to able-bodied sport participants. Specifically, this section is sub-divided to consider practical implications in four areas; sources of stress, appraisal, coping and general comments.

7.2.2.1 Sources of Stress

- If wheelchair sport participants are to operate effectively in stressful situations they need to be aware of the sources of stress they experience. Sport psychologists and coaches should assist in the identification of sources of stress by realising that stressors are diverse and may be competition and non-competition specific. Furthermore, it is important that practitioners are aware that competition sources of stress may occur at different time periods (i.e., pre-event, pre-match, on-court and post-match), and also that non-competition sources of stress may be related to the environment or important others. In addition, sport psychologists and coaches need to acknowledge that possessing a disability may create additional sources of stress due primarily to the handicaps imposed by society (e.g., physical and attitudinal barriers). If wheelchair sport participants can become aware of personal sources of stress then it is a vital first step in being able to effectively deal with the stress.
- Wheelchair sport participants need to consider the characteristics of the sources of stress they experience (i.e., degree of control, severity, frequency), because these details facilitate a deeper awareness and understanding of the nature of the stress experienced. Furthermore, as reported in Study 2 of this thesis, and demonstrated in previous research (Bjork & Cohen, 1994; Folkman & Lazarus, 1985; McCrae, 1992), stress source characteristics can influence the most appropriate coping method to be used.
- Awareness of the sources of stress experienced by wheelchair sport participants should occur at a range of levels; athlete, coach, management, sport psychologist, team-mates, sporting associations, and event organisers. Interestingly, previous research of elite figure skaters and wrestlers has been funded by national sport associations in an attempt to understand how they could best assist individuals deal with the sources of stress they experience (Gould et al., 1993 a,b) .

7.2.2.2 Appraisal

- Sport psychologists and coaches should increase wheelchair sport participants' awareness that how a source of stress is appraised will determine the cognitive, behavioural and emotional responses they experience. In addition, the appraisal

pattern will influence the most appropriate coping response to be used. Furthermore, individuals need to consider how appraisal of a particular stressor may change over time, and the factors which may influence the change. The aim of increasing awareness of appraisal patterns is so that individuals can alter appraisals that are inappropriate.

7.2.2.3 Coping

- Wheelchair sport participants need to be aware of how they currently cope with sources of stress, and how effective and frequently they use particular strategies. This information is vital if sport psychologists are to assist wheelchair sport participants develop appropriate coping skills.
- Wheelchair sport participants need to develop a diverse repertoire of coping skills from the following coping categories; problem-focused, emotion-focused, appraisal-reappraisal and avoidance. Therefore, there is a need, as suggested by previous researchers, for sport psychologists to go beyond teaching the traditional emotion-focused types of strategies (e.g., relaxation), since it cannot be assumed that individuals possess coping strategies in the other coping categories (Crocker & Graham, 1995; Hardy et al, 1996; Mace et al., 1986).
- Wheelchair sport participants need to develop an awareness as to which coping strategies are most appropriate to use with particular sources of stress. Furthermore, individuals need to be aware of the specificity and diversity of the coping strategies they use.
- Wheelchair sport participants should be helped to develop multipurpose strategies; that is, strategies demonstrated to be effective across a range of situations (e.g., analysis and planning, intra-squad communication and seek social support). Findings from the present study would also support the need to develop coping strategies specific to the particular demands of a sport; for example, the importance of communication in team sports, and on-court strategies in court type games.
- The present thesis supports previous researchers in suggesting that social support is an important coping strategy for sport participants (Hardy & Crace, 1991; Madden et al., 1989). Therefore, myths should be dispelled about it being weak to seek support from others.

- Study 3 of this thesis supported Folkman's (1992) view that individuals have 'ideal providers' of social support. This implies that sport psychologists and coaches should encourage individuals to identify their 'ideal providers' of social support. This could be facilitated by, for example, ensuring that individuals share rooms with people they perceive as 'ideal providers' of social support.
- The present thesis highlights the importance of communication for team sport participants. Sport psychologists and coaches should assist in creating an environment which facilitates effective two-way communication both on and off-court, and between coach and player, player and player, and player and important others (e.g., partner). It may be necessary for sport psychologists to run communication workshops to help individuals and teams develop effective communication skills.
- Wheelchair sport participants should be made aware that they should attempt to control what is controllable in a stressor by using problem-focused coping, whilst uncontrollable stressors should be primarily dealt with by emotion-focused coping. This suggestion agrees with ideas promoted in both the general and sport psychology literature (Bjork & Cohen, 1994; Folkman & Lazarus, 1996; Hardy et al., 1996).

7.2.2.4 General

- Sport psychologists might consider running 'what if' sessions to enable potential sources of stress to be identified. Having identified sources of stress, individuals could then be assisted in deciding how they would effectively deal with them. This is a method advocated by Gould in his work with elite performers (cited in Hardy et al., 1996), and also is a method used by the author in her work with elite athletes with a disability. The 'what if' sessions need to focus both on individuals and team sources of stress, and consider a wide range of competition and non-competition situations.
- Myths about sport psychologists and coaches not being able to work with sport participants with a disability, because they do not have the necessary specialist knowledge, should be dispelled. The present thesis would suggest that there are more similarities than differences between wheelchair and able-bodied sport participants. However, sport psychologists and coaches would benefit from disability awareness training to ensure that they see the person first, and the disability second.

7.2.3 METHODOLOGICAL CONSIDERATIONS

The findings of this thesis need to be interpreted with respect to the strengths and limitations of the three studies. Consequently, this section highlights the strengths and limitations of this thesis.

7.3.3.1 Strengths

A major strength of this thesis is the different methodological approaches utilised to address the various research questions. Specifically, two diverse research methods were used; large cross-sectional quantitative based investigations (studies 1 and 2) and qualitative retrospective structured interviews which were embellished by quantitative data (Speckler et al., 1989) (Study 3). The third study was unique in using a combination of methods, an approach advocated by previous researchers in sport psychology (Crocker & Graham, 1995; Hardy et al., 1996). Furthermore, this combining of methods enabled additional information to be obtained concerning stress source characteristics and the effectiveness and extent of use of coping strategies, information previously suggested to be of importance in progressing the area of stress and coping forward (Hardy et al., 1996).

The majority of research in sport psychology has been nomothetic, using quantitative research paradigms. It is only in the last five years that sport psychology has considered using qualitative research paradigms. Adopting a qualitative research paradigm in Study 3 enabled an in-depth understanding to be gained to a question not previously addressed. The method enabled wheelchair basketball players to discuss the topics of stress and coping from their own perspective with no predetermined stress and coping categories forced upon them. Responding to forced-choice questionnaires would not have allowed the subjects to have expanded upon the diverse array of sources of stress and coping strategies they employed.

A further strength of this thesis is the nature of the sample used in the three studies; all subjects were national or international wheelchair sport participants, with the subjects in Study 3 being members of the Great Britain men's wheelchair basketball team. In comparison to able-bodied sport participants, there are a limited number of wheelchair sport participants competing in Great Britain. Thus, the relatively large number of subjects in studies 1 and 2 enabled an in-depth examination of a minority sport group in Great Britain. Furthermore, the fact that the three studies purely considered wheelchair sport participants is a strength, in that it provides a consistent pattern and allows direct comparisons to be made within the context of this thesis. It is acknowledged that there are many other forms of disability that do not result in individuals participating in wheelchair sport, and this factor is addressed in the future research directions section.

An additional strength is the ecological validity of the three studies. Each study identified how wheelchair sport performers operate in a sport environment and not a

contrived laboratory setting with low ecological validity. Several researchers have identified low ecological validity as a problem which needs to be addressed in sport psychology (Greenspan & Feltz, 1989; Swain & Jones, 1996; Weinberg, 1992).

7.2.3.2 Limitations

Following on from the strength concerning purely investigating wheelchair sport participants, this may also be viewed as a limitation in terms of the transferability of findings. Specifically, the degree to which findings in this thesis are exclusive to wheelchair sport participants is not clear; this is further addressed in the section on future research directions.

One possible limitation, not exclusive to this thesis, is the use of self-report measures as used in studies 1 and 2 of this thesis. Fogarty (1995) has questioned the use of self-report measures in sport psychology based on individuals distorting their responses and not conveying their honest and true feelings because of the influence of social desirability. However, Martens et al. (1990) suggested that questionnaires were valuable so long as social desirability was minimised in the instructions and a rapport was established. Study 1 and Study 2 in this thesis stated in the instructions the need for honesty and that responses were confidential. In addition, in an attempt to establish rapport and gain honesty, individuals were informed that if requested they would be sent feedback of their own results. It would appear at the present time that questionnaires are possibly the best approach when researchers are wanting to study cognitions; however, in interpreting results acknowledgement needs to be given to their limitations.

A final limitation to each of the three studies is that of retrospection. Specifically, each study involved subjects having to reflect back to situations they had experienced in the past. As a consequence, the results are potentially limited due to problems of memory decay. Wagenaar (1986), however, has proposed that recall of insignificant events may be weak, but that recall may not necessarily be weak of incidents perceived as important to an individual. With regards to the three studies in this thesis, subjects were always asked to reflect on sporting situations that they perceived as important, therefore reducing the problems of memory decay. Furthermore, subjects in Study 2 and 3 were assisted with memory recall by asking them, either verbally or in the form of a questionnaire, to re-create situations about which they were going to be asked to answer questions.

7.2.4 FUTURE RESEARCH DIRECTIONS

The research presented in this thesis has helped in advancing the understanding of stress and coping in wheelchair sport participants and also in the general sport domain. However, research into stress and coping is still in its infancy. This section suggests

further research directions which have emanated from the findings of the three studies in this thesis. Specifically, this section initially considers future research directions specific to wheelchair sport participants, and then examines future research directions which may be generic to all sport participants.

7.2.4.1 Wheelchair Sport Participants

- Sources of stress should be considered in the future with respect to nature and severity of disability.
- Future research might consider identifying whether relationships between stress sources and coping strategies are influenced by nature and severity of disability.
- Future research should investigate the temporal patterning of state anxiety and self-confidence responses. Furthermore, there is a need to investigate further why wheelchair sport participants may experience a drop in self-confidence immediately prior to competition
- Future research should investigate why wheelchair sport participants reported high somatic anxiety intensity scores. This is particularly interesting when considering that spinal cord injury can disturb the autonomic nervous system which is associated with the somatic anxiety response.
- Previous research on able-bodied sport performers has examined directional perceptions in elite and non-elite sport performers (Jones, et al., 1995; Jones & Swain, 1995). It might, therefore, be interesting to conduct similar research with elite and non-elite wheelchair sport participants.
- Future research should determine the role of sport in enhancing the perceptions of self-control in individuals during disability rehabilitation.
- Future research needs to examine stress and coping in sport for individuals with a range of specific disabilities (e.g., cerebral palsy, sight impairment, hearing impairment, learning disability).

7.2.4.2 Sport Participants

This section is sub-divided to consider the future research directions in five areas; stress, coping, emotions, personal and environmental factors, and methodological and measurement considerations

7.2.4.2.1 Stress

- Future studies should consider using Lazarus and Folkman's (1984) transactional definition of stress, thus enabling sources of stress to be identified that can be appraised as both positive (challenging) and negative (threatening, harm/loss).
- Sources of stress should be considered in the future with respect to individual difference variables; such as, gender, race and competitive level.
- Further examination is needed in the areas of appraisal patterns of stress sources, factors which may influence appraisal, how quickly appraisals of stressors change, what factors may trigger a change in appraisal, and what impact the nature of appraisal may have on performance ?
- Further research is needed on stress source characteristics (severity, controllability, frequency) in terms of the factors which might influence them, and the impact they have on performance.

7.2.4.2.2 Coping

- Future research might consider identifying whether relationships between stress sources and coping strategies are influenced by nature of sport, competitive level, sex and race.
- Future research needs to address how coping develops and also whether coping can transfer from one environment to another; for example, can coping developed during a disability rehabilitation programme transfer into sport, or vice versa ?
- Researchers should consider how coping effectiveness should be measured (e.g., measures of performance, satisfaction, health or mood).
- Effective and ineffective copers could be compared to determine whether effective copers use different strategies, larger number of strategies, and if strategies are better learnt or more automatic.
- It would be beneficial for researchers to examine how coping works and how it may influence performance. Furthermore, consideration of the order in which coping strategies are used would be beneficial to practitioners.

- It would be valuable for practitioners if researchers could determine the extent and how coping effectiveness might be taught.

7.2.4.2.3 Emotions (anxiety)

- There is only a limited amount of research which has examined different emotional responses in sport and their impact on performance (Cockerill, Nevill & Lyons, 1991; Prapavessis & Grove, 1991). Consequently, Jones (1995a) suggested that it is an important area for future research in sport psychology. Based on the findings from this thesis, it would be interesting to examine temporal patterning of a range of positive and negative emotions related to the competition experience.

7.3.4.2.4 Personal and Environmental Factors

- The present thesis highlighted that social support is an important coping strategy. Furthermore, results suggest that social support should be considered as a multidimensional construct. Further research is needed into the role of multidimensional social support in the sport domain.
- Researchers may wish to examine the impact of other individual difference factors on the stress coping process (e.g., sex, employment status and race).

7.2.4.2.5 Methodological and Measurement Considerations

- Future research into stress and coping in the sport domain might consider adopting a combination of methods approach, as used in Study 3 of this thesis. Previous researchers have also implied that this may be an appropriate approach to use in sport psychology research (Gould & Krane, 1992; Hardy et al., 1996)
- Previous research, and the findings from this thesis, would suggest that appropriate measurement tools need to be developed to enable investigations into the complex, dynamic stress-coping process (Crocker & Graham, 1995; Gould et al., 1993b). Measurement tools that are developed need to facilitate investigation into sources of stress, appraisal, coping and emotions as a dynamic, interactive process.
- Stress-coping research would benefit from adopting longitudinal, prospective studies to consider issues such as: can coping be taught through structured intervention programmes; and can coping skills acquired during disability rehabilitation be transferred into a sport setting, or vice versa ?

7.4 CONCLUSIONS

This thesis is unique in considering how wheelchair sport participants react and deal with stressful sporting situations. The findings from the various studies presented in this thesis generally suggest that there are many similarities between wheelchair and able-bodied sport participants. Therefore, it would seem appropriate to dispel the myth that sport psychologists and coaches need special training to be able to work effectively with this sport population. The three studies in this thesis did report some differences to able-bodied sport participants, particularly in terms of a reported drop in self-confidence immediately prior to competition, and additional sources of stress associated with lack of disability awareness. Practitioners need to be aware of these potential differences and realise that some of the differences may be related to vulnerabilities created by handicaps imposed by society. Furthermore, this thesis has purely considered wheelchair sport participants, therefore, it would be inappropriate to generalise the findings to other disability groups. Therefore, further research is needed into different disability sport groups which reflects the growing number of sport participants with physical, sensory and learning disabilities competing at elite levels.

The findings from the thesis enabled a model of stress and coping to be developed for wheelchair sport participants, which clearly supports Lazarus and Folkman's (1984) transactional model. The model proposed should be useful for practitioners working with wheelchair sport participants and also assist in guiding future research in the area of stress and coping in sport. With respect to future research this thesis would support the need for research methodologies to be developed to enable detailed investigation of the complex stress-coping process. One such method could be to use a combination of qualitative and quantitative methods through a variety of different models (Speckler, 1992).

The present thesis appears to support Reid's (1989) view that research designs including subjects with a disability can help extend current theories and also increase the understanding of disability. Specifically, this thesis has increased the understanding of stress and coping in wheelchair sport participants, whilst simultaneously supporting and extending current research in the area.

References

- Albrecht, R.R. & Feltz, D.L. (1987). Generality and specificity of attention related to competitive anxiety and sport performance. Journal of Sport Psychology, 9, 231-248.
- Anderson, M.B. & Williams, J.M. (1987). Gender and sport competition anxiety: A re-examination. Research Quarterly for Exercise and Sport, 58, 52-56.
- Apter, M.J. & Svebak, S. (1990). Stress from the reversal theory perspective. In C.D. Spielberger & J. Strelau (Eds.), Stress and Anxiety. New York: Hemisphere.
- Apter, M.J. (1982). The Experience of Motivation: The Theory of Psychological Reversals. London and New York: Academic Press.
- Astor-Dubin, L. & Hammen, C. (1984). Cognitive versus behavioural coping responses of men and women: A brief report. Cognitive Therapy and Research, 8, 85-90.
- Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioural change, Psychological Review, 84, 191-215.
- Bar-Tal, Y., Lurie, O. & Glick, D. (1994). The effects of gender on the stress process of Israeli soldiers during the Gulf War. Anxiety, Stress and Coping, 7, 263-276.
- Barrera, M. (1981). Social support in the adjustment of pregnant adolescents: Assessment issues. In B.H. Gottlieb (Ed.), Social networks and social support (pp. 69-96). Beverly Hills, CA: Sage.
- Bem, S.L. (1974). The measurement of psychological androgyny. Journal of Consulting and Clinical Psychology, 42, 155-162.
- Billings, A.G. & Moos, R.J. (1984). Coping, stress, and social resources among adults with unipolar depression. Journal of Personality and Social Psychology, 46, 877-891.
- Bjork, J.P. & Cohen, L.H. (1993). Coping with threats, losses and challenges. Journal of Social and Clinical Psychology, 12(1), 56-72.
- Block, J.H. & Block, J. (1980). The role of ego control and ego-resiliency in the organisation of behaviour. In W.A. Collins (ed.), Development of cognition, affect and social relations. The Minnesota symposium on child psychology, 13, 39-101). Hillside, NJ: Erlbaum.
- Bloom, B. S. (1985). Generalisations about talent development. In B.S. Bloom (Ed.), Developing Talent in Young People (pp. 507-549). New York: Ballantine Books.
- Bolger, N. (1990). Coping as a personality process: A prospective study. Journal of Personality and Social Psychology, 59, 525-537.
- Bouffard, M. & Crocker, P.R.E. (1992). Coping by individuals with physical disabilities with perceived challenge in physical activity: Are people consistent? Research Quarterly for Exercise and Sport, 63, 410-417.

- Brandmeyer, G.A. & McBee, F.G. (1984). Social status and athletic competition for the disabled athlete: The case of wheelchair road-racing. In C. Sherrill (Ed.), The 1984 Olympic Scientific Congress Proceedings (Vol. 9): Sport and Disabled Athletes, Human Kinetics.
- Breznitz, S. (1967). Incubation of threat: Duration of anticipation and false alarm as determinants of the fear reaction to an unavoidable frightening event. Journal of Experimental Research in Personality, 2, 173-179.
- Briscoe, M. (1985). Sex differences in psychological well-being. Psychological Medicine, Monograph Supplements, 1, 1-46.
- Broadbent, D.E. (1971) Decision and Stress, London.
- Bromley, D.B. (1986). The case-study method in psychology and related disciplines. New York: Wiley.
- Brown, J. & Siegel, J. (1988). Attributions for negative life events and depression: The role of perceived control. Journal of Personality and Social Psychology, 54, 316-322.
- Brown, S.D., Alpert, D., Lent, R.W. & Brady, T. (1988). Perceived social support among college students: Factor structure of the social support inventory. Journal of Counselling Psychology, 35(3), 472-478.
- Brown, S.D., Brady, T., Lent, R.W., Wolfert, J. & Hall, S. (1987). Perceived social support among college students: Three studies of the psychometric characteristics and counseling uses of the Social Support Inventory (Monograph). Journal of Counseling Psychology, 34, 337-354.
- Bryman, A. (1988). Quantity and Quality in Social Research. London: Unwin Hyman.
- Bull, S.J. (1991). Personal and situational influences on adherence to mental skills training, Journal of Sport and Exercise Psychology, 13, 121-132.
- Burton, D. (1988). Do anxious swimmers swim slower ? Re-examining the elusive anxiety-performance relationship. Journal of Sport and Exercise Psychology, 10, 45-61.
- Burton, D. (1990). Multimodal stress management in sport: Current status and future directions. In J.G. Jones & L. Hardy (Eds.), Stress and Performance in Sport (pp. 171-201). Chichester: Wiley.
- Campbell, E. & Jones, G. (1994). Psychological well-being in wheelchair sport and non-participants. Adapted Physical Activity Quarterly, 11, 404-415.
- Campbell, E. (1995). Psychological well-being of participants in wheelchair sports: comparison of individuals with congenital and acquired disabilities. Perceptual and Motor Skills, 81, 563-568.
- Campbell, I.G. (1992). Physiological and metabolic responses of wheelchair athletes to endurance exercise. Unpublished Doctoral Thesis, Loughborough University.
- Carpenter, B.N. & Scott, S.M. (1992). Interpersonal aspects of coping. In B.N. Carpenter (1992), Personal Coping: Theory Research and Application, (pp. 93-109). Praeger, Westport, Conn.

- Carpenter, B.N. (1992). Issues and advances in coping research. In B.N. Carpenter (ed.), Personal coping: Theory, research, and application, Praeger, Westport, Conn, pp.1-14.
- Carrier, C., Higson, V., Klimoski, V. & Peterson, E. (1984). The effects of facilitative and debilitating achievement anxiety on notetaking. Journal of Education Research, *77*, 133-138.
- Carver, C. S. & Scheier, M. F. (1988). A control-process perspective on anxiety. Anxiety Research, *1*, 17-22.
- Carver, C.S. & Scheier, M.F. (1986). Functional and dysfunctional responses to anxiety: The interaction between expectancies and self-focused attention. In R. Schwarzer (Ed.), Self-related Cognitions in Anxiety and Motivation, Hillsdale, NJ: Erlbaum.
- Carver, C.S., Scheier, M.F. & Weintraub, J.K. (1989). Assessing coping strategies: A theoretically based approach. Journal of Personality and Social Psychology, *56*, 267-283.
- Cherry, N. (1978). Stress, anxiety and work: A longitudinal study. Journal of Occupational Psychology, *51*, 259-270.
- Cockerill, I.M., Nevill, A.M. & Lyons, N. (1991). Modelling mood states in athletic performance. Journal of Sports Sciences, *9*, 205-212.
- Cohen, L.H. (1988). Life events and psychological functioning: Theoretical and methodological issues. Newbury Park, CA: Sage.
- Cohen, S. & Syme, S.L. (1985). Issues in the study and application of social support. In S.Cohen and S.L. Syme (Eds.), Social support and health (pp. 3-22). New York: Academic Press.
- Cohen, S. & Wills, T. (1985). Stress, social support and the buffering hypothesis. Psychological Bulletin, *98*, 310-357.
- Cohn, P.J. (1990). An exploratory study on sources of stress and athletic burnout in youth golf. The Sport Psychologist, *49*, 5-106.
- Compas, B.E. (1987). Coping with stress during childhood and adolescence. Psychological Bulletin, *101*, 393-403.
- Compas, B.E., Malcarne, V.L. & Banez, G.A. (1992). In B.N. Carpenter (Ed.), Personal coping: Theory, research, and application. Westport, Conn: Praeger.
- Compton, D.M., Eisenman, P.A. & Henderson, H.L. (1989). Exercise and fitness for persons with disabilities. Sports Medicine, *7*, 150-162.
- Cooley, E.J. (1987). Situational and trait determinants of competitive state anxiety. Perceptual and Motor Skills, *64*, 767-773.
- Couch, J. V., Garber, T. B. & Turner, W. E. (1983). Facilitating and debilitating test anxiety and academic achievement. The Psychological Record, *33*, 237-244.
- Council of Europe (1987). European charter for sport all: disabled persons. Strasbourg.

- Cox, T. & Ferguson, E. (1991). Individual differences, stress and coping. In C.L. Cooper and R. Payne (eds.), Personality and Stress: Individual Differences in the Stress Process, Wiley, Chichester, pp. 7-30.
- Crocker, P. & Bouffard, M. (1990). Coping and participation of physically disabled adults in physical activity. CAHPER Journal, Nov/Dec, 28-33.
- Crocker, P.R.E. & Bouffard, M. (1990). Ways of coping by individuals with physical disabilities to perceived barriers to physical activity. CAPHER Journal, 56, 28-33.
- Crocker, P.R.E. & Graham, T.R. (1995). Coping by competitive athletes with performance stress: Gender differences and relationships with affect. The Sport Psychologist, 9, 325-338.
- Crocker, P.R.E. (1992). Managing stress by competitive athletes: Ways of coping. International Journal of Sport Psychology, 23, 161-175.
- Crocker, P.R.E. (1993). Sport and exercise psychology and research with individuals with physical disabilities: Using theory to advance knowledge. Adapted Physical Activity Quarterly, 10, 324-335.
- Crocker, P.R.E. and Bouffard, M. (1992). Perceived challenge in physical activity by individuals with physical disabilities: The relationship between appraisal and affect. Adapted Physical Activity Quarterly, 9, 130-140.
- Crocker, P.R.E., Alderman, R.B. & Smith, F.M.R. (1988). Cognitive affective stress management training with high performance youth volleyball players: Effects on affect, cognition and performance. Journal of Sport and Exercise Psychology, 10, 448-460.
- Davidson, R.J. & Schwartz, G.E. (1976). The psychobiology of relaxation and related states: A multiprocess theory. In D.I. Mostofsky (Ed.), Behavioral Control and Modification of Physiological Activity (pp.399-442). Englewood Cliffs, NJ: Prentice Hall.
- De Pauw, K. & Gavron, S. (1995). Sport and Disability: Champaign, IL. Human Kinetics.
- Dewe, P., Cox, T. & Ferguson, E. (1993). Individual strategies for coping with stress at work: A review. Work and Stress, 7, 5-15.
- Diaz-Guerrero, R. (1979). The development of coping style. Human Development, 22, 320-333.
- Doctor, R.M. & Altman, F. (1969). Worry and emotionality as components of test anxiety: Replication and further data. Psychological Reports, 24, 563-568.
- Endler, N. & Parker, J. (1990). Multidimensional assessment of coping: A critical evaluation. Journal of Personality and Social Psychology, 58, 544-854.
- Feigley, D.A. (1987). Coping with fear in high level gymnastics. In J.H. Salmela, B. Petiot & T.B. Hoshizaki (Eds.), Psychological nurturing and guidance of gymnastic talent (pp. 13-27). Montreal: Sport Psyche Edition.
- Feltz, D.L., & Albrecht, R.R. (1986). Psychological implications of competitive running. In M.R. Weiss & D. Gould (Eds.), Sport for children and youth (pp. 225-330). Champaign, IL: Human Kinetics.

- Feltz, D.L., Lirgg, C.D. & Albrecht, R.R. (1992). Psychological implications of competitive running in elite young middle distance runners: A longitudinal analysis. The Sport Psychologist, 6, 128-138.
- Finch, L. (1994). The Relationship Among Coping Strategies, Trait Anxiety, and Performance in Collegiate Softball Players, Paper presented at the Association for the Advancement of Applied Sport Psychology Conference, Lake Tahoe, Nevada.
- Fine, M. & Asch, A. (1988). Disability beyond stigma: social interaction, discrimination and activism. Journal of Social Issues, 44(1), 3-21.
- Fogarty, G.J. (1995). Some comments on the use of psychological tests in sport settings. International Journal of Sport Psychology, 26, 161-170.
- Folkins, C.H. (1970). Temporal factors and the cognitive mediators of stress reaction. Journal of Personality and Social Psychology, 14, 173-184.
- Folkman, S. & Lazarus, R.S. (1985). If it changes it must be a process: A study of emotions and coping during three stages of a college examination. Journal of Personality and Social Psychology, 48, 150-170.
- Folkman, S. & Lazarus, R.S. (1988a) Coping as a mediator of emotion. Journal of Personality and Social Psychology, 54, 466-473.
- Folkman, S. & Lazarus, R.S. (1988b). Manual for the Ways of Coping Questionnaire, Consulting Psychologists Press, Palo Alto, CA.
- Folkman, S. (1992). Making the case for coping. In B.N. Carpenter (ed.), Personal Coping: Theory, research and application, Praeger, Westport, Conn., pp. 31-46.
- Folkman, S., Lazarus, R.S., Dunkel-Schetter, C., DeLongis, A. & Gruen, R.J. (1986). Dynamics of a stressful encounter: Cognitive appraisal, coping and encounter outcomes. Journal of Personality and Social Psychology, 50, 992-1003.
- Gage, M. (1992). The appraisal model of coping: An assessment and intervention model for occupational therapy. The American Journal of Occupational Therapy, 46(4), 353-362.
- Garnezy, N. (1981). Children under stress: Perspectives on antecedents and correlates of vulnerability and resistance to psychopathology. In A.I. Rabin, J. Aronoff, A.M. Barclay & R.A. Zucker (Eds.), Further explorations in personality (pp. 69-96). Beverly Hills, CA: Sage.
- Garnezy, N. and Rutter, L. (1983). Stress, coping and development in children. New York, McGraw-Hill.
- Geen, R.G. (1980). Test anxiety and cue utilization. In I.G. Sarason (Ed.), Test Anxiety: Theory, Research and Applications. Hillsdale, NJ: Erlbaum.
- Gill, D.L. (1988). Gender differences in competitive orientation and sport participation. International Journal of Sport Psychology, 19, 145-159.
- Glaser, B.G. & Strauss, A.L. (1967). The Discovery of Grounded Theory: Strategies for Qualitative Research. New York: Aldine.
- Goffi, C. (1984). Tournament Tough, Ebury Press, London.

- Gould, D. & Krane, V. (1992). The arousal-athletic performance relationship: Current status and future direction. In T. Horn (Ed.), Advances in Sport Psychology (pp.119-142). Champaign, Ill: Human Kinetics.
- Gould, D. & Weinberg, R. (1985). Sources of worry in successful and less successful intercollegiate wrestlers. Journal of Sport Behaviour, 8, 115-127.
- Gould, D. (1994). Key note address, 'coping with stress. Sport Psychological research, theory and practice'. Association for the Advancement of Applied Psychology Conference. Lake Tahoe. Nevada.
- Gould, D., Ecklund, R.C. & Jackson, S.A. (1990). An in-depth examination of mental factors and preparation techniques associated with 1988 U.S. Olympic team wrestling success. Grant report to USA Wrestling. In Gould, D., Ecklund, R.C. & Jackson, S.A. (1993). Coping strategies used by U.S. Olympic wrestlers. Research Quarterly for Exercise and Sport, 64, 83-93.
- Gould, D., Ecklund, R.C. & Jackson, S.A. (1993). Coping strategies used by U.S. Olympic wrestlers. Research Quarterly for Exercise and Sport, 64, 83-93.
- Gould, D., Finch, L.M. & Jackson, S.A. (1993). Coping strategies used by national champion figure skaters. Research Quarterly for Exercise and Sport, 64, 453-468.
- Gould, D., Horn, T. & Spreeman, J. (1983a). Competitive anxiety in junior elite wrestlers. Journal of Sport Psychology, 5, 58-71.
- Gould, D., Horn, T. & Spreeman, J. (1983b). Sources of stress in junior elite wrestlers. Journal of Sport Psychology, 5, 58 - 71.
- Gould, D., Jackson, S. A. & Finch, L. (1993a). Sources of stress in national champion figure skaters. Journal of Sport and Exercise Psychology, 15, 134-159.
- Gould, D., Jackson, S. A. & Finch, L. (1993b). Life at the top: The experiences of U.S. national champion figure skaters. The Sport Psychologist, 7, 354-374.
- Gould, D., Petlichkoff, L. & Weinberg, R.S. (1984). Antecedents of temporal changes in and relationships between CSAI-2 components. Journal of Sport Psychology, 6, 289-304.
- Gould, D., Petlichkoff, L., Simons, J. & Vevera, M. (1987). Relationship between Competitive State Anxiety Inventory-2 subscale scores and pistol shooting performance. Journal of Sport Psychology, 9, 33-42.
- Gould, D., Weiss, M. & Weinberg, R. (1989). Psychological characteristics of successful and unsuccessful Big Ten wrestlers. Journal of Sport Psychology, 3, 69-81.
- Greenspan, M.J. & Feltz, D.L. (1989). Psychological interventions with athletes in competitive situations: A review. The Sport Psychologist, 3, 219-236.
- Greenwood, C.M., Dzewaltowski, D.A. & French, R. (1990). Self-efficacy and psychological well-being of wheelchair tennis participants and wheelchair nontennis participants. Adapted Physical Activity Quarterly, 7, 12-21.
- Grove, R.J. & Prapavessis, H. (1995a). Correlates of batting slumps in baseball. Manuscript submitted for publication.

- Grove, R.J. & Prapavessis, H. (1995b). Self-handicapping tendencies and slump-related coping in sport. Manuscript submitted for publication.
- Guttman, L. (1976). Spinal cord injuries: Comprehensive management and research (2nd edition). Oxford, England: Blackwell Scientific Publications.
- Guttman, L. (1976). Textbook of sport for the disabled. H.M. and M. Publishers Ltd.
- Hahn, H. (1988). The politics of physical differences: Disability and discrimination. Journal of Social Issues, 44(1), 39-47.
- Haney, C.J. & Long, B.C. (1995). Coping effectiveness: A path analysis of self-efficacy, control, coping and performance in sport competitions. Journal of Applied Social Psychology, 25(19), 1726-1746.
- Hanson, S.J., McCullagh, P. & Tonymon, P. (1992). The relationship of personality characteristics, life stress, and coping resources to athletic injury. Journal of Sport and Exercise Psychology, 14, 262-272.
- Hardy, C.J. and Crace, R.K. (1991). Social support within sport. Sport Psychology Training Bulletin, 3, 1-8.
- Hardy, C.J., Richman, J.M. & Rosenfeld, L.B. (1991). The role of social support in the life stress/injury relationship. The Sport Psychologist, 5, 128-139.
- Hardy, L. & Jones, G.(1994). Future directions for performance-related research in sport psychology. Journal of Sports Sciences, 12, 61-92.
- Hardy, L. & Whitehead, R. (1984). Specific modes of anxiety and arousal. Current Psychological Research and Reviews, 3, 14-24.
- Hardy, L. (1990). A catastrophe model of performance in sport. In J.G. Jones & L. Hardy (Eds.), Stress and Performance in Sport. Chichester: Wiley. Chichester: Wiley.
- Hardy, L., Jones, G. & Gould, D. (1996). Understanding Psychological Preparation for Sport: Theory and Practice in Elite Athletes. Chichester: Wiley.
- Heller, K., Swindle, R.W., Jr. & Dusenbury, L. (1986). Component social support processes : Comments and integration. Journal of Consulting and Clinical Psychology, 54, 466-470.
- Henschen, R., Horvat, M. & French, R. (1984). A visual comparison of psychological profiles between able-bodied and wheelchair athletes. Adapted Physical Activity Quarterly, 1(2), 118-124.
- Henwood, K. & Pidgeon, N. (1995). Grounded theory and psychological research. The Psychologist, 8, 115-121.
- Heppner, P.P. & Krauskopf, C.J. (1987). An information-processing approach to problem solving. The Counseling Psychologist, 15, 371-447.
- Herson, M. & Barlow, D. (1976). Single Case Experimental Designs: Strategies for Studying Behavior Change. New York: Pergamon.

- Hindley, C.B. (1979). Problems of interviewing in obtaining retrospective information. In L. Moss & H. Goldstein (Eds.), The Recall Method in Social Surveys (pp.100-108). London:University of London Institute of Education.
- Hobfoll, S.E. (1985). Limitations of social support in the stress process. In I.G. Sarason & B.R. Sarason (Eds.), Social support: Theory, research and applications (pp. 391-414). Dordrecht: Nijhoff.
- Houston, B. (1987). Stress and Coping. In C. Snyder and C. Ford (eds.), Coping with Negative Life Events: Clinical and Social Psychological, Plenum Press, New York, pp. 377-399.
- Ingstad, B. (1988). Coping behaviour of disabled persons and their families: Cross-cultural perspectives from Norway and Bostwana. International Journal of Rehabilitation Research, 11, 351-359.
- Jackson, S.A. (1992). Athletes in flow: A qualitative investigation of flow states in elite figure skaters. Journal of Applied Sport Psychology, 4, 161-180.
- Jick, T. & Payne, R.L. (1980). Stress at work. Exchange: The Organisational Behaviour Teaching Journal, 5, 50-53.
- Johnson, J.H. (1986). Life events as stressors in childhood and adolescence. Newbury Park, CA: Sage.
- Jones, G. (1991). Recent developments and current issues in competitive state anxiety research. The Psychologist, 4, 152-155.
- Jones, G. (1995a). More than just a game: research developments and issues in competitive anxiety in sport. British Journal of Psychology, 86, 449-478.
- Jones, G. (1995b). Competitive anxiety in sport. In S.Biddle (Ed.), European Perspectives on Exercise and Sport (pp. 128-147). Champaign, IL: Human Kinetics.
- Jones, G. & Cale, A. (1989a) Relationships between multidimensional competitive anxiety and cognitive and motor subcomponents of performance. Journal of Sports Sciences, 7, 129-140.
- Jones, G. & Cale, A. (1989b). Precompetition temporal patterning of anxiety and self-confidence in males and females. Journal of Sport Behaviour, 12, 183-195.
- Jones, G. & Hanton, S. (1996). Interpretation of competitive anxiety symptoms and goal attainment expectancies. Journal of Sport and Exercise Psychology, 18, 144-157.
- Jones, G. & Hardy, L. (1990). Stress in sport: Experiences of some elite performers. In J.G. Jones & L. Hardy (Eds.), Stress and Performance in Sport (pp. 247-277). Chichester: Wiley.
- Jones, G. & Swain, A. B. J. (1995). Predispositions to experience debilitating and facilitative anxiety in elite and non-elite performers. The Sport Psychologist, 9, 202-212.
- Jones, G. & Swain, A.B.J. (1992)., Intensity and direction dimensions of competitive state anxiety and relationships with competitiveness. Perceptual and Motor Skills, 74, 467-472.

- Jones, G., Hanton, S. & Swain, A. B. J. (1994). Intensity and interpretation of anxiety symptoms in elite and non-elite sports performers. Personality and Individual Differences, 17, 657-663.
- Jones, G., Swain, A.B.J. & Cale, A. (1991). Gender differences in precompetition temporal patterning and antecedents of anxiety and self-confidence. Journal of Sport and Exercise Psychology, 13, 1-15.
- Jones, G., Swain, A.B.J. & Hardy, L. (1993). Intensity and direction dimensions of competitive state anxiety and relationships with performance. Journal of Sports Sciences, 11, 525-532.
- Karteroliotis, C. & Gill, D.L. (1987). Temporal changes in psychological and physiological components of state anxiety. Journal of Sport Psychology, 9, 261-274.
- Kerr, J.H. (1990). Stress and sport: Reversal theory. In J.G.J ones and L. Hardy (Eds.), Stress and Performance in Sport (pp.107-131). Chichester: Wiley.
- Kessler, R.C. & McCleod, J.D. (1984). Sex differences on vulnerability to undesirable life events. American Sociological Review, 49, 620-631.
- Kimble, G.A. (1990). Mother nature's bag of tricks is small. Psychological Science, 1, 36-41.
- Klavora, P. (1974). State Anxiety and Athletic Competition. Unpublished doctoral dissertation, University of Alberta-Edmonton, Canada.
- Knussen, C. & Cunningham, C.C. (1988). Stress disability and handicap, In S.Fisher & J. Reason (Eds.) Handbook of life stress, cognition and health, pp. 335-350. John Wiley and Sons Ltd.
- Krane, V. & Williams, J.M. (1987). Performance and somatic anxiety, cognitive anxiety, and confidence changes prior to competition. Journal of Sport Behavior, 10, 47-56.
- Krane, V., Joyce, D. & Rafeld, J. (1994). Competitive anxiety, situation criticality and softball performance. The Sport Psychologist, 8, 58-72.
- Krohne, H.W. & Hindel, C. (1988). Trait anxiety, state anxiety, and coping behaviours as predictors of athletic performance. Anxiety Research, 1, 225-235.
- Krohne, H.W. (1988). Coping research: Current theoretical and methodological developments. The German Journal of Psychology, 12, 1-30.
- Kroll, W. (1980). The stress of high performance athletics. In P. Klavora & V.L. Daniel (Eds.), Coach, Athlete and the Sport Psychologist (2nd ed.). Champaign, IL: Human Kinetics.
- Lazarus, R.S. & Folkman, S. (1984). Stress, Appraisal and Coping. New York: Springer.
- Lazarus, R.S. & Folkman, S. (1987). Transactional theory and research on emotions and coping. European Journal of Personality, 1, 141-169.
- Lazarus, R.S. (1966). Psychological Stress and the Coping Process. New York: McGraw-Hill.

- Lazarus, R.S. (1982). Thoughts on the relations between emotion and cognition. American Psychologist, 37, 1019-1024.
- Lazarus, R.S. (1984). On the primacy of cognition. American Psychologist, 39, 124-129.
- Lazarus, R.S. (1986). Stress: appraisal and coping capacities. In A.Eichler, M.M.Silverman and D.M.Pratt (Eds.), How to Define and Research Stress. Washington DC: American Psychiatric Press.
- Lazarus, R.S. (1990). Theory-based stress measurement. Psychological Inquiry, 1, 1-13.
- Lazarus, R.S. (1993). From psychological stress to the emotions: a history of changing outlooks. Annual Review of Psychology, 44, 1-21.
- Leon, G.R. & Rosenthal, B.S. (1984). Prognostic indicators of success or relapse in weight reduction. International Journal of Eating Disorders, 3(4), 15-24.
- Levy, R.L. (1983). Social support and psychological disorder: A review. Journal of Community Psychology, 11, 3-21.
- Liebert, R.M. & Morris, L.W. (1967). Cognitive and emotional components of test anxiety: A distinction and some initial data. Psychological Reports, 20, 975-978.
- Lin (1986). Interpersonal aspects of coping. In B.N. Carpenter (1992), Personal Coping: Theory Research and Application, (pp. 93-109). Praeger, Westport, Conn.
- Lincoln, Y.S. & Guba, E.G. (1985). Naturalistic Inquiry. Newbury Park, CA: Sage.
- M.J. Ash, & F.L. Smoll (Eds.), Children in Sport: A Contemporary Anthology (pp. 53-75). Champaign, IL: Human Kinetics.
- Mace, R.D. & Carroll, D. (1986). Stress inoculation training to control anxiety in sport: Two case studies in squash. British Journal of Sports Medicine, 20, 115-117.
- Mace, R.D. (1990). Cognitive behavioural interventions in sport. In G. Jones & L.Hardy (Eds.), Stress and Performance in Sport. Chichester: Wiley.
- Mackay, C.J., Cox, T., Burrows, G.C. & Lazzerini, A.J. (1978). An inventory for the measurement of self-reported stress and arousal. Journal of Social and Clinical Psychology, 17, 283-284.
- Madden, C.C, Summers, J.J. & Brown, D.F. (1990). The influence of perceived stress on coping with competitive basketball. International Journal of Sport Psychology, 21, 21-35.
- Madden, C.C., Kirkby, R.J. & McDonald, D. (1989). Coping styles of competitive middle distance runners, International Journal of Sport Psychology, 20, 287-296.
- Mahoney, M.J. & Avenier, M. (1977). Psychology of the elite athlete: An exploratory study. Cognitive Therapy and Research, 1, 135-141.
- Mahoney, M.J., Gabriel, T.J. & Perkins, T.S. (1987). Psychological skills and exceptional athletic performance. The Sport Psychologist, 1, 181-199.
- Mandler, G. & Sarason, S.B. (1952). A study of anxiety and learning. Journal of Abnormal and Social Psychology, 47, 166-173.

- Martens, R. & Gill, D.L. (1976). State anxiety among successful and unsuccessful competitors who differ in competitive trait anxiety. Research Quarterly, *47*, 698-708.
- Martens, R. (1977). Sport Competition Anxiety Test. Champaign, Ill: Human Kinetics.
- Martens, R., Burton, D., Rivkin, F. & Simon, J. (1980). Reliability and validity of the Competitive State Anxiety Inventory (CSAI). In C.H. Nadeau, W.C. Halliwell, K.M. Newell & G.C. Roberts (Eds.), Psychology of Motor Behaviour and Sport-1979 (pp. 91-99). Champaign, IL: Human Kinetics.
- Martens, R., Burton, D., Vealey, R.S., Bump, L.A. & Smith, D.E. (1982). Competitive State Anxiety Inventory-2. Symposium conducted at the Annual Conference of the North American Society for the Psychology of Sport and Physical Activity.
- Martens, R., Burton, D., Vealey, R.S., Bump, L.A. & Smith, D.E. (1990). Development and validation of the Competitive State Anxiety Inventory-2 (CSAI-2). In R.Martens, R.S.Vealey, & D.Burton (Eds.), Competitive Anxiety in Sport (pp.117-213). Champaign, IL: Human Kinetics.
- McCrae, R. (1992). Situational determinants of coping. In B. Carpenter (Ed.) Personal coping: Theory, research and application (pp. 65-76). New York: Praeger.
- McCrae, R. and Costa, P. (1986). Personality, coping and coping effectiveness in an adult sample. Journal of Personality, *54*, 385-405.
- McCrae, R.R. (1984). Situational determinants of coping responses: Loss, threat, and challenge. Journal of Personality and Social Psychology, *46*, 919-928.
- McNair, R.R. & Elliott, T.R. (1992). Self-perceived problem-solving ability, stress appraisal and coping over time. Journal of Research in Personality, *26*, 150-164.
- Meichenbaum, D. (1985). Stress Inoculation Training. New York: Pergamon.
- Mellstrom, M., Cicala, G.A. & Zuckerman, M. (1976). General versus specific trait anxiety measures in the prediction of fear of snakes, heights, and darkness. Journal of Consulting and Clinical Psychology, *44*, 83-91.
- Meyerson, L. (1988). The social psychology of physical disability: 1948 and 1988. Journal of Social Issues, *44*(1), 173-188.
- Morris, L.W. & Fulmer, R.S. (1976). Test anxiety (worry and emotionality) changes during academic testing as a function of feedback and test importance. Journal of Educational Psychology, *68*, 817-824.
- Morris, L.W. & Liebert, R.M. (1973). Effects of negative feedback, threat of shock and trait anxiety on the arousal of two components of anxiety. Journal of Counselling Psychology, *20*, 321-326.
- Morris, L.W., Davis, M.A. & Hutchings, C.H. (1981). Cognitive and emotional components of anxiety: Literature review and a revised Worry-Emotionality Scale. Journal of Educational Psychology, *73*, 541-555.

- Morten-Williams, J. (1979). Discussant. In L. Moss & H. Goldstein (Eds.), The Recall Method in Social Surveys (pp. 159-169). London: University of London Institute of Education.
- Moss, L. (1979). Overview. In L. Moss & H. Goldstein (Eds.), The Recall Method in Social Surveys (pp. 159-169). London: University of London Institute of Education.
- Murphy, S.M. (1988). The on-site provision of sport psychology services at the 1987 U.S. Olympic Festival. The Sport Psychologist, 2, 337-351.
- Neiss, R. (1988). Reconceptualizing arousal: Psychobiological states in motor performance. Psychological Bulletin, 103, 345-366.
- Orlick, T. & Partington, J. (1988). Mental links to excellence. The Sport Psychologist, 2, 105-130.
- Paivio, A. & Lambert, W.E. (1959). Measures and correlates of audience anxiety. Journal of Personality, 27, 1-17.
- Parfitt, C.G. & Hardy, L. (1987). Further evidence for the differential effect of competitive anxiety upon a number of cognitive and motor sub-systems. Journal of Sports Sciences, 5, 62-63.
- Parfitt, C.G. & Hardy, L. (1993) The effects of competitive anxiety on memory span and rebound shooting tasks in basketball players. Journal of Sports Sciences, 11, 517-524.
- Parfitt, C.G. (1988). Interactions Between Models of Stress and Models of Motor Control. Unpublished doctoral thesis. University College of Wales, Bangor.
- Parfitt, C.G., Jones, G. & Hardy, L. (1990). Multidimensional anxiety and performance. In G. Jones & L. Hardy (Eds.), Stress and Performance in Sport (pp. 43-80). Chichester: Wiley.
- Parkes, K.R. (1984). Locus of control, cognitive appraisal and coping in stressful episodes. Journal of Personality and Social Psychology, 46, 655-668.
- Parkes, K.R. (1986). Coping in stressful episodes: The role of individual differences, environmental factors, and situational characteristics. Journal of Personality and Social Psychology, 51, 1277-1292.
- Paterson, R.J. & Neufield, R.W.J. (1987). Clear Danger: Situational determinants of the appraisal of threat. Psychological Bulletin, 101(3), 404-416.
- Patmore, A. (1986). Sportsmen Under Stress. London: Stanley Paul.
- Patton, M. Q. (1990). Qualitative Evaluation and Research Methods. Newbury Park, CA: Sage.
- Patton, M.Q. (1980). Qualitative Evaluation Methods. Beverley Hills, CA: Sage.
- Paulsen, P., French, R. & Sherrill, C. (1990). Comparison of wheelchair athletes and non-athletes on selected mood states. Perceptual and Motor Skills, 71, 1160-1162.

- Pearlin, L.I., Lieberman, M.A., Menaghan, E.G. & Mullan, J.T. (1981). The Stress Process. Journal of Health and Social Behaviour, 22, 337-356.
- Perlin, L.I. (1991). The study of coping: An overview of problems and directions. In J.Eckenrode (ed.), The Social Context of Coping, Plenum Press, New York, pp. 261-276.
- Petrie, T.A. (1992). Psychosocial antecedents of athletic injury: The effects of life stress and social support on women collegiate gymnasts. Behavioural Medicine, 18, 127-138.
- Petrie, T.A. (1993). The moderating effects of social support and playing status on the life stress-injury relationship. Journal of Applied Sport Psychology, 5, 1-16.
- Pierce, W.J. & Stratton, R.K. (1981). Perceived sources of stress in youth sports participants. In G.C. Roberts & D.M. Landers (Eds.), Psychology of Motor Behavior and Sport (pp. 116-117). Champaign, IL: Human Kinetics.
- Pierce, W.J. (1984). Socialization and stress factors of youth sport participants. Paper presented at the Olympic Scientific Congress, Eugene, OR. pp. 261-276.
- Prapavessis, H. & Grove, J.R. (1991). Precompetitive emotions and shooting performance: The mental health and zone of optimal function models. The Sport Psychologist, 5, 223-234.
- Price, B. (1985). Coaching disabled people. The National Coaching Foundation.
- Ptacek, J.T., Smith, R.E. & Zanas, J. (1992). Gender, appraisal and coping: A longitudinal analysis. Journal of Personality, 60(4), 747-770.
- Reid, G. (1989). Ideas about motor behaviour research with special populations. Adapted Physical Activity Quarterly, 6, 1-10.
- Rhodes, D.L. (1980). Mens sana, corpore sano: A study of the effect of jogging on depression, anxiety and self-concept. Unpublished doctoral dissertation, Duke University, 1980. Dissertation Abstracts International, 41, 1500A.
- Rosenbaum, M. (1980). A schedule for assessing self-control behaviours: Preliminary findings. Behaviour Therapy, 11, 109-121.
- Rosenbaum, M. (1988). Learned resourcefulness, stress and self-regulation. In Ed. Fisher and Reason, Handbook of Life Stress, Cognition and Health. John Wiley and Sons Ltd. 483-496.
- Rutter, M. (1979). Protective factors in children's responses to stress and disadvantage. In M.W. Kent & J.E. Rolf (Eds.), Social competence in children (pp. 49-74). Hanover, N.H.: University Press of New England.
- Sarason, I.G. (1978). The Test Anxiety Scale: Concept and research. In C.D. Spielberger & I.G. Sarason (Eds.), Stress and Anxiety (Vol.5) (pp. 193-216). Washington, DC: Hemisphere.
- Sarason, I.G., Sarason, B.R., Potter, E.H. & Antoni, M.H. (1985). Life events, social support, and illness. Psychosomatic Medicine, 47, 156-163.

- Scanlan, T.K. & Lewthwaite, R. (1984). Social psychological aspects of competition for male youth sport participants: 1. Predictors of competitive stress. Journal of Sport Psychology, 6, 208-226.
- Scanlan, T.K. & Passer, M.W. (1978). Antecedents of competitiveness. In R.A. Magill, M.J. Ash, & F.L. Smoll (Eds.), Children in Sport: A Contemporary Anthology (pp.53 - 75). Champaign, I.L.: Human Kinetics.
- Scanlan, T.K. & Passer, M.W. (1979). Sources of competitive stress in young female athletes. Journal of Sport Psychology, 1, 151-159.
- Scanlan, T.K. (1977). The effects of competition trait anxiety and success-failure on the perception of threat in a competitive situation. Unpublished doctoral dissertation, University of Illinois.
- Scanlan, T.K., Ravizza, K. & Stein, G. (1989). An in-depth study of former elite figure skaters: I. Introduction to the project. Journal of sport and exercise psychology, 11, 54-64.
- Scanlan, T.K., Stein, G.L. & Ravizza, K. (1989). An in-depth study of former elite figure skaters: II. Sources of enjoyment. Journal of Sport and Exercise Psychology, 11, 65-83.
- Scanlan, T.K., Stein, G.L. & Ravizza, K. (1991). An in-depth study of former elite figure skaters: III. Sources of stress. Journal of Sport and Exercise Psychology, 13, 103-120.
- Schachter, S. (1964). The interaction of cognitive and physiological determinants of emotional state. In L. Berkowitz (Ed.), Advances in Experimental Social Psychology (Vol.1). New York: Academic Press.
- Schaefer, C., Coyne, J.C. & Lazarus, R.S. (1982). The health-related functions of social support. Journal of Behavioural Medicine, 4, 381-406.
- Scheier, M.F., Weintraub, J.K. & Carver, C.S. (1986). Coping with stress: Divergent strategies of optimists and pessimists. Journal of Personality and Social Psychology, 51, 1257-1264.
- Schmidt, R.A. (1988). Motor Control and Learning: A Behavioural Emphasis, Human Kinetics, Champaign, IL.
- Schwartz, G.E., Davidson, R.J. & Goleman, D.J. (1978). Patterning of cognitive and somatic processes in the self-regulation of anxiety: Effects of meditation versus exercise. Psychosomatic Medicine, 40, 321-328.
- Shavelson, R.J. & Webb, N.M. (1991). Generalizability Theory: A Primer, Sage, Newbury Park, CA.
- Sherrill, C. & Williams, T. (1996). Disability and sport: Psychosocial perspectives on inclusion, integration and participation. Sport Science Review, 5(1), 42-64.
- Sherrill, C. (1986). Social and psychological dimensions of sports for disabled athletes. In C. Sherrill (Ed.), Sport and Disabled Athletes, the 1984 Olympic Scientific Congress Proceedings, Volume 9 (pp. 21-34). Champaign, Illinois: Human Kinetics.
- Sherrill, C. (1993). Adapted physical activity, recreation and sport: Cross disciplinary

and Lifespan (4th Ed.). Dubuque, IA: Brown and Benchmark.

- Silva, J.M. & Hardy, C.J. (1984). Precompetitive affect and athletic performance. In W.F. Straub & J.M. Williams (Eds.), Cognitive Sport Psychology (pp. 79-88). Lansing, New York: Sport Science Associates.
- Silver, R.L. & Wortman, C.B. (1980). Coping with undesirable life events. In J. Garber and M.E.P. Seligman (Eds.), Human helplessness: Theory and applications (pp. 279-340). New York: Academic Press.
- Smith, C.A. & Lazarus, R.S. (1990). Emotion and adaptation. In L.A. Pervin (Ed.), Handbook of personality: Theory and research (pp. 609-637). New York: Guilford.
- Smith, C.A. & Lazarus, R.S. (1993). Appraisal components, core relational themes and the emotions. Cognition and emotion, 4(3/4), 233-269.
- Smith, R.E. & Christensen, D.S. (1995). Psychological skills as predictors of performance and survival in professional baseball. Journal of Sport and Exercise Psychology, 17, 399-415.
- Smith, R.E. (1986). Toward a cognitive affective model of athletic burnout. Journal of Sport Psychology, 8, 36-50.
- Smith, R.E., Smoll, F.L. & Schutz, R.W. (1990). Measurement and correlates of sport-specific cognitive and somatic trait anxiety: The Sport Anxiety Scale. Anxiety Research, 2, 263-280.
- Smith, R.E., Smoll, F.L., & Ptacek, J.T. (1990). Conjunctive moderator variables in vulnerability and resiliency research: Life stress, social support, and coping skills and adolescent sport injuries. Journal of Personality and Social Psychology, 58(2), 360-369.
- Spielberger, C.D. (1966). Theory and research on anxiety. In C.D. Spielberger (Ed.), Anxiety and Behavior. New York: Academic Press.
- Spielberger, C.D. (1989). Stress and anxiety in sports. In D. Hackfort & C.D. Spielberger (Eds.), Anxiety in sports. An International Perspective (pp. 3-17). New York: Hemisphere.
- Spielberger, C.D., Gorsuch, R.L. & Lushene, R.L. (1970). Manual for the State-Trait Anxiety Inventory. Palo Alto, CA: Consulting Psychologists.
- Spielberger, C.S. (1966). Theory and research on anxiety. In C.S. Spielberger (ed.), Anxiety and Behaviour, Academic Press, New York, pp. 3-20.
- Spielberger, C.S., Gorsuch, R.L. & Lushene, R.L. (1970). Manual for the State-Trait Anxiety Inventory, Consulting Psychologists, Palo Alto, CA.
- Spielgler, M.D., Morris, L.W. & Libert, R.M. (1968). Cognitive and emotional components of test anxiety: Temporal factors. Psychological Reports, 22, 452- 456.
- Spitzer, A., Bar-Tal, Y. & Golander, H. (1993). The moderating effect of demographic variables on coping effectiveness. Unpublished paper, Tel-Aviv University.

- Steadward, R.D. (1996). Integration and sport in the Paralympic Movement, Sport Science Review, 5(1), 26-41.
- Steckler, A., McLeroy, K.R., Goodman, R.M., Bird, S.T. & McCormick, L. (1992). Toward integrating qualitative and quantitative methods: An introduction, Health Education Quarterly, 19, 1-8.
- Stone, A.A., Kennedy-Moore, E., Newman, M.G., Greenberg, M. & Neale, J.M. (1992). In B.N. Carpenter (ed.), Personal Coping: Theory, Research, and Application, Praeger, Westport, CT, pp. 14-29.
- Swain, A.B.J. & Jones, G. (1990). Intensity, frequency and direction dimensions of competitive state anxiety and self-confidence. Journal of Sport Sciences, 8, 302-303.
- Swain, A.B.J. & Jones, G. (1992). Relationships between sport achievement orientation and competitive state anxiety. The Sport Psychologist, 6, 42-54.
- Swain, A.B.J. & Jones, G. (1993). Intensity and frequency dimensions of competitive state anxiety. Journal of Sports Sciences, 11, 533-542.
- Swain, A.B.J. & Jones, G. (1996). Explaining performance variance: The relative contribution of intensity and direction dimensions of competitive state anxiety. Anxiety, Stress and Coping: An International Journal, 9, 1-18.
- Swain, A.B.J., Jones, G. & Cale, A. (1990). Interrelationships among multidimensional competitive state anxiety components as a function of the proximity of competition. Perceptual and Motor Skills, 71, 1111-1114.
- Tabachnick, B.G. & Fidell, L.S. (1983). Using multivariate statistics. New York: Harper and Row.
- Taylor, S.J. & Bogdan, R. (1984). Introduction to qualitative research methods. New York: Wiley.
- Tenenbaum, G. & Milgram, R.M. (1978). Trait and state anxiety in Israeli student athletes. Journal of Clinical Psychology, 34, 691-693.
- Thayer, R.E. (1967). Measurement of activation through self-report. Psychological Reports, 20, 663-678.
- Thayer, R.E. (1978). Toward a psychological theory of multidimensional activation (arousal). Motivation and Emotion, 2, 1-34.
- Thoits, P.A. (1986). Social support as coping assistance. Journal of Consulting and Clinical Psychology, 54, 416-423.
- Van den Bout, J., Son-Schoones, N., Schipper, J. & Groffen, C. (1988). Attributional cognitions, coping behaviour and self esteem in in-patients with severe spinal cord injuries. Journal of Clinical Psychology, 44, 17-22.
- Van Raalte, J.L., Brewer, B.W., Lewis, B.P., Linder, D.E., Wildman, G. & Kozimar, J. (in press). Cork! The effects of positive and negative self-talk on dart throwing performance. Journal of Sport Behaviour.

- Vealey, R. (1986). Imagery training for performance enhancement. In J.M. Williams (Ed.), Applied Sport Psychology: Personal Growth to Peak Performance (pp. 209-234). Mountain View, CA: Mayfield.
- Vealey, R.S. (1986). Conceptualisation of sport confidence and competitive orientation: Preliminary investigation and instrument development. Journal of Sport Psychology, 8, 221-246.
- Vitaliano, P., DeWolfe, D., Maiuro, R., Russo, J. & Katon, W. (1990). Appraised change ability of a stressor as a modifier of the relationship between coping and depression: A test of the hypotheses of fit. Journal of Personality and Social Psychology, 59, 582-592.
- Wagenaar, W.A. (1986). My memory: A study of autobiographical memory over six years. Cognitive Psychology, 18, 225-252.
- Wankel, L.M. & Berger, B.G. (1990). The psychological and social benefits of sport and physical activity. Journal of Leisure Research, 22, 167-182.
- Watkinson, E.J. & Calzonetti, K. (1989). Physical activity patterns of physically disabled women in Canada. CAHPER, 55, 21-26.
- Watson, D. & Friend, R. (1969). Measurement of social-evaluative anxiety. Journal of Consulting and Clinical Psychology, 33, 448-457.
- Watson, D. & Tellegen, A. (1985). Toward a consensual structure of mood. Psychological Bulletin, 98, 219-235.
- Watson, D., Clark, L.A. & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect. The PANAS Scales. Journal of Personality and Social Psychology, 54, 1063-1070.
- Weinberg, R.S. & Weigand, D. (1993). Goal-setting in sport and exercise: A reaction to Locke. Journal of Sport and Exercise Psychology, 15, 88-96.
- Weinberg, R.S. (1992). Goal setting and motor performance: A review and critique. In G.C. Roberts (Ed.), Motivation in Sport and Exercise (pp. 117-198). Champaign, IL: Human Kinetics.
- Wright, B.A. (1983). Physical disabilities: A Psychological approach. New York: Harper and Row.
- Zoerink, D.A. (1992). Exploring sport socialisation environments of persons with orthopaedic disabilities. Palaestra, 8, 38-44.

APPENDIX A

STRESS & PERFORMANCE
IN
WHEELCHAIR SPORT

Liz Campbell
Lecturer Sport Psychology
Loughborough University

PLEASE READ CAREFULLY

The purpose of this survey is to further understanding of the nature and degree of stress in wheelchair sport. Information gathered in this project will assist sport psychologists and coaches in the mental preparation of athletes for competition.

The study involves completing a questionnaire based on how you *normally* feel prior to an important competitive event. The questionnaire asks you to reflect on how you *normally* feel at several points in time: 1 week before; 2 hrs before; and 30 mins before the event. The reason why you are asked to complete the same questionnaire three times is because we are interested in looking at how responses may change during the pre-event period. All the information you provide will be kept in the strictest confidence.

The questionnaire is split into four sections. **Section 1** involves answering some personal detail questions concerning, for example, what sport you participate in, and the nature of your disability. Please note that this information will be kept in the strictest confidence and will be used only by myself when interpreting data.

Section 2 involves completing a questionnaire based on how you *normally* feel 1 week before an important competitive event. The questions ask you to consider the extent, frequency and interpretation of *your* thoughts, feelings and symptoms 1 week before the event. After completing the questionnaire you are asked to consider what factors you think may cause or influence the thoughts, feelings and symptoms you *normally* experience 1 week before the event. Also, you are asked to consider a list of words which may or may not summarise your feelings.

Sections 3 & 4 involve completing the same questionnaire as in section two but reflecting on how you normally feel 2 hours and again at 30 mins (respectively) before an important competitive event.

Please remember there are no right or wrong answers as this is not a test. It is a study to find out what you honestly think and experience, not what you imagine is the correct answer. Please consider each item carefully and be sure you fully understand what each question is asking before responding. Do not spend too much time in responding to any one statement, but choose the answer which best describes your feelings.

Please do not hesitate to contact me if you have any queries or general questions.

THANK YOU

PERSONAL BACKGROUND

THE INFORMATION YOU PROVIDE WILL BE KEPT
IN THE STRICTEST CONFIDENCE

NAME :.....

MALE / FEMALE (please circle)

DATE OF BIRTH :

ADDRESS :

.....

.....

.....

WHAT IS YOUR MAJOR SPORT :

SPORT CLASSIFICATION :

HOW LONG HAVE YOU BEEN PLAYING THIS SPORT ? : YRS

WHAT COMPETITIVE LEVEL DO YOU CURRENTLY COMPETE AT? (please tick)

- Recreational
- Regional / National
- International

HAVE YOU PREVIOUSLY COMPETED AT A DIFFERENT COMPETITIVE LEVEL?

YES / NO (please circle)

If you answered yes to the above please indicate what level previously you competed at
(please tick)

- Recreational
- Regional / National
- International

HOW LONG HAVE YOU BEEN A WHEELCHAIR USER ? YRS

WHAT IS THE NATURE OF YOUR DISABILITY ? (please state)

.....

IF YOU HAVE A SPINAL LESION WHAT IS THE LEVEL OF YOUR

LESION ? (please state)

.....

PLEASE STATE ANY MEDICATION YOU ARE CURRENTLY TAKING :

.....

DOES THE MEDICATION YOU TAKE INFLUENCE YOUR FEELINGS, THOUGHTS

& EMOTIONS PRIOR TO AN IMPORTANT COMPETITIVE EVENT? YES / NO

(please circle)

If you answered yes to the above please state how you feel the medication influences your thoughts, feelings and emotions prior to an important competitive event:

.....
.....
.....

**1 WEEK BEFORE AN IMPORTANT
COMPETITIVE EVENT**

	Not At All	Somewhat	Moderately So	Very Much So
23. My hands are clammy	1	2	3	4
24. I'm confident because I mentally picture myself reaching my goal	1	2	3	4
25. I'm concerned I won't be able to concentrate	1	2	3	4
26. My body feels tight	1	2	3	4
27. I'm confident of coming through under pressure	1	2	3	4

Not At All	Moderately Frequent	All of the time
1	2 3 4 5 6 7	6 7
1	2 3 4 5 6 7	6 7
1	2 3 4 5 6 7	6 7
1	2 3 4 5 6 7	6 7
1	2 3 4 5 6 7	6 7

Very Negative (ie. debilitating)	Unimportant	Very Positive (ie. facilitative)
-3 -2 -1 0 +1 +2 +3	0 +1 +2 +3	+2 +3
-3 -2 -1 0 +1 +2 +3	0 +1 +2 +3	+2 +3
-3 -2 -1 0 +1 +2 +3	0 +1 +2 +3	+2 +3
-3 -2 -1 0 +1 +2 +3	0 +1 +2 +3	+2 +3
-3 -2 -1 0 +1 +2 +3	0 +1 +2 +3	+2 +3

2 HOURS BEFORE AN IMPORTANT COMPETITIVE EVENT

The effects of highly competitive sports can be powerful and very different among athletes. The inventory you are about to complete measures how you normally feel 1 hour before an important competitive event. Please complete the inventory as honestly as you can. Sometimes athletes feel they should not admit to any nervousness, anxiety or worry they experience before competition because this is undesirable. Actually, these feelings are quite common, and to help me understand them I want you to share your feelings with me openly. If you worry about competition or have butterflies or other feelings that you know are signs of anxiety, please indicate these feelings accurately on the inventory. Equally, if you feel calm and relaxed, indicate those feelings as accurately as you can. Your answers will not be shared with anyone. Please remember that you are responding to how you normally feel 2 hours before an important competition.

Directions: A number of statements which athletes have used to describe their feelings before competition are given below. The questionnaire is divided into 3 sections. Read each statement and then circle the appropriate number, in each of the sections, to the right of the statement to indicate how you normally feel 2 hours before an important competitive event. There are no right or wrong answers. Do not spend too much time on any one statement, but choose the answer which describes how you normally feel 2 hours before an important competition.

EG. MIKE - WHEELCHAIR ATHLETE

Mike is moderately concerned about his performance at an important competition in 2 hours time and finds this degree of concern is occupying a moderate amount of his thoughts. Mike believes that the degree of concern he is experiencing is negative to his forthcoming performance.

	Not At All	Somewhat	Moderately So	Very Much So
1. I am concerned about this competition	1	2	3	4

	Not At All	Moderately Frequent	All of the time
	1	2 3 4 5	6 7

	Very Negative (ie. debilitating)	Unimportant	Very Positive (ie. facilitative)
	-3 -2 -1	0	+1 +2 +3

How frequently do you experience this thought/feeling 2 hours before an important competition

Do you normally regard this thought/feeling you are experiencing, 2 hours before an important competition, as negative or positive to your upcoming performance?

	Not At All	Somewhat	Moderately So	Very Much So
1. I am concerned about this competition	1	2	3	4
2. I feel nervous	1	2	3	4
3. I feel at ease	1	2	3	4
4. I have self-doubts	1	2	3	4
5. I feel jittery	1	2	3	4
6. I feel comfortable	1	2	3	4

	Not At All	Moderately Frequent	All of the time
	1	2 3 4 5 6 7	
	1	2 3 4 5 6 7	
	1	2 3 4 5 6 7	
	1	2 3 4 5 6 7	
	1	2 3 4 5 6 7	
	1	2 3 4 5 6 7	

	Very Negative (ie. debilitating)	Unimportant	Very Positive (ie. facilitative)
	-3 -2 -1	0	+1 +2 +3
	-3 -2 -1	0	+1 +2 +3
	-3 -2 -1	0	+1 +2 +3
	-3 -2 -1	0	+1 +2 +3
	-3 -2 -1	0	+1 +2 +3
	-3 -2 -1	0	+1 +2 +3

	Very Negative (ie. debilitating)	Unimportant	Very Positive (ie. facilitative)
	-3	-2 -1 0 +1 +2 +3	
	-3	-2 -1 0 +1 +2 +3	
	-3	-2 -1 0 +1 +2 +3	
	-3	-2 -1 0 +1 +2 +3	
	-3	-2 -1 0 +1 +2 +3	

	Not At All	Moderately Frequent	All of the time
	1	2 3 4 5 6 7	
	1	2 3 4 5 6 7	
	1	2 3 4 5 6 7	
	1	2 3 4 5 6 7	
	1	2 3 4 5 6 7	

	Not At All	Somewhat	Moderately So	Very Much So
23. My hands are clammy	1	2	3	4
24. I'm confident because I mentally picture myself reaching my goal	1	2	3	4
25. I'm concerned I won't be able to concentrate	1	2	3	4
26. My body feels tight	1	2	3	4
27. I'm confident of coming through under pressure	1	2	3	4

**30 MINUTES BEFORE
AN IMPORTANT
COMPETITIVE EVENT**

The effects of highly competitive sports can be stressful and very different among athletes. The inventory you are about to complete measures how you normally feel 30 minutes before an important competitive event. Please complete the inventory as honestly as you can. Sometimes athletes feel they should not admit to any nervousness, anxiety or worry they experience before competition because this is undesirable. Actually, these feelings are quite common, and to help me understand them I want you to share your feelings with me openly. If you worry about competition or have butterflies or other feelings that you know are signs of anxiety, please indicate these feelings accurately on the inventory. Equally, if you feel calm and relaxed, indicate those feelings as accurately as you can. Your answers will not be shared with anyone. Please remember that you are responding to how you normally feel 30 minutes before an important competition.

Directions: A number of statements which athletes have used to describe their feelings before competition are given below. The questionnaire is divided into 3 sections. Read each statement and then circle the appropriate number, in each of the sections, to the right of the statement to indicate how you normally feel 30 minutes before an important competitive event. There are no right or wrong answers. Do not spend too much time on any one statement, but choose the answer which describes how you normally feel 30 minutes before an important competition.

EG. MIKE - WHEELCHAIR ATHLETE

Mike is very concerned about his performance at an important competition in 30 minutes time and finds this degree of concern is occupying nearly all of his thoughts. Mike believes that the degree of concern he is experiencing is positive to his forthcoming performance.

	Not At All	Somewhat	Moderately So	Very Much So
1. I am concerned about this competition	1	2	3	4

Not At All	Moderately Frequent	All of the time
1	2	3
4	5	6
7		7

Very Negative (ie. debilitating)	Unimportant	Very Positive (ie. facilitative)
-3	-2	-1
0	+1	+2
+3		+3

How frequently do you experience this thought/feeling 30 minutes before an important competition

	Not At All	Somewhat	Moderately So	Very Much So
1. I am concerned about this competition	1	2	3	4
2. I feel nervous	1	2	3	4
3. I feel at ease	1	2	3	4
4. I have self-doubts	1	2	3	4
5. I feel jittery	1	2	3	4
6. I feel comfortable	1	2	3	4

Do you normally regard this thought/feeling you have experiencing, 30 minutes before an important competition, as negative or positive to your upcoming performance?

Not At All	Moderately Frequent	All of the time
1	2	3
4	5	6
7		7

Very Negative (ie. debilitating)	Unimportant	Very Positive (ie. facilitative)
-3	-2	-1
0	+1	+2
+3		+3

Very Negative (ie. debilitating)	Unimportant			Very Positive (ie. facilitative)		
-3	-2	-1	0	+1	+2	+3
-3	-2	-1	0	+1	+2	+3
-3	-2	-1	0	+1	+2	+3
-3	-2	-1	0	+1	+2	+3

Not At All	Moderately Frequent			All of the time		
1	2	3	4	5	6	7
1	2	3	4	5	6	7
1	2	3	4	5	6	7
1	2	3	4	5	6	7

Not At All	Somewhat	Moderately So	Very Much So
1	2	3	4
1	2	3	4
1	2	3	4
1	2	3	4
1	2	3	4

23. My hands are clammy

24. I'm confident because I mentally picture myself reaching my goal

25. I'm concerned I won't be able to concentrate

26. My body feels tight

27. I'm confident of coming through under pressure

5

- **WOULD YOU LIKE FEEDBACK ON YOUR RESULTS ? YES / NO (please circle)**

- **WOULD YOU HAVE ANY OBJECTIONS TO ME CONTACTING YOU IN THE FUTURE CONCERNING YOUR QUESTIONNAIRE ? YES /NO (please circle)**

Please note I will only contact you if absolutely necessary

**THANK YOU FOR YOUR TIME
& CO-OPERATION**

Liz Campbell

**SPORT PERFORMERS'
THOUGHTS & FEELINGS
PRIOR TO AN IMPORTANT
SPORT COMPETITION**

**Liz Campbell
Lecturer Sport Psychology
Loughborough University**

INTRODUCTION

This study is concerned with how sport performers perceive important competitive events. Individuals' perceptions of a situation will influence the thoughts, feelings and emotions they experience prior to competition. These thoughts, feelings and emotions can have a dramatic effect on their subsequent performance. This investigation will provide vital information for Sport Psychologists working with sport performers so your help in completing the following questionnaire is greatly appreciated.

The investigation comprises two sections:

Section 1: This section involves you completing questionnaires which provide us with information about factors which may influence how you appraise important competitive sport situations.

Section 2: This section involves you reflecting back to an important competitive event that you have participated in during the last 6 months. A series of questions then ask for information about the event and also what your thoughts and feelings were prior to competition.

There are no right or wrong answers to the questions you are asked to complete so please answer them honestly. The information you provide will be extremely useful to Sport Psychologists. In addition, if requested, you will be provided with feedback of your own results which I am sure you would find both interesting and useful.

Any information you provide will be kept in the strictest confidence

Thank you for your agreeing to take part in the study.

GENERAL INFORMATION

1. Name : _____

2. Address : _____

Telephone Number : _____

3. Age: _____

4. Male () Female ()

5. Employed () Unemployed () Student ()

6. Ethnic Origin : _____

7. Were you born with a physical disability ?

Yes () No ()

If you answered 'No' at what age did you acquire your disability ? _____

8. What is the nature of your physical disability ?

Amputee ()

Spinal cord injury ()

Spina bifida ()

Cerebral palsy ()

Muscular Dystrophy ()

Rheumatoid Arthritis ()

Other () _____

9. Did you attend a special school ?

Yes () No ()

10. Under which category would you classify the severity of your disability ?

Mild disability ()

Moderate disability ()

Severe disability ()

11. How would you rate your level of mobility as a result of your disability ?

I have no mobility problems ()

I have some mobility problems ()

I have moderate mobility problems ()

I have severe mobility problems ()

12. What is your main competitive sport ? _____

13. What level do you compete at ?

Recreational ()

Regional ()

National ()

International ()

14. How important is competing in this sport to you ?

Somewhat important ()

Quite a bit important ()

Very important ()

Section 1

I am interested in how people respond when they confront difficult or stressful events in their lives. There are lots of ways to try to deal with stress. This questionnaire asks you to indicate what you generally do and feel, when you experience stressful events. Obviously, different events bring about somewhat different responses, but think about what you usually do when you are under a lot of stress. When answering, please treat every item separately from every other item. Note that there are no right or wrong answers, and that your responses should indicate what you do rather than "what most people do". Following each item on the left there are 2 response scales I would like you to complete (by circling the appropriate number) before going on to the next item. Firstly, Scale 1 asks about the extent to which you use the coping strategy. Immediately following the response, I would like you to complete Scale 2 which enquires, when you do adopt the strategy, how effective is it in helping you to deal with the stress. Please then go on to the next item.

SCALE 1

SCALE 2

To what extent do you use this strategy

When you do adopt this strategy,
HOW EFFECTIVE is it in helping
you to COPE with the stress

	I usually don't do this at all	I usually do this a little bit	I usually do this a medium amount	I usually do this a lot
1 I take additional action to try and get rid of the problem	1	2	3	4
2 I try to come up with a strategy about what to do	1	2	3	4
3 I put aside other activities in order to concentrate on this	1	2	3	4

Not Effective at all	Somewhat Effective	Moderately Effective	Extremely Effective	Not Applicable
1	2	3	4	5
1	2	3	4	5
1	2	3	4	5

There are many types and ways that we receive help and support. This questionnaire asks you to consider how much of different types of help and support you have needed over the last 4 to 6 weeks on a scale from 1 "none" to 7 "very much". You are then asked to consider how much of different types of help and support you have actually received in the last 4 to 6 weeks on a scale from 1 "none" to 7 "very much". This questionnaire enables us to establish how much social support an individual needed and also what social support they actually received.

Directions: Consider each statement below separately and then circle the appropriate number to indicate "how much of this particular type of support you needed over the last 4 to 6 weeks" (column 1), and then "how much of this particular type of support you actually received" (column 2).

COLUMN 1

	How much of this type of help or support have you needed							
	None	1	2	3	4	5	6	7
1. Assurance that loved	1	2	3	4	5	6	7	
2. Reassurance that it is normal to feel down about life	1	2	3	4	5	6	7	
3. Information to change self-defeating behaviour	1	2	3	4	5	6	7	
4. Financial assistance for maintenance	1	2	3	4	5	6	7	
5. Information on how others feel	1	2	3	4	5	6	7	
6. Know others willing to talk about anything	1	2	3	4	5	6	7	
7. Help to see optimism in the future	1	2	3	4	5	6	7	
8. Information to change negative feelings	1	2	3	4	5	6	7	
9. Non-financial aid for maintenance	1	2	3	4	5	6	7	
10. Information on how others handle situations	1	2	3	4	5	6	7	
11. Assurance that needed	1	2	3	4	5	6	7	
12. Encouragement to talk of good aspects of life	1	2	3	4	5	6	7	
13. Reassurance that normal to feel good	1	2	3	4	5	6	7	
14. Financial assistance for emergencies	1	2	3	4	5	6	7	
15. Information on how others think	1	2	3	4	5	6	7	
16. Know others willing to talk about good aspects of life	1	2	3	4	5	6	7	
17. Help to set realistic goals	1	2	3	4	5	6	7	
18. Assistance when act in self-defeating ways	1	2	3	4	5	6	7	

COLUMN 2

	How much of this type of help or support have you actually received							
	None	1	2	3	4	5	6	7
1. Assurance that loved	1	2	3	4	5	6	7	
2. Reassurance that it is normal to feel down about life	1	2	3	4	5	6	7	
3. Information to change self-defeating behaviour	1	2	3	4	5	6	7	
4. Financial assistance for maintenance	1	2	3	4	5	6	7	
5. Information on how others feel	1	2	3	4	5	6	7	
6. Know others willing to talk about anything	1	2	3	4	5	6	7	
7. Help to see optimism in the future	1	2	3	4	5	6	7	
8. Information to change negative feelings	1	2	3	4	5	6	7	
9. Non-financial aid for maintenance	1	2	3	4	5	6	7	
10. Information on how others handle situations	1	2	3	4	5	6	7	
11. Assurance that needed	1	2	3	4	5	6	7	
12. Encouragement to talk of good aspects of life	1	2	3	4	5	6	7	
13. Reassurance that normal to feel good	1	2	3	4	5	6	7	
14. Financial assistance for emergencies	1	2	3	4	5	6	7	
15. Information on how others think	1	2	3	4	5	6	7	
16. Know others willing to talk about good aspects of life	1	2	3	4	5	6	7	
17. Help to set realistic goals	1	2	3	4	5	6	7	
18. Assistance when act in self-defeating ways	1	2	3	4	5	6	7	

How much of this type of help or support have you needed

	None							Very Much						
	1	2	3	4	5	6	7	1	2	3	4	5	6	7
19. Information on sources of financial assistance	1	2	3	4	5	6	7	1	2	3	4	5	6	7
20. A model or example to follow	1	2	3	4	5	6	7	1	2	3	4	5	6	7
21. Assurance that accepted	1	2	3	4	5	6	7	1	2	3	4	5	6	7
22. Reassurance that fears are normal	1	2	3	4	5	6	7	1	2	3	4	5	6	7
23. Encouragement to face reality	1	2	3	4	5	6	7	1	2	3	4	5	6	7
24. Non-financial aid for emergencies	1	2	3	4	5	6	7	1	2	3	4	5	6	7
25. Know others willing to talk about good aspects of life	1	2	3	4	5	6	7	1	2	3	4	5	6	7
26. Reassurance that it is normal to feel hopeful	1	2	3	4	5	6	7	1	2	3	4	5	6	7
27. Help to change self-defeating behaviour	1	2	3	4	5	6	7	1	2	3	4	5	6	7
28. Assurance that respected	1	2	3	4	5	6	7	1	2	3	4	5	6	7
29. Reassurance that it is normal to feel down	1	2	3	4	5	6	7	1	2	3	4	5	6	7
30. Encouragement to talk when down	1	2	3	4	5	6	7	1	2	3	4	5	6	7
31. Assurance that belong to a caring group	1	2	3	4	5	6	7	1	2	3	4	5	6	7
32. Information on how to cope	1	2	3	4	5	6	7	1	2	3	4	5	6	7
33. Encouragement to talk of insecurities	1	2	3	4	5	6	7	1	2	3	4	5	6	7
34. Know others willing to talk about hopes	1	2	3	4	5	6	7	1	2	3	4	5	6	7
35. Information on services	1	2	3	4	5	6	7	1	2	3	4	5	6	7
36. Know others willing to talk when you're down and blue	1	2	3	4	5	6	7	1	2	3	4	5	6	7
37. Help in seeing positives	1	2	3	4	5	6	7	1	2	3	4	5	6	7
38. Know others willing to talk about your insecurities	1	2	3	4	5	6	7	1	2	3	4	5	6	7
39. Encouragement to talk of future positively	1	2	3	4	5	6	7	1	2	3	4	5	6	7

How much of this type of help or support have you actually received

	None							Very Much						
	1	2	3	4	5	6	7	1	2	3	4	5	6	7
19. Information on sources of financial assistance	1	2	3	4	5	6	7	1	2	3	4	5	6	7
20. A model or example to follow	1	2	3	4	5	6	7	1	2	3	4	5	6	7
21. Assurance that accepted	1	2	3	4	5	6	7	1	2	3	4	5	6	7
22. Reassurance that fears are normal	1	2	3	4	5	6	7	1	2	3	4	5	6	7
23. Encouragement to face reality	1	2	3	4	5	6	7	1	2	3	4	5	6	7
24. Non-financial aid for emergencies	1	2	3	4	5	6	7	1	2	3	4	5	6	7
25. Know others willing to talk about good aspects of life	1	2	3	4	5	6	7	1	2	3	4	5	6	7
26. Reassurance that it is normal to feel hopeful	1	2	3	4	5	6	7	1	2	3	4	5	6	7
27. Help to change self-defeating behaviour	1	2	3	4	5	6	7	1	2	3	4	5	6	7
28. Assurance that respected	1	2	3	4	5	6	7	1	2	3	4	5	6	7
29. Reassurance that it is normal to feel down	1	2	3	4	5	6	7	1	2	3	4	5	6	7
30. Encouragement to talk when down	1	2	3	4	5	6	7	1	2	3	4	5	6	7
31. Assurance that belong to a caring group	1	2	3	4	5	6	7	1	2	3	4	5	6	7
32. Information on how to cope	1	2	3	4	5	6	7	1	2	3	4	5	6	7
33. Encouragement to talk of insecurities	1	2	3	4	5	6	7	1	2	3	4	5	6	7
34. Know others willing to talk about hopes	1	2	3	4	5	6	7	1	2	3	4	5	6	7
35. Information on services	1	2	3	4	5	6	7	1	2	3	4	5	6	7
36. Know others willing to talk when you're down and blue	1	2	3	4	5	6	7	1	2	3	4	5	6	7
37. Help in seeing positives	1	2	3	4	5	6	7	1	2	3	4	5	6	7
38. Know others willing to talk about your insecurities	1	2	3	4	5	6	7	1	2	3	4	5	6	7
39. Encouragement to talk of future positively	1	2	3	4	5	6	7	1	2	3	4	5	6	7

Indicate how characteristic or descriptive each of the following statements is of you by using the code given below.

- +3 very characteristic of me, extremely descriptive
- +2 rather characteristic of me, quite descriptive
- +1 somewhat characteristic of me, slightly descriptive
- 1 somewhat uncharacteristic of me, slightly uncharacteristic
- 2 rather uncharacteristic of me, quite uncharacteristic
- 3 very uncharacteristic of me, extremely uncharacteristic

1. When I do a boring job, I think about the less boring parts of the job and the reward that I will receive once I am finished.	-3	-2	-1	+1	+2	+3
2. When I have to do something that is anxiety arousing for me, I try to visualise how I will overcome my anxieties while doing it.	-3	-2	-1	+1	+2	+3
3. Often by changing my way of thinking I am unable to change my feelings about almost everything.	-3	-2	-1	+1	+2	+3
4. I often find it difficult to overcome my feelings of nervousness and tension without outside help.	-3	-2	-1	+1	+2	+3
5. When I am feeling depressed I try to think about pleasant events.	-3	-2	-1	+1	+2	+3
6. I cannot avoid thinking about mistakes I have made in the past.	-3	-2	-1	+1	+2	+3
7. When I am faced with a difficult problem, I try to approach its solution in a systematic way.	-3	-2	-1	+1	+2	+3
8. I usually do my duties quicker when somebody is pressuring me.	-3	-2	-1	+1	+2	+3
9. When I am faced with a difficult decision, I prefer to postpone making a decision even if all the facts are at my disposal.	-3	-2	-1	+1	+2	+3
10. When I find that I have difficulties in concentrating on my reading, I look for ways to increase my concentration.	-3	-2	-1	+1	+2	+3
11. When I plan to work, I remove all the things that are not relevant to my work.	-3	-2	-1	+1	+2	+3
12. When I try to get rid of a bad habit, I first try to think about something pleasant.	-3	-2	-1	+1	+2	+3
13. When an unpleasant thought is bothering me, I try to think of something pleasant.	-3	-2	-1	+1	+2	+3
14. If I would smoke two packages of cigarettes a day, I would probably need outside help to stop smoking.	-3	-2	-1	+1	+2	+3
15. When I am in a low mood, I try to act cheerful so my mood will change.	-3	-2	-1	+1	+2	+3
16. If I had the pills with me, I would take a tranquilliser whenever I felt tense and nervous	-3	-2	-1	+1	+2	+3
17. When I am depressed, I try to keep myself busy with things that I like.	-3	-2	-1	+1	+2	+3

18. I tend to postpone unpleasant duties even if I could perform them immediately.	-3	-2	-1	+1	+2	+3
19. I need outside help to get rid of some of my bad habits.	-3	-2	-1	+1	+2	+3
20. When I find it difficult to settle down and do a certain job, I look for ways to help me settle down.	-3	-2	-1	+1	+2	+3
21. Although it makes me feel bad, I cannot avoid thinking about all kinds of possible catastrophes in the future.	-3	-2	-1	+1	+2	+3
22. First of all I prefer to finish a job that I have to do and then start doing the things I really like.	-3	-2	-1	+1	+2	+3
23. When I feel pain in a certain part of my body, I try not to think about it.	-3	-2	-1	+1	+2	+3
24. My self-esteem increases once I am able to overcome a bad habit.	-3	-2	-1	+1	+2	+3
25. In order to overcome bad feelings that accompany failure I often tell myself that it is not so catastrophic and that I can do something about it.	-3	-2	-1	+1	+2	+3
26. When I feel that I am too impulsive, I tell myself "stop and think before you do anything."	-3	-2	-1	+1	+2	+3
27. Even when I am terribly angry at somebody, I consider my actions very carefully.	-3	-2	-1	+1	+2	+3
28. Facing the need to make a decision, I usually find out all the possible alternatives instead of deciding quickly and spontaneously.	-3	-2	-1	+1	+2	+3
29. Usually I do first the things I really like to do even if there are more urgent things to do.	-3	-2	-1	+1	+2	+3
30. When I realise that I cannot help but be late for an important meeting, I tell myself to keep calm.	-3	-2	-1	+1	+2	+3
31. When I feel pain in my body, I try to divert my thoughts from it.	-3	-2	-1	+1	+2	+3
32. I usually plan my work when faced with a number of things to do.	-3	-2	-1	+1	+2	+3
33. When I am short of money, I decide to record all my expenses in order to plan more carefully for the future.	-3	-2	-1	+1	+2	+3
34. If I find it difficult to concentrate on a certain job, I divide the job into smaller segments.	-3	-2	-1	+1	+2	+3
35. Quite often I cannot overcome unpleasant thoughts that bother me.	-3	-2	-1	+1	+2	+3
36. Once I am hungry and unable to eat, I try to divert my thoughts away from my stomach to try to imagine that I am satisfied.	-3	-2	-1	+1	+2	+3

Section 2

We are interested in how individuals evaluate important competitive sport situations. A competitive sport situation is where you or your team pit yourself against another individual or team. In an important competitive sport situation the result/outcome of the encounter would matter to you or your team, or both.

Before answering the attached questionnaire, you need to first reconstruct an important competitive sport situation you have experienced over the last 6 months. To help you reconstruct this particular situation, please briefly answer the following questions

1. Who was involved ?

2. When did it happen ?

3. Where did it happen ?

4. What made the event important ?

5. What was your goal (e.g. to win, to set a personal best time, to win so many games)?

6. What was your commitment to your goal ?

Somewhat committed ()

Quite a bit committed ()

Very committed ()

7. Did anyone else know about your commitment to your goal ?

Yes ()

No ()

If yes who ?

8. What happened ?

9. How important was the event to you ?

Somewhat important ()

Quite a bit important ()

Very important ()

10. Rate the degree to which you felt the competitive sport event was threatening (potential for harm/loss)

Not at

all

1

2

3

4

5

6

Very
Threatening

7

11. Rate the degree to which you felt the competitive sport event was challenging (potential growth, mastery)

Not at

all

1

2

3

4

5

6

Very
Challenging

7

There are lots of ways to try to deal with important competitive situations. This questionnaire asks you how you felt or thought about the important sport competition you have outlined on the previous page. The following questions ask how you evaluated or what you thought about the situation.

Consider each item separately and circle the most appropriate response from 1 (very little) to 5 (very much). Choose your answers carefully, and make sure your answers are true for you. Please answer every item. There are no 'right' or 'wrong' answers, so choose the answer that matches what you felt or thought ---- not what you think 'most people' would say or do.

	Very little				Very much
1. I believed I had the skills to meet my goals	1	2	3	4	5
2. It was important to do well	1	2	3	4	5
3. I was certain of the outcome	1	2	3	4	5
4. I knew what the demands of the activity were	1	2	3	4	5
5. I was in control in this activity	1	2	3	4	5
6. Others were responsible for me achieving my goal	1	2	3	4	5
7. I knew the activity would involve lots of effort	1	2	3	4	5
8. I knew I could do this activity well	1	2	3	4	5
9. I valued this activity	1	2	3	4	5
10. I could predict the outcome of this activity	1	2	3	4	5
11. I knew the key points in performing the activity	1	2	3	4	5
12. I would be responsible for achieving my goal	1	2	3	4	5
13. Others would control the situation	1	2	3	4	5
14. I would have to work hard	1	2	3	4	5
15. I was confident about meeting my goals	1	2	3	4	5
16. I found this activity special and meaningful	1	2	3	4	5
17. The outcome was never in doubt	1	2	3	4	5
18. I was familiar with the task	1	2	3	4	5
19. I had personal control in the situation	1	2	3	4	5
20. Others were in control in this activity	1	2	3	4	5
21. I would have to concentrate hard	1	2	3	4	5
22. I believed in my ability to do well	1	2	3	4	5
23. This activity was important to me	1	2	3	4	5
24. The outcome was highly predictable	1	2	3	4	5
25. I knew what the activity was all about	1	2	3	4	5
26. I would have to pay careful attention	1	2	3	4	5

(to what I am doing)

Would you like feedback from your results ?

Yes ()

No ()

Would you have any objections to me contacting you in the future concerning your questionnaire ?

Yes ()

No ()

Please note that I will only contact you if absolutely necessary

THANK YOU FOR YOUR TIME AND COOPERATION

Liz Campbell

**STRESS & COPING
IN
ELITE WHEELCHAIR
ATHLETES**

INTERVIEW GUIDE

Name : _____

Sport : _____

Address : _____

Tel No : _____

Interview Date : _____ Start time : _____ Finish time : _____

SECTION 1 INTRODUCTION

Hello, I'm Liz Campbell from the Dept. of Physical Education, Sports Science and Recreation Management at Loughborough University. Thank you for agreeing to be one of the members of this interview study of elite wheelchair athletes. In this project I want to get to know about the sources of stress you experience as an elite wheelchair athlete and also, how you cope with them. I am particularly interested in finding out about **general sources** of stress associated with being an elite athlete (e.g., finance, family commitments etc.) and also about the sources of stress you experience related to **competition** (i.e., before, during, and after competition) and also more specifically the time spent away at **major events** e.g., World championships, Paralympics

The information I sent to you hopefully helped you to have an understanding about what I mean by the terms stress and coping. These terms are the things that I would like you to talk to me about. Therefore, it is important that you understand what I mean by the terms - do you have any questions, would you like me to clarify anything, or explain anything to you ?

The information from the study will be used in 3 ways:

1. It will be used for my own studies
2. The general findings will be written up and presented to other people in the field
3. If you wish, it will be used to help you with your mental preparation for performance.

I want to emphasise that all the information you provide will remain completely confidential. The results and information will be presented in the form of selected quotes from the interview and you will remain completely anonymous. You will simply be given a subject number. If you have no objections I will use a tape recorder so that information brought out of the interview is clear and accurate. In addition, if you don't mind, I will take notes about the sources of stress you experience so that I can ask you later in the interview about how you cope with them.

As a participant in the study, you have several definite rights. Your participation in the interview is entirely voluntary, you are free to decline to answer any questions or 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 wheelchair athlete. I therefore hope you will feel comfortable to answer 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 that I or others may want to hear. Let me reinforce that it is *you* that I am interested in, so please answer the questions based on what *you* feel and think. If you have any questions as we go along, please ask them and ask for clarification if there is anything you are unsure of.

One thing to keep in mind throughout the interview is that I am interested in your experiences as an elite wheelchair athlete. So please when answering questions think of the time period when you first represented Great Britain to the present day. It is this time period as an elite athlete that I am particularly interested in. Please take as much time as you need to reflect back over your time as an elite athlete to answer the questions that I ask you.

Do you have any questions about what I have just spoken about or anything else ? OK it is time to get started.

INTERVIEW PLAN

SECTION 1 INTRODUCTION

SECTION 2 GENERAL INFORMATION

SECTION 3a GENERAL SOURCES OF STRESS

SECTION 3b COMPETITION SOURCES OF STRESS (*PRE/DURING/POST*)

SECTION 4 HOW DO YOU COPE WITH i) GENERAL SOURCES OF STRESS ? ii) COMPETITION SOURCES OF STRESS ?

SECTION 5 SUMMARY- YOUR COMMENTS

SECTION 2 GENERAL INFORMATION

1. Age ? _____
2. Nature of disability ? _____
3. Age of onset of disability ? _____
4. Did you play sport before you acquired your disability ? Yes/No
If yes what sport did you play ? _____
What competitive level did you play at ? _____
5. At what age did you start playing your current major sport ? _____
6. Years/months spent in

Phase 1 (from first thinking seriously about starting the sport to becoming more serious i.e., 1st club game/ 1st competitive race)

How many days / week did you train/participate _____

How many hours / per day did you train/participate _____

How many weeks / year did you train/participate _____

Phase 2 (starting to play more seriously i.e., club matches/ competitive races etc. to just before achieving 1st international cap)

How many days / week did you train/participate _____

How many hours / per day did you train/participate _____

How many weeks / year did you train/participate _____

Phase 3 - (1st international cap until present day)

How many days / week did you train/participate _____

How many hours / per day did you train/participate _____

How many weeks / year did you train/participate _____

7. What have been your biggest sporting achievements?

8. What are your future sport goals ?

The remainder of the interview will remain in time frame 3, that is your time as an elite athlete.

SECTION 3a

GENERAL SOURCES OF STRESS

I am interested in the whole of your experience related to being an elite athlete i.e., outside of competition and in the competition environment. Therefore, to make it easier I will ask you to look at your whole experience in two separate areas:

1. General experiences

General experiences that have or still may be sources of stress to you as an elite athlete, for example; finance, family, employment, association hierarchy etc

2. Competition experiences

Competition experiences that have or still may be sources of stress. This section will ask you think about the whole competition experience (pre, during, and post competition) and also more specifically about the time spent away at major events e.g., World championships, Paralympics.

In this section we will concentrate on **general sources** of stress and then move on in the next section to competition sources of stress. Firstly, I will just clarify what I mean by stress :

"Stress is a relationship between the person and the environment that the person appraises as TAXING or EXCEEDING his or her resources and possibly endangering his or her well-being."

Sources of stress can cause you to experience both positive and negative thoughts, feelings, and emotions.

Positive Sources of Stress

1. Challenging: You may view particular sources of stress as allowing you the opportunity to feel you have **succeeded/achieved** at something (**a real challenge**), even though you know it will stretch/tax your resources/capabilities. Examples of these types of sources of stress could be:

- You have a chance to beat a long time rival
- If you perform to your ability you could win a medal
- You have a couple of months of heavy, hard training a head of you, however, you know that if you stick with it you will improve your performance

Negative Sources of Stress

2. Threatening: You may view some sources of stress as taxing, may be even exceeding your resources/capabilities. These sources of stress you may view **negatively** as you feel **threatened or worried** about how things may turn out. Examples of these sources of stress could be:

- You know that this race/game is the last opportunity for you to qualify for the Paralympics which has been your goal for the last three years
- It is vital for you to go on a particular trip abroad, however, due to finances/personal circumstances you are unsure whether you will be able to go
- You are concerned about performing to the best of your ability because of poor training, the weather, or other environmental conditions

3. Harm/loss: Sometimes we experience stress as a result of something happening. You may **in the past** have experienced a source of stress that caused you to feel **hurt, disappointed**, or it may have been that you **lost something you valued**. Examples of these sources of stress could be:

- You failed to gain a medal at the world championships (you won a gold last year)
- You gained an injury whilst competing that kept you out of training and competition for three months
- Your coach made unfair comments to you after a bad performance

Note:

1. You would view both threatening and harm/loss sources of stress negatively . It may be that some situations you initially perceive as threatening and then as they unfold you view them as harmful - or vice versa, something happens and as a result you experience harm or loss (e.g., lost an important race/match) and as a result it causes you to perceive situations in the future as threatening (e.g., your next important race/match).

2. It would be possible to view a particular source of stress as both positive and negative i.e., challenging and threatening/harm-loss.

Do you have any questions you would like to ask ?, is there anything you would like me to explain ?

SECTION 3b

COMPETITION SOURCES OF STRESS

This section will follow the same format as the last section. However, this time I am going to ask you to identify sources of stress that you have, or still experience as an elite athlete in a competitive situation. I will ask you to think about sources of stress pre, during and post competition, and also more specifically about the time spent at a major event:

i. Pre competition i.e., from when you knew you were selected for a competition, or from when a competition becomes a major focus of your training to the point where the gun or whistle goes e.g., are you on the team/squad ?, the opposition looks good, your training has not been going well, transport to the event, facilities at the venue etc.

ii. During competition i.e., from when the start of the race/match until the end e.g., your tyre bursts, you make a bad tactical decision, you believe a bad refereeing decision has been made against you, you are not getting very much court time, you feel very fatigued yet still have a long way to go etc.

iii. Post competition i.e., from immediately finishing your race or match to a few hours/days after e.g., your performance was not as good as you had hoped, the team played badly, comments made to you by the coach, concerns about what your family and friends may say or think, press coverage etc.

iv. Major event i.e., from when you leave home to go to a major championships and you have to live with other athletes for the duration of the event until you get back home again (e.g., World championships, Paralympics) e.g., who you are sharing a room with, filling in free time between races/matches, getting enough sleep, food, preparation for a series of races/matches.

1. Bearing in mind the definition of stress we talked about earlier could you think back over aspects of your elite wheelchair athlete experiences and describe any sources of stress specifically related to the competition. To make it easier could you start initially with those that have, or still do occur pre competition and then move progressively on to during competition and then post competition.

a). Each pre competition source:

Ask for **clarification** - I am not sure I understand what you mean, would you go over that again ?

PROBE (x2) - what made it a source of stress? who or what did it involve ?

SECTION 4
COPING WITH SOURCES OF STRESS

I am interested to know how you cope/coped with the various sources of stress you have identified. Firstly, I would just like to clarify what I mean by coping:

Coping is efforts we make either in terms of our behaviour or thoughts to deal with/manage with the specific external or internal demands that we have appraised as taxing or exceeding our resources.

Basically coping is what you did, or still do, to deal with sources of stress. Examples would be: talk to other people, try to solve the problem, try to focus purely on what you have to do, ignore the source of stress etc. The examples given are **coping strategies** that individuals may use to deal with particular sources of stress. Please note that you may use several types of coping strategies to deal with one particular source of stress.

1. For each **general source** of stress you identified could you please tell me what you did, or currently do, to deal with it _____

a). Ask for **clarification** - I am not sure I understand what you mean, would you go over that again ?

b). **Probes (x2)** - who or what did/does it involve ? exactly what did/do you do ?

c). How **effective** was/is the strategy ?

1	2	3	4	5	6	7
(not at all)						(extremely)

Probe: what made it this effective ?

d). How **frequently** would/do you use this strategy ?

1	2	3	4	5	6	7
(not at all)						(all the time)

Probe: Are there any factors that influence the frequency of use of this strategy

Probe: Are there any factors that influence the frequency of use of this strategy

3. Are there any other coping mechanisms that you think that you may use as an elite wheelchair athlete ?

a). Ask for **clarification** - I am not sure I understand what you mean, would you go over that again ?

b). Probes - who or what did/does it involve ? exactly what did/do you do ?

c). How **effective** was/is the strategy ?

1	2	3	4	5
(not at all)				(very much so)

d). How **frequently** would/do you use this strategy ?

1	2	3	4	5
(not at all)				(very much so)

SECTION 5 CONCLUSION

Almost finished, just a last few questions to close the interview:

1. Did you enjoy the interview ?

2. Were you able to tell your experiences fully ?

3. Did I lead you or influence your responses in any way ?

4. The interview was all about the sources of stress you experience as an elite wheelchair athlete and how you cope with them. Do you think we missed out any important factors relating to the above areas which you would like to add?

5. Do you have any comments about the interview ?

6a) Finally, do you think up and coming wheelchair athletes need to know about stressors they may experience Yes / No ? - Why ?

b) What advise would you give them to deal with being an elite wheelchair athlete

Many thanks for your time and sharing with me your experiences.

**INTERVIEW
TRANSCRIPT**

SUBJECT NUMBER 11

SECTION 3

LC: OK, so subject number 11, and we're starting section 3 general sources of stress. So bearing in mind the definitions of stress, this idea it can be both positive and negative, are there any general sources of stress that you think you experience as a result of being an elite wheelchair basketball player? So they're not the ones directly related to competition, but just general things that happen that you find cause you sources of stress, maybe finance, the association, personal circumstances..

S11: Yeah, I mean there's quite a bit, I mean... financially, you know erm..., its nice to think that the money that you lay out you're going to get back almost immediately which doesn't, it never ever happens, and there's times when you need that money, especially if you don't work and things, you know... I've got two dogs and if I go away for any length of time they've got to be put in kennels, which is another financial strain, so I think that's the biggest bug, the finance....

LC: In terms of the travelling to get to like Oldham training, and GB training and...

S11: It doesn't really bother me, I mean I've done it for that long its just become second nature, travelling now. There are times like when you get in the winter months and its miserable and dark and you're travelling back from a long distance, maybe from Stoke Mandeville and its absolutely filthy night, and you're thinking - Oh my God, you know.

LC: Does that cost you, in terms of finance, that must be if you're having to travel up to Oldham quite a bit, and the GB training involves quite a lot of travelling around, that must....

S11: I wouldn't like to think how much it costs me in a year, because it must be an absolute bloody fortune, you know, and you probably only get about 20% of it back, so in financial terms you're on a loser really, right from the word go.

LC: So does it cause you a source of stress, the attempting to try to get it back off people, because I'm aware that like with GB, that people have said that it takes a while, does that itself, or is it just the fact that for you personally its a lot of money, and the trying to make ends meet, do you see how there are maybe two different sides to it?

S11: It doesn't have that much of an effect, I mean I'm aware of wanting the money back, but the fact that its taking a while for it to come back doesn't make that much of a difference to me, you know, I mean I've still got the money that I need to do the training and the travelling, but its just nice to think that maybe one day, you're going to put a travel expenses claim in and its going to come back to you a week after, you know!

LC: Yes, yeah. OK, right, so anything else? Any other just general sources of stress?

S11: I can't think of any.... I mean there's you're personal fitness, I mean there are times when you think am I fit enough, when you do get these little injuries, and you know you've got a hard session coming up, and you think - Is it going to stand up to it? I mean I've had a shoulder problem for quite a while now, and somedays its good, and somedays its absolutely bloody awful, and on them days that its awful I'm thinking - Is it going to be worth going, and be able to do your best, r just get up there and mess about, and not get any benefit out of it, so you've got a conflict of interests there straight away, whether you're doing yourself justice or whether you're doing the team justice.

LC: Does that, maybe as a source of stress become any worse at any particular time? So maybe in terms of thinking, preparing for Atlanta, does it become more severe perhaps at some times?

S11: I'm sure it will as time goes on and Atlanta gets nearer, if things don't improve I'm sure it will become more stressful, because I'm aware that there's lads behind me pushing to get in the team, and I don't want a stupid little injury to let me down, you know. But its finding the balance between pushing it to the limit, and your own personal preservation, because you don't want a stupid little injury to wreck your career.

LC: OK anything else? Any other just general sources?

S11: You know, I've had a few personal problems over the last 12 months, you still think about them even though time is a big healer but you still think about them, I mean just like this weekend I've had some bad news from my dad but there's nothing I can do about it, so.....

LC: Ok, do you find that when they are a source of stress that they can affect your basketball?

S11: Yeah I think they do, because I tend to dwell on things quite a lot, I'm always trying to find a reason for things happening.... Trying to find whether I could have done anything to alter that situation, and I find myself going into games not even thinking about the game, you know thinking about something else completely, so... yeah I think they do affect me, some people more than others obviously, but I feel it quite a bit.

LC: So the fact that you know you're thinking about that rather than the basketball, does that cause you a source of stress? The fact that you think - Well my mind should be on the basketball.

S11: I think if you're going to perform to your optimum then you've got to think in that respect.

LC: OK, anything else? Any other general sources?

S11: I don't think so. I'm having trouble with my car!! I've got to get my car sorted out, if I don't have my car I can't go training... No I don't think so.

LC: No? OK right I'll just turn this tape off. OK, starting with the ratings, so the first one you said was the finance and having to outlay and wondering when its going to come back again and trying to make ends meet. Do you see anything challenging in that situation?

S11: Well, it was initially, well... I mean, I've got to tie that in to my personal problems, because initially it was, it was extremely challenging, because I didn't know where the next thing was coming from, but gradually over the last twelve months as I've got my situation back together again, its become less, so...

LC: Right, so it sort of changes?

S11: Yeah. It started off extremely taxing, you know, or challenging whatever you want to call it, but gradually over the last twelve months its diminished considerably.

LC: What would you say in terms of being... has it diminished to any particular...?

S11: Erm..., its probably a one or a two at the moment. Its not that bad, I mean there are obviously months when you get a certain bill coming in and you think - Bloody hell I've got to pay that, you know, but apart from that its probably a one or two at the moment.

LC: OK, what about threatening? Does it.. I mean the threatening would be, do you get worried or concerned, do you feel as if you.. its something that's perhaps exceeding your capability to deal with it?

S11: Well, again as I say it started off extremely threatening, and now its not really at all.

LC: Do you experience any harm? Is it something that was harmful?

S11: I think mentally it was, yeah, extremely, because I didn't know what I was doing from one minute to the next initially. I had no idea what the next, what I was going to do, whether I was going to keep my house or what, you know, so...

LC: So in terms of control, did you feel that you, do you feel that you have any control over the finance side as a source of stress?

S11: Yeah, I've got that controlled, totally under control now that's completely under control.

LC: So its now totally in your control which is a seven. How much at the time when it was extremely sort of threatening and challenging, how much control did you feel that you had over it at that point?

S11: Probably about a two or a three.

LC: And how severe? I mean at that particular, when it was happening, as you say about six months ago, was it severe?

S11: Six months ago was.. probably about a four six months ago, because I was only just starting to get on my feet, you know, so it was probably about a four or a five you know.

LC: And what about now?

S11: Now... one or two again.

LC: Frequency? Is it something that..

S11: Well again, initially it was all the time. I mean I couldn't think about anything else really, you know, and now I probably really don't think about it much at all.

LC: OK, right the next one you said was your own personal fitness, and the fact that you've got maybe just niggling little injuries and those, that can just be a general source of stress, and that you have to sort of way up the costs and the benefits, is it worth going training, because you're not sure whether it could make that injury any worse, do you see anything challenging in that situation?

S11: Well I think it is a challenge, yeah... Its a challenge knowing how far to push it basically, because even though you think you know your own body and how much you can take, until you push it to the limit, you don't know how much you can take. I mean you may feel that you're not going to be able to do much, when you get to a training session, but the further into the training session you get, and you're thinking - Well I didn't think I'd be able to do that, especially when you're doing a lot of pushing, repetitive pushing, and you think that is hard but I'm managing it.

LC: So how sort of challenging, any particular score?

S11: Probably about five.

LC: What about threatening? Is it something that you would get quite concerned and worried about?

S11: Not at club level, but internationally yeah. I mean club level I'm quite fortunate that the way the point structure is, I know that at some point I'm going get a game, irrespective if I'm 100% fit or not, plus having the experience, it sounds big headed, but I've been playing that long, I can cheat. I know how to cheat, and I can get away with things on court that other, sort of fresh lads can't, so I know how to pace myself tog et the best out of the game.

LC: So if you were say at an international level... How threatening would it be then?

S11: Well, at international level you can't cheat because you'd get found out very quickly, so I mean at international level its probably about a five or six again.

LC: And what about harm? Have you experienced any harm as a result of it? That injury and the fact that its there, so at some point have you not been able to train, or not be able to play?

S11: I've never not been able to play, there's been times when I've not been able to train, because I have pushed it too far and aggravated it, so...

LC: So would you say it causes you any harm?

S11: Short term. Not long term. And then you tend to think - You prat! you know!

LC: So in terms of giving it a score, would you say its...

S11: Probably a two or three.

LC: How much control do you feel that you have over it?

S11: Well, I'd like to think I'm totally in control of it, but... when you get into a training session, you're not always totally in control of it because you get lost in the training session, and what you're doing so you tend to forget about it, and its only when something happens and you feel it, that you think - Ouch! I went a bit to far.

LC: So its probably not a seven..

S11: Its not a seven, its probably a five.

LC: As a source of stress how severe is it?

S11: I don't know...

LC: So if its niggling away at you and you now you've got maybe an international match or some training coming up, would that cause you, would it be quite severe?

S11: I think it would initially.. when you first get there and you're thinking - My God, I know what's coming up this weekend, I know how hard I'm going to have to push it this weekend, yeah... probably a six.

LC: And how frequently does it occur as a source of stress?

S11: Well at the GB sessions, every session... Because you know how hard you're going to be training, and club level probably, its quite... I think it depends what game we've got coming up at club level, if we know that its going to be, not a breeze of a game, but something like yesterdays game against the Steelers, when we knew we were going to have to perform to our optimum, it can be quite stressful then, so I'll put about a five..

LC: OK, and the last one of the general sources, you said was your personal circumstances, and that sometimes, if things aren't going to well, or they haven't over the last sort of twelve months that can be a source of stress for your basketball, do you see anything challenging in that as a source of stress?

S11: Not really...

LC: OK, that's fine... Threatening?

S11: No I don't see it threatening to my basketball, because I can get lost in that you see, I mean OK I can be thinking about when I get there but once I start I can get lost in it and its gone...

LC: What about harm? Do you experience any harm as a result of it?

S11: I think I have, I mean there was harm there, its not there any longer but I think there was....

LC: Any sort of level of harm..?

S11: I think initially when things started happening, probably about a six.

LC: So that would be initially... Do you have any sort of harm now... is it something that...

S11: No, I mean its a case of what's gone has gone and just get on with it, so...no.

LC: OK. How much control did you feel that you had over that source of stress?

S11: At the time, none whatsoever... I'm totally in control of it now.

LC: I'll just put both down.. What about severity? Say at the time how severe was it?

S11: Ten!

LC: And what about now?

S11: Now.... no, nothing now.

LC: Frequency? At the time..?

S11: At the time well all the time.. Now its just something that's happened and its... put it down to experience.

LC: So would you say its not.. now its not a source of stress..?

S11: Its not a source of stress for me now at all.

LC: But at the time..?

S11: At the time, Oh God yeah!

LC: OK, I'll just turn the tape off.

SECTION 4

LC: Section 4, competition sources of stress. So starting with the pre competition time period is there anything that you would say causes you a source of stress in that time period?

S11: Getting into the squad initially... And then once you know that you're in the squad its making the final cut, you know.... You never know whether you're going to be in there or not, its all well and good being in the squad but until he says "You, you you and you. are going..", its always at the back of your mind that you might not be going.

LC: And how does that affect you then?

S11: I think it makes you train harder, so I suppose you could look on it as both negative and positive that, because you're thinking - Oh my God am I doing enough?, and then on the other side you're doing everything that you can do.

LC: So initially getting into the squad is like after Christmas there'll be a lot of people at a training session, how many people would be told that they're in a squad, how many in that first initial...?

S11: Well, there'll be 25 initially, there's 25 invited, and then perhaps at the February training session it'll be knocked down to about 15 or 18.. and then it'll be knocked down again until you've got your final 12.

LC: And will that 15, will they go to all training sessions?

S11: Yeah... I mean even after he's made his selection, his actual squad that he's going to take, those 15 may be asked to carry on training with them, the squad, just to keep the continuity going.

LC: So how early will the 12 that are going to a major event be named prior to going out?

S11: Hopefully a lot earlier than it was last time. For Paris it wasn't named until the beginning of June I think, because there were people who could have come in who had injuries, who could have come in at the last minute but didn't, and so the actual squad wasn't named until the beginning of June, but I think the BPA now want the squad named as early as possible, maybe April.

LC: And for you.. which do you prefer? Is it...?

S11: I think the sooner you know the sooner you can get your house in order to be honest, you know exactly what you've got to do and what time frame you've got to do it in.

LC: So you say, is that.. what to do, what is that in terms of what have you got to do..?

S11: I think if you know early enough you can set your own training regime out to try and peak at the right time, so you can... you've got a guide line from day 1 that you know that you're going, you can then start to plan what you're going to do up to the actual event and how frequently you're going to do it.. So the sooner you know, the better it is really I think. Although, having said that, maybe in the back of your mind sometimes you think - Make it as late a possible, then it gives me a chance to get in there, so...

LC: OK, anything else in that pre competition time?

S11: Just going back top injuries again, you know if you've got a niggly injury, you want as long as possible before selection to get rid of it, so in that respect, the squad being named later gives you more time to recover, whereas if its named early, you're thinking - Oh my God, I've got this injury and I don't know if I'm going to get shut of it in time, so... that can have its plus and minuses as well.

LC: OK, anything else?

S11: I don't think so, I don't think so.

LC: So you think from the week before to the evening before, to the morning, to arriving at the venue to the whistle going, anything in sort of a shorter time period?

S11: I used to get nervous before a game, but I don't know I just don't seem to feel any nerves before, whether its because I've been playing so long now, but erm...., you get the initial butterflies, especially if you're going to somewhere you've never been before, and you're going to these massive stadiums like they've got in Canada and places like that and you think - Oh my God look at this place.., after you're used to playing in little town sports centres, you know that can be a bit daunting, especially if it s going to be full!

LC: So how does that affect you then?

S11: Well you're unsure aren't you? Basically you're on show and you're representing supposedly everything's that's good about Great Britain, and in the last couple of years its been excellent so you've got that to continue, and you've got all these people looking at you... maybe they don't know anything about basketball at all but, they are there to watch you play basketball, so they must have some idea of what the games about, and you've got all these people looking at you and thinking, you're thinking - Am I going to do the business sort of thing, or am I going to make a complete idiot of myself? that can be a bit daunting, especially when there's a lot of people around.

LC: OK, anything else pre competition?

S11: Pre comp... I mean whenever I go away I don't sleep very well at all anywhere, so that can be a bit daunting as well, I must admit I like my kip, as you know yourself I never get up at breakfast, I just... If I don't get enough sleep I feel absolutely awful, I really do, and I'm not a morning person, so if they've got an early morning game or something like that I know that I'm not going to be at my best.

LC: So is that something that is in your mind, if you're wondering whether you're going to get enough sleep, or if you know you've got morning games or training in the morning?

S11: I think.., yes whenever we go away I'm thinking - I hope I sleep, that is the first thing that enters my mind. It can be the plushest hotel in the world, like when we went to Edmonton it was a fabulous place, but for the first four of five nights I just didn't sleep, I can't sleep in a strange bed, and yeah it worried me, it really did, because I was sluggish, and I didn't want to talk to anybody because I was ratty because I hadn't slept, you know.. so.. It does worry you, it worries me anyway.. I don't know about anybody else but it worries me.

LC: OK, any other ones pre competition?

S11: I think getting there can be a bit stressful, especially if there's a long way to go. I mean Paris wasn't too bad because its only across the channel sort of thing, its a quick flight, but like Edmonton

was an eight hour flight, and Atlanta will be a five, six, seven hour flight, you know, and just... I mean just being on the plane. I mean flying doesn't bother me at all, but getting to the loo on the plane does, so there's things like that and it can upset you.

LC: Anything else as to the reasons why it would be a source of stress? Is it the length of time or the mode of travelling or.. what is it exactly that...?

S11: I think its the length of time that you're actually travelling, and there's nothing you can do about it. You're just sat in a seat on an aeroplane and you maybe.. an hour before the plane takes off you've been herded aboard and been thrown about all over the place and then you've got this bloody long flight, and you know when you get to the other end, you're going to be last off, and then you've got to go and sort your baggage out, that's a pain in the backside that is really. That is the worst bit about travelling.

LC: Is it worse travelling with a large squad than it is by yourself? Because there's more people does that slow things down?

S11: I mean obviously the numbers is critical, I mean the number of people who you're taking is obviously going to affect the time difference, like when we go with a club, we're taking a dozen, 15 people, but like to Atlanta, you're going to have 350 people on one plane all going to the same place, its going to be.. statistically its going to be a night mare, and I'm glad I haven't got to think about it that much! All I'm going to do is sit on the plane and hopefully just get there, but I know at the other end its going to be a nightmare, because we're supposed to be going to this training camp, and we've got to be accredited at the airport before we get to this training camp which I'm not looking forward to at all.

LC: Any particular reason why, is it...?

S11: Its just boring basically, you know, you're sat around doing nothing, its just boredom really, when you want to be doing something and its totally out of your control, there's nothing you can do about it, you've just got to sit there and go along with the flow.

LC: OK, anything else pre competition?

S11: I don't think so.

LC: Right well, I'll just stop this tape.. OK, so carrying on with the competition sources of stress, anything during the match itself, during..?

S11: I think that starts off with training before matches, erm...., because that's where the nitty gritty's done, that's where you're going to get your differences of opinion sorted out, for training sake, and there are differences of opinions, you know as we found out in Paris, you know, and those differences of opinion can sometimes get carried over from the training session into your free time as well, which again happened in Paris, so...

LC: Do they cause you a source of stress sometimes, the differences in opinion?

S11: Yeah, I think they do, because I don't think anybody means to be destructive in their criticisms, but you can perceive it as being disruptive, you know, and I think that's down to the way that people put it over, we're not the most diplomatic of people, basketball players, if somebody thinks you're a pillock they'll tell you you're a pillock, they won't say it nicely, they won't say "Well, don't you think you should have done this a bit different, they'll just come out with it, and different people it affects differently, some people its just water off a ducks back, and other people take it to heart, and I'm afraid I'm one of the later ones.

LC: And is it comments from players or coaches or both?

S11: I think its both, no maybe not so much the coaches because they've got a hard job to do anyway so they're diplomatic, they know how to talk to people, or they should do. Generally its just spur of the moment things that happen really, because we all get on really well, we're more like a

club team than an international team, because we all know each other so well through playing against each other in club competitions, but its just spur of the moment things that trigger things off.

LC: And could they occur, is it spur of the moment things related to basketball, so could those occur during training and during the match?

S11: I don't think they'd ever occur in a match, I think we're too disciplined for that to happen, in fact I don't think there's ever been a time when somebody has had a go at somebody else on court you know, maybe during a training session somebody has said something, but never ever I can remember on court.

LC: OK. Anything else in that sort of during the match, or during training types of situation?

S11: I think everybody wants more court time than they get, that's without, that goes without saying, unless you're on for the whole game which doesn't frequently happen, you know.

LC: So would you say that's a source of stress to you then, if you think...?

S11: Well yeah, because I mean I like to get involved with the game whether I'm on or off, but if I'm not on, I'm thinking - Well why aren't I on? Or you see a situation on court where something happens and you think - Well if I'd have been on court I could have stopped that, but I'm not. And why aren't I!? So, that can be quite stressful. You always want more court time.

LC: Any other ones?

S11: Not really, I don't think so.

LC: What about after the match? Maybe you've not played too well, or the team hasn't or...

S11: I mean there's been times recently when we've not played that well, I mean we've taken games right to the wire, I mean we've won them but we've cut it really fine, I mean look at the final in Paris, that went right to the wire, and we won it by one point, and we didn't play particularly well, erm..., so yeah..

LC: Is that a source of stress afterwards?

S11: I think, yeah it is, because you want to know why.. and its very difficult to put your finger on why.

LC: And is it the performance of the team or of you individually, you as a person?

S11: Well I think you've got to start of with the performance of the individual to recognise the performance of the team, because you can't afford to be carrying anybody at international level, and if one or two people are having bad games, then it affects the performance of the whole team.

LC: So does that affect you? Is that a source of stress for you that if there are people there that aren't playing well, or is it more of a ...?

S11: I don't think its a stress for other people who aren't playing well, because that's for them to sort out, but if I'm not playing particularly well, then I know I'm not playing particularly well, and obviously you want to perform to the best of your ability and if you know you're not doing for whatever reason, you know that, I think that can upset your performance as well, because you tend to dwell on it and it doesn't make it any better, to be honest, in fact sometimes it can make it worse, because you try to over compensate, and by overcompensating you make more mistakes.

LC: So would you dwell on it immediately afterwards, or is it that evening the following day, how long would you, if you've had a bad game..?

S11: Perhaps for a couple of hours or so. I don't think you can carry it over into the next day, because next day is something totally different, you've just got to prepare for the next game, although

at the back of your mind it might be there that you didn't have a particularly good game, the last one, so you've got to try and do better in the next one. But you try not to let that bother you really.

LC: OK, so your personal performance could be a source of stress if you've not played particularly well, and if the team, you may have played well, but the team hasn't played well, is that a source of stress to you as an individual? Do you see what I mean, or it could be that the team wins and you don't play well or it could be that the team loses but you've played well...

S11: I think if you don't play well and the team still wins then it doesn't make a jot of difference really, because you've done what you set out to do, and you're only a little cog in a big wheel, and if the big wheel does the full turn then you've done it, erm..., but like the other way about, if you play well and the team loses it can be a sickner, a real sickner...

LC: So how does that affect you then? Do you find that you, after the game, so you've played well and the team hasn't played well, how does that actually affect you?

S11: Well it deflates you really, you know you can... during the game when you know you're playing really well and you really are pumped up then at the end of the day you've not done anything, everything just falls flat, it just.. its not a case of we did all that for nothing, because you'll always get something out of a game even if you lose, you'll get something out of it, but it does deflate you.

LC: Would you say that's a source of stress to you? The fact that the team hasn't played well, or is it...?

S11: Yeah, it should be a source of stress to everybody that the team hasn't played particularly well... Especially the team we've got anyway, because we've got so much talent in that team and we all know when we've not had a particularly good game.

LC: OK, anything else after the match?

S11: I think once you've got back to here you're staying and you've been fed and watered, what do you do then, because it can be a tedious time that, it really can... especially if you're out on a limb somewhere, if you're not close to a centre, like we were in Paris, we were out more or less, and the nearest thing you could do was go down the road to a pub, but apart from that there was no entertainment at all, you had to entertain yourself basically...

LC: So you'd say that at times that can be a source of stress? The time between matches and what to do.

S11: I think that again is boredom. I mean people think that you go to these places, these fancy places, and you go and see all the sights and its just not like that, I mean you get on an aeroplane, you get to the airport, you get transferred from the airport to the hotel, you go from the hotel to the venue and back again and that's all you see. All you're seeing is the inside of another sports arena.

LC: Anything else about being away at a major championships? So you've got the time factor, you said about the sleep, maybe the venue that you're playing in. Anything else about being away at a.. like being in Barcelona, and Paris, anything else there that....?

S11: I think with Atlanta coming up, maybe the heat could be a problem, I mean in Paris it was horrendous, hottest summer on record, and the stadiums had no air conditioning in them and it was awful, it really was, it just drains you so much.

LC: So did that used to cause you some stress, knowing that you were going to have to play in those conditions?

S11: I think it did yeah, because you get tired a lot quicker. I mean you were getting blisters where you never get blisters. Yeah, that was a bit of a stressful situation, especially knowing that the temperature was going to be so hot in there, and you know you were going to have to, at that level of competition you were going to have to, whether you were on court or not, you were still in that game and its pretty stressful.

LC: OK, any other ones you can think of?

S11: I think who you share with has a lot to do with it as well. If you get put in a room with somebody.. OK you get on great guns on court, but you may have absolutely nothing in common with them outside the game, so I mean it definitely makes a difference who you share a room with.

LC: So how does it affect you? So say if you get somebody that isn't, you don't necessarily get on with.

S11: Well I can't, I can always say from the point of view that the person I share a room with I get on like a house on fire with him, so we can feed on one another, and we can bounce things off one another and we can listen to one another, whereas if you're in with someone you don't get on with, I mean it must be hellish, you can't do that, you know, if you can't moan to each other and have a good laugh... I mean I've always roomed with people who I've got on with..

LC: Is that a source of stress for you, knowing who you're going to share with, is it something that concerns you at all?

S11: Not anymore it doesn't no, because I know who I'm going to room with, and... its written in stone now that I share with the same person.

LC: Did it used to?

S11: Of course if used to, yeah, because like I say you know these people from sort of playing the game together, but when you go away, especially if they're from another team, you really don't know them at all not until you get to share a room with them, you know are they going to be a slob and just dump their clothes everywhere and are you going to be able to move, you know!?

LC: Any other ones? Anything else?

S11: I could say food but food doesn't really bother me because I like all sorts of food anyway, its only when you get a jippy stomach that it can be worrying, you know, but fortunately I've got a cast iron constitution!

LC: So that's OK!

S11: That's OK! They can chuck anything at me!

LC: Any other ones?

S11: I don't think so.

LC: No? OK, all right I'll just turn the tape off. Right so we'll go through each of these competition sources of stress and just try to give them a score on each of the different items... so, the first one was getting into the squad and making that final cut. Anything challenging in that?

S11: Yeah, definitely.. if its not challenging its not worth being there, so... erm..., just thinking about the last two big tournaments we've had, I would, yeah, I mean when we went to Edmonton, that was, just trying to make the squad was extremely challenging, because I'd been out of international basketball for a few years, and I was coming back in again, so that was a real challenge, just to get back in the squad, so that would be a seven that.. Paris wasn't such a challenge because I'd sort of made the squad, the challenge then was keeping it, so that's probably a five or six that.

LC: OK, what about threatening? Does it cause you, do you see any threat, is it something that worries and concerns you?

S11: I think there is a threat there yeah, because like I say there are other people trying to push you out the way, and trying to take your spot, especially at my age, you know... I'm getting on, so yeah it is threatening that.. because I know there are at least two other lads who could take my place, erm., so that's threatening, about a six that.

LC: What about harm? Do you experience any harm?

S11: No I don't think so. No.

LC: OK, how much control do you feel you have over that when it occurs? So you know it becomes a source of stress, you're maybe getting a bit concerned about making the team, do you feel you've got any control?

S11: To a degree, yes. Erm..., I mean at the end of the day the person that's got the most control is the coach, and what he says goes, but you've got a certain amount of control in the way you perform, if you perform well, then he's going to look at you in a favourable light, if you make a complete hash of things he's going to think, - Is he past it? Can he do it?, so I think there is a certain amount of control there, about a four.

LC: How severe is it?

S11: Quite severe I think, erm..., I think if you're an established member of the squad, you know someone whose been there for the last God knows how long, then its probably not so severe, but like myself whose come back, if you like from the wilderness into the fray again, then it can be quite severe, yeah, about a five..

LC: And how frequently would that.. would you say..?

S11: I think about that all the time to be honest, yeah, because I know that.. I keep harping on about my age, I know I do, but I know that one of these days I'm going to say enough is enough, I've done what I wanted to do, and enough is enough, so...

LC: OK, the next one was injuries, and that you know that its there and its just knowing whether you're going to be able to get rid of it, and how long its going to last. Do you see anything challenging in that?

S11: It is a challenge, especially if you've only got a short time frame, when we talked about when the squad was selected, you know if its an early selection and you've got an injury then it can be quite daunting to think that you may have to carry it through, and are you going to perform when you get there if you've still got it, basically, yeah it can be quite challenging that.

LC: Any particular score?

S11: Probably five I think.. I wouldn't say its extremely, but its there, you know, its not in the back but its not right in the front, do you know what I mean?

LC: Yeah, yeah. What about threatening?

S11: It can be a threat yeah, if you break down and you know its going to be.. if its severe enough to say "Right well you can't do anything for three months..", you might as well forget it, especially with it being August and we go to Atlanta, first GB session is in January, that's January February March, that's three training session you'd probably have to miss, you know, and somebody is going to jump in..

LC: So it could be quite threatening?

S11: Yah, about a six.

LC: What about harm? Have you experienced any harm as a result of that source of stress? I suppose you would if it did happen..

S11: I would if it did happen, fortunately any little injuries I've had I've been able to control, they've been in my control, where I've been able to train correctly and I've been able to get the treatment that I need straight away..

LC: So say you.. say the injury did get worse, and as a result you weren't able to train for the first three or four training sessions, how much harm do you think you would experience then? How harmful would you find that?

S11: Oh very I think, I think I'd be desperate.. I think everybody wants to go to the Olympics, and if you think that injury is going to stop you going, it would be heart breaking I think.. especially when you've trained so hard for the last two years, and you've done so well in the last two years, you know.

LC: So if it did happen, you think that you would perceive that as being quite, extremely harmful?

S11: Extremely harmful, yeah.

LC: How much control do you feel that you have over that as a source of stress?

S11: Erm..., quite a bit actually, because if you know you've got an injury then you can protect it, to a degree and being a canny old bugger like I am, like I said before, you learn how to cheat, and not push it to the limit, so that you can protect it a little bit without detracting from your performance overall, because it may only be certain things, certain aspects of your training that put stress on the injury, whereas, say for instance if you're shooting it may have nothing to do with your shooting action it may only be something to do with quick spurts and pushing that you actually feel an injury, whereas if you're sat still shooting you don't feel it at all, so you can protect it, erm..., but its just knowing when to give it that little bit more, and when to ease off.

LC: So in terms of control, what sort of figure would you give it?

S11: I think it probably is a four..

LC: How severe is it if it does occur?

S11: Well it can be very severe, if it stops you training then its got to be extremely hasn't it..? But fortunately I've never had an extreme one, so..

LC: So if its just there and niggling..

S11: If its just there and niggling its probably about a five I think..

LC: And how frequently is that a source of stress? An injury..

S11: I think everytime you train, you know if you've got an injury you're aware of it all the time, especially pre and post, port training or post match, whatever if you've got an injury then you feel it, and you hope its better in the morning.. Thats probably about a five again..

LC: OK, the next one was possible the venue that you're playing at and the fact that it maybe totally different to what you're normally playing in, just the size of it, the fact that you've got a lot of people there and GBs got a reputation to up stand in particular over the last couple of years. When that's a source of stress, how challenging do you find that?

S11: Quite challenging yeah, like I said before if you've got people watching you, they're expecting you to perform, probably a five or six..

LC: Threatening?

S11: I think initially it can be daunting, you know, especially if its a huge stadium that's full to the rafters, and you're not used to it, probably used to about 10 or 12 people watching you play normally, and then all of a sudden you've got like four or five thousand after your blood, especially if its against Spain or somebody like that, you know! And there's bottle tops flying at you from every direction, that can be daunting it really can..

LC: So in terms of it being threatening and thinking about it, would it be something that would worry and concern you? The thought of being in that situation.

S11: I'd like to think no because, I'd like to think not, but I'm sure you do think about it subconsciously, you now, you just go out there and you soak up the atmosphere basically, but yeah, I suppose you do think about it...

LC: So what sort of score would you give it for the threatening then?

S11: Three..

LC: What about the harm then? So you're in the situation, do you experience harm?

S11: I don't think so no, because once the game starts you totally forget it, you don't hear anything, you know, there can be.. it might be one person shouting, it might be a thousand people shouting, you just don't hear it at all because your minds that focused on what you're doing on court.

LC: How much control do you feel you have over that as a source of stress?

S11: I think you're totally in control of it to be honest. Because like I say, once you start, that just doesn't enter into it, so you can put that straight out your mind, and it doesn't matter where you are or who's there or whatever.

LC: OK, how severe is it?

S11: Probably a three.

LC: Frequency?

S11: About the same.

LC: A three?

S11: Yeah.

LC: OK, the next one you said was sleeping and that can be a source of stress wondering whether you are going to get some sleep, and also just the time of games, whether its going to be morning or afternoon, that sort of side of things do you see anything challenging in that situation?

S11: Well for me it is, because I never sleep when I go away, so that's probably one of the first things I think about when we're going on a trip - God I hope I'm going to sleep, so yeah.

LC: So do you see a positive side to it in terms of being challenging?

S11: None at all! I don't see anything positive in it at all.

LC: So you don't really see it as a challenge then?

S11: No, I don't see it as a challenge, I just see it as a pain in the backside.

LC: So you perhaps see it more threatening?

S11: Yeah.

LC: So would you say its not at all challenging?

S11: No..

LC: What about threatening then..?

S11: Very, I would say six or seven for that.. well probably a six because I do eventually get to sleep, my body eventually just says "You are going to sleep..", and once I can get that initial nights

sleep then I'm not too bad, but if its for a long period of time and going away for two weeks or so, I know for the first three to five days or nights I'm not going to get much sleep.

LC: And does that concern you up front then?

S11: Yeah, definitely.

LC: And do you experience any harm as a result of it? So maybe its happening and you're not getting any sleep, do you experience harm as a result of that?

S11: I think so yeah, yeah. I wouldn't say its a great deal of harm, but yeah I think it is quite harmful, about a three.

LC: How much control do you feel you have over it?

S11: None! I honestly, I really wish I knew why I don't sleep. I've tried all sorts, but I really do not feel as though I've got any control over it at all.

LC: OK. How severe is it then?

S11: Very.

LC: Frequency?

S11: Everytime I go away. I mean whether its a mental thing or I've just got so used to not sleeping, and then I talk myself into not sleeping, which could well be the case, you know. I'm that used to not being able to sleep that I've just got used to the fact that I'm not going to sleep.

LC: OK, the next one was getting there, and just the length of time, the travelling, the boredom, and then this thing of being on the plane, and once you're all sat in yourself that's it, getting to the toilet and things. Anything challenging in that situation?

S11: Yeah it is challenging. A five for that.

LC: Threatening?

S11: I sometimes do feel threatened by it, not for the sake of the flying but for the reasons that we talked about it can be threatening yeah, especially if its a long haul flight, something like that, that's probably a five a swell, because I'm aware of things that I want to do and I can't do it, you now, or if I'm going to do it it going to be a struggle to do it.

LC: Do you experience any harm?

S11: I think harm in the fact that I know... I tend to feel quite threatened actually when I'm, I mean I don't mind telling people what I think, but its having the guts to do it, especially to people who have been playing, not perhaps longer than me, but have had more international experience than me, you know.

LC: OK, any particular score?

S11: Six...

LC: And what about, do you see anything threatening in taking the information, so if somebody says something destructive to you, do you see that as being threatening?

S11: I think it can be, especially with myself, like I say I tend to take things to heart anyway, so if somebody says something then I probably take it away and dwell on it far too long, instead of just getting on with what I'm supposed to be doing, I let it throw me out of my rhythm, you know, probably a five.

LC: What about harmful? First of all in terms of giving information do you experience any harm?

S11: No I don't think so.

LC: What about in taking the information? Somebody has said something destructive..

S11: I suppose a little bit, I do tend to feel a little bit hurt...

LC: Any particular score?

S11: Probably about three.

LC: Yeah. How much control do you feel that you've over the giving of the information? So if you want to, do you feel that's..?

S11: I think that we're given every opportunity to give any information that we feel we should be putting in, so I think in that respect its got to be quite high, probably a five.. five or six even.

LC: And what about the taking of, you know the destructive side of things, as a source of stress do you feel you've got much control over that?

S11: I'm not sure that I have because I mean things just happen in the heat of the moment, and if something's said in the heat of the moment then you've got no, there's no control about it, its just said, there's no way you can control the situation.

LC: So would you say that's a one then, not at all?

S11: Yeah probably.

LC: What about the severity first of all for giving the information, do you find that quite severe when it is a source of stress?

S11: Reasonably, yeah. I'm not the best one at coming forward, so... I find it quite stressful really to say things.. I just sit back and let it flow over me basically, well I try to, so when it comes to adding to put things in.. I mean I'm not afraid to but I'm not up front in doing.. I'm sort of way back down the line sort of thing.

LC: So how severe then would you say is it on that sort of score, one to seven?

S11: Five I think.

LC: And how frequently would that occur?

S11: Not that often really, no, probably two or three.

LC: And what about in terms of you taking the information and this destructive criticism, how severe is that when it occurs?

S11: Quite severe.. I take things to heart generally, so probably a five.

LC: Frequency?

S11: Not that often because people don't, we're not like that generally as a squad, we try to help each other as much as we can, and its like I say only spur of the moment things when it happens so its not that often, probably a two.

LC: OK, the next one was the amount of court time, and you said that if you're not getting very much you start to think - Well why am I not getting very much. Do you see anything challenging in that?

S11: I think, yeah.. I mean if you've got to see a challenge in it because you want to get as much court time as you can, so there's got to be a challenge to get more court time, definitely. Probably five or six. You know you're going to get court time, so its not extremely challenging because you

know you're going to get court time whatever, whether its only ten minutes here or there, you know that you're definitely going to get on, especially with this squad that we've got, you know, erm., but it is, you know there is a challenge there.

LC: Threatening?

S11: Yeah it is threatening, because although you want more court time, you know that when you're on the court that you've got to perform, so the challenge, it is threatening because you're thinking - I want to go on, I want to go on, and when it comes your time to go on, you're thinking - Oh heck! So yeah it can be quite threatening probably five or six.

LC: What about harm? Do you experience any harm? Hurt or loss or...

S11: I think if you don't get much court time then it can be quite, you know you can be quite hurt, because, especially if you're not given a reason, I mean maybe just the way the games going that you don't get any court time, but I think you can be quite hurt if you don't get much court time, and its just left at that, and you want to know really but like I say, I'm not that good at coming forward and asking, so yeah it can be... probably a four.

LC: Control? How much control?

S11: I don't think you've got any control over how much court time you get to be honest, I think its totally down to the coaches and what tactics they're going to play, and the way the game is going, you know you may have one quality that is needed in a particular game and you'll get loads of court time, you may be a very good defensive player and you want your defence to be working hard to stop the other team scoring, and you maybe get loads of court time, whereas in a game where they're not a very good team but you want to score lots of baskets, you may not get so much court time because your forwards will be on all the time, and you're taking an inside game, so I mean that's all down to coaches.

LC: OK, how severe is it when it occurs?

S11: Probably a five.

LC: Frequency?

S11: Three or four I think.

LC: Right the ones that are left are ones after the match and during a major championship. Your own individual performance. You said that sometimes if you've not played well that it may be something that you'd dwell on for a few hours, maybe not much longer but it would... Do you see anything challenging?

S11: Again yeah if you've not played particularly well, you've got to find a challenge in there and find out why you've not played well, even if its by asking people what they thought you didn't do in the game, or what you did well in the game, and what you can improve on, then there's got to be a challenge there, there's no point in playing if there's no challenge.

LC: How challenging would you say?

S11: Its difficult to be self critical really, so... I mean you may think you've had a particularly good game but somebody else might not think that you have, so... probably a five.

LC: Yeah.. threatening?

S11: Probably four I think.

LC: Harmful? Do you experience any harm or...

S11: No I don't think so... I don't think you experience any harm or loss by it..

LC: Would you say its a one? not at all...

S11: Yeah.

LC: OK, what about control? When that occurs do you feel, what sort of degree of control do you feel you have?

S11: Probably a five, at least you can do something about it, you.. if you're not shooting well, you can go out and you can take more shots and try and improve your technique and things, so maybe you can do a little bit about it.

LC: OK. How severe is it when it occurs?

S11: Three I think.

LC: Frequency?

S11: Every game you don't think you've played very well, but I'm sure its not that often, but.. probably a five I think.

LC: OK, and the other one you said was the team. So if the teams not played particularly well, that can be a source of stress. In terms of it being your source of stress, do you see anything challenging in that?

S11: Yeah, probably... four.

LC: Threatening?

S11: Well it can be potentially damaging you know, if the teams not playing well at all, you can be out the tournament before you've started, so erm..., threatening, it can be five or six, if the teams not performing to its maximum.

LC: And what about harm? Do you experience any hurt or harm?

S11: Oh yeah, definitely, if you're in a big competition and you don't even get to the final stages then its been a complete waste of time, you know, so yeah five or six.

LC: Control? Do you feel that you've got much control over that as a source of stress?

S11: Perhaps not personally but as a team you have, if you play well, and you know you're playing well, then you know there's nobody going to stop you, you know you can't do anything about referees and things like that, but the way the team performs itself you can do something about.

LC: So in terms of your control how much control do you feel you have over it?

S11: Well the individual its within your hands to do your best, so you've got to be in control of the situation as best you can. I don't think you're ever totally in control, you know, I don't think you're ever totally in control of the situation, because you can't be because there's outside factors that govern what happens, so I think its probably about a five or six.

LC: And severity?

S11: Five or six again.

LC: Frequency?

S11: Every game, its got to be hasn't it? You've got to try and be in control every game, so I'd say six for that.

LC: OK, the next one was the time in between matches at a major event, the filling in ; the boredom, do you see anything challenging in that as a source of stress?

S11: Well its challenging in the fact that you've got to fill your time, and try and fill your time constructively, the best you can, so it is quite challenging, about a five or six that.

LC: Threatening?

S11: I don't think its threatening, I wouldn't say threatening is the right word I don't think there's a threat there.

LC: What about harm then? Harm or hurt or...

S11: I suppose it can be harmful in the sense that you've got all this time to yourself and you don't know what to do with it, basically... Your mind tends to wander onto things that probably aren't the best thing for you when you're in a tournament, like - I wish I was at home!, or I wish I was at home I could be out with the lads or whatever, which aren't conclusive to a good performance really.

LC: OK, what sort of score then? Scores on the doors!

S11: Scores on the doors, erm....probably about three or four.

LC: Control?

S11: Yes you have got control over what you do whilst you're away in your free time.... but, again you're governed on where you are.

LC: I suppose the programme of events are laid out for you.

S11: That's right, your meal times are all.., you may not want to eat at a particular time, I mean I've got, my time as regards eating, I mean I eat when I'm hungry, I don't have breakfast I don't have dinner I don't have tea or supper at set times, I might not have anything all day and then at like seven O'clock I might be absolutely ravenous and have a meal, or I might wake up in the morning and I fancy something to eat, so you've not got any control over that you've got to go for meals when they say you go for meals or not eat at all.

LC: So in terms of control then, what would you say...?

S11: About five.

LC: Severity? Is it a severe source of stress?

S11: Not really, no. Its not severe, like I say for me I eat when I want to eat anyway, so.. about a four.

LC: Frequency?

S11: A four again.

LC: Right, and the last one was you said like the heat and the environmental conditions like out in Paris, not only that you were going to be competing in some of those places when there was going to be no air conditioning on, and knowing that Atlanta is going to be very hot, as a source of stress, do you see anything challenging in that?

S11: It is going to be challenging, because you're going to have to keep your fluid intake up all the time, and making yourself drink, being conscious that you've got to drink all the time or you've got to keep cool, or whatever, you've got to discipline yourself, so its quite challenging I think. I think it will be quite challenging even though the stadiums will be air conditioned, the hotels will be air conditioned or whatever the accommodation is, simply for the reason that we're not used to it as a nation, its going to be quite challenging, probably a five or six. I wouldn't say its going to be extremely challenging because you've got those little factors like the air conditioning in places, but...

LC: What about threatening?

S11: It can be, yeah it can be potentially quite damaging, you know if you get dehydrated, you can be quite ill with it, so yeah it can be quite threatening.

LC: What sort of score?

S11: Probably six again.

LC: What about harmful?

S11: Well, that follows on doesn't it? Its got to be.. if you become dehydrated and ill then its going to be harmful irrespective so six, seven... if you're not on the ball with it.

LC: OK, how much control do you feel you have over that as a source of stress, that situation?

S11: Well you should be totally in control of it, because you know, we will be told what conditions are going to be like, and we will be told what we'll have to do, and then its up to you to do it, so you should be totally in control of that.

LC: Severity? As a source of stress, is it a severe source of stress? So take Paris for example..

S11: I think it was quite a severe source that actually, because just losing so much fluid in such a short time and trying to get it back, probably a five.

LC: Frequency?

S11: With those sort of temperatures, five or six again.

LC: OK, that's it for the competition sources of stress, I'll just turn the tape off.

SECTION 5

LC: Right starting section 5, coping with sources of stress. So starting with the general sources, the first one that you said was the finance side of things and outlying things, and wondering whether the money is going to come back and just generally trying to balance things. What sort of things do you do in that situation, or have you done in the past? Is there anything you do to deal with that as a source of stress?

S11: No, I don't think so... erm..., just stop the tape and let me think about it..

LC: OK, just starting the tape again, so that first one, finance.. anything you think?

S11: Initially when the trouble started, I mean I did ask for financial help from the club to help me to get to training sessions and things like that, but gradually over the years, when I've now got the house in order, I just basically shell out what I've got to shell out and carry on with it, but initially until I knew what was happening I had to ask the club to help me out financially.

LC: How effective was that? Was that effective in dealing with it?

S11: It was yeah, well it got me there.

LC: So in terms of effective would you...

S11: Well, it would have to be seven.

LC: If you were in that situation, is that something that you would do a lot if you felt as if, by talking to somebody is that, and asking for help, is that something that you would do?

S11: Yeah I do talk, if I think I need to have some sort of help, I'm not afraid to ask for it.

LC: So that's something that you would do reasonably frequently?

S11: Unless you ask you don't get, so that's my philosophy.. if you don't ask for something you'll never get it.

LC: So how frequently would you say you'd use that idea, that way of dealing with it in that situation.

S11: Quite regularly.. If I think I need some help I'll ask for it, so five or six.

LC: And you said that you just do it, fork out the money for it, is that effective?

S11: Well it gets the job done, so yeah.

LC: Is that something that you would do quite frequently?

S11: Yeah, I would just do it, if I needed to do something I would just do it.

LC: So in terms of frequency?

S11: Probably all the time.

LC: Yeah, so seven. All right then so that's the first one, the next one was your own personal fitness and injuries and that type of idea of things. How, is there any particular way that you deal with that situation?

S11: I try and ease up, erm., if I have got an injury I try and protect it just by easing off.

LC: How effective do you find that?

S11: It is effective yeah, because if its only a little injury, if its not something that's going to take months and months and months to clear away, a broken limb or something like that, if its just a muscle strain, if you ease up on it gradually, eventually it does get better, so yeah its effective.

LC: Seven, extremely?

S11: Yeah. I think rest is as good as anything.

LC: So how frequently would you do that in that situation?

S11: Erm., five or six.

LC: OK, anything else that you do?

S11: No not really. I mean if it was severe enough to ask for treatment for it then I would do, you know...

LC: And how effective do you find that is, in terms of asking for the treatment, in dealing with that as a source of stress? Is it...

S11: Well, if you think that it needs treatment and its confirmed that you do need it treating then it takes a weight off your mind, you know that you've got to get it sorted.

LC: So how effective would you say it is then?

S11: About six, yeah.

LC: Frequency?

S11: Its not all that frequent, because it doesn't really happen all that often, so probably about a three.

LC: OK, anything else? No? OK, the other one in the general sources was personal circumstances. Is there anything, if that's a source of stress with your basketball and things, is there anything you did do to try to deal with that?

S11: I just got on with it. I tried to put whatever was happening out of my mind and just try and get on with my everyday life basically. I didn't stay in and I didn't mope about, I just tried to get on with basically.

LC: Was that effective?

S11: Yeah it was actually. I mean I did talk with my brother a lot, I turned to my family a hell of a lot and that helped a lot as well. And friends of course you know, because they were in the situation as well.

LC: So when you talked to them, was it for advice or was it for support?

S11: Just for moral support basically, you know just for reassurance that what the situation wasn't of my doing basically, because I thin when something happens you always tend to think that its your fault, when it may not be, so.

LC: OK, so in terms of just getting on with it, trying to black it out and getting on, how effective was that?

S11: Quite effective that actually, five or six.

LC: And frequency? And that something that you would, in that situation...?

S11: In that situation I would probably do it all the time.

LC: And what about the talking to family, friends...? Is that effective?

S11: Very, yeah, extremely.

LC: Is that something that you would do..?

S11: Its something that I would do normally, I look for moral support. I'm the type of bloke that needs that boost, I wouldn't say I'm over confident in myself, but I'm not a shrinking violet sort of thing, but I like to get a boost every now and again.

LC: OK, so is that something you would do frequently?

S11: Yeah, quite frequently yeah. I would say "How do you think I did..?" and "What do you think I could do...?"

LC: So in terms of a score, in terms of frequency?

S11: Probably five or six again.

LC: Right so those are the general sources. The competition sources, the first one was a source of stress is like getting into the squad making that final cut, is there anything that you do to deal with that situation?

S11: Basically you've just got to think about what you're doing, and think about what's at the end of it, what could be at the end of it... erm..., and just basically try the best that you can.

LC: How effective is doing that?

S11: Quite effective, I mean its probably about a five.

LC: How frequently would you do that, when you were experiencing that source of stress?

S11: Probably about five again.

LC: Anything else that you'd do?

S11: Probably look for advice from other people again, as to what I could do to make sure I did my utmost, and... I look for guidance really.

LC: How effective is that?

S11: Well if the answers right, its very effective... erm..., five again.

LC: Frequency?

S11: Four I think, because I don't do it all the time.

LC: Ok just before we go onto the next one, this tape looks as though its coming to an end. Right OK carrying on with the coping. The second source of stress was injuries and I think you talked about that in the last one about some of the things that you would do about trying to ease up, protect it, ask for treatment.. is that the sort of thing.. I think this was sort of pre competition, is that a similar source of stress, I think that's a repeat isn't it?

S11: Yeah, yeah.

LC: The next one was the venue, and the size, and the lots of people there representing Great Britain that's got a reputation, is there anything that you do to deal with that situation?

S11: I probably try and block it out.

LC: Right so you just try to block it out?

S11: Yeah, I try and block it out, yeah I try not to think about it too much.

LC: How effective is that?

S11: Generally its quite effective, I tend to do that a hell of a lot, block things out, whether its something that maybe adverse or whatever, I try and not to think about it a hell of a lot, not just in basketball, in every day things.

LC: So in terms of, with that particular situation, how effective is it on a scale of one to seven?

S11: Probably five.

LC: Frequency?

S11: Probably six.

LC: OK, anything else that you'd do? So you've come to a large arena that's a lot bigger and lots of people, anything else?

S11: Basically just try and relax, you now, not let the place or the event get to you, just try and relax, not get too nervous. You do get nervous, but try and relax a little bit.

LC: How effective...?

S11: I mean if I had music with me, I'd have music on all time, just..

LC: How effective is that then?

S11: Very. Music is my second passion, I just get lost in it, I just get lost in music all the time, so.. its very effective.

LC: Score?

S11: Six.

LC: Frequency?

S11: Its not that often actually. I don't always, I don't tend to do it very often listen to music, but the relaxing bit I try and do, even if its just sitting on my own away from everything, you know not talking to anybody. I do that quite a bit, probably a five.

LC: OK, anything else?

S11: Not really no.

LC: OK, the next one was sleeping, and that can be a source of stress. Is there anything that you do? I mean I think you said that in terms of control you don't feel as if its in your control, is there anything you try to do to deal with it?

S11: No, I just think if I'm going to go to sleep I'll go to sleep, if I'm not I won't basically. I try not to think about it.

LC: How effective is it? Trying not to think about it?

S11: Its not, none at all!

LC: Not at all.. how frequently do you do that ?

S11: All the time!

LC: OK, anything else that you would do?

S11: No, I wouldn't want to take anything to try and get me to sleep, because I don't think, I mean you could say that you have a drink, but it has the adverse affect on me I'm afraid, once I've had a drink.. It may knock me out for about an hour, but then I'm just wide awake again, and I can't get to sleep, so I try not to do that at all.

LC: OK, the other thing that you mentioned in the sort of pre competition time was just getting there and the length of time travelling and it can be quite boring, and just the whole thing of being on a plane and not totally being in control of the situation. Is there anything that you do in that situation to deal with it?

S11: Try and make the best of the time that you've got available to you when you can do something, at the airport just go round the shops or you know, go and have a drink or whatever..., and gradually try and relax a little bit and just accept what you're going to do basically. But like I said to you before, I haven't got much control over it so you've just got to let it, you've just got to go with the flow basically, but the less stress you can get out of it the better, just go and have a drink or go round the shops, get a magazine whatever, just have a laugh.

LC: How effective do you find that?

S11: It is effective yeah, quite effective... five.

LC: Frequency?

S11: Five again. It depends where we're going you see, if you've got a long trip ahead of you, obviously you've got more stress in front of you, so.. but if its only a short trip then you going to be up, then down and that's going to be it.

LC: Anything else?

S11: No I don't think so. I tend to sit on my own a bit as well, just sit in a corner...

LC: OK, is that effective? Just sitting on your own.

S11: Yeah it is, I mean like I say I'm not a shrinking violet, but I'm not one of the, I'm not out front with the boys sort of thing, so yeah, a bit of time to myself I enjoy. I quite enjoy my own company a lot of the time.

LC: So in terms of dealing with that situation, how effective would you say sort of spending some time by yourself and just relaxing...?

S11: Probably a five, six.

LC: And frequency?

S11: About four.

LC: Erm..., the next one was during, not so much a match it was training and differences of opinion, and the first one was you having to give information could be a source of stress. Is there anything that you do to deal with that?

S11: No, I don't think so... Its not that often that I do sort of say my piece if you now what I mean, so I don't have any stress strategy for it, but if I think I've got something to say and I think it might be helpful, I will say it, but apart from that I just sit around in the background.

LC: Is that quite effective for dealing with that situation?

S11: Yeah, like I say I like to keep myself to myself, although I like to be involved, does that make sense?

LC: You like to be there and be a part of it..

S11: Yeah, I can be a part of it just by being there, are you with me?

LC: For you to say something would it have to be...?

S11: It would have to be something very important for me to chirp in, yeah.

LC: So with that situation and the fact that there is a difference of opinion and it can be a source of stress, and you feel that maybe you want to say something or others have got something to say, is the sort of saying nothing or only saying something when very necessary, how effective is that to deal with that source of stress?

S11: I think its quite effective. You see the other thing as well if I feel threatened by a situation, I won't shrink away from it, I will confront it, I mean there was a situation in Paris when something happened, and there was no way I was going to let it go, so I went up front and I wasn't going to be threatened. So if it was something extremely threatening like that, I would hit it head on, I would attack it head on and get it sorted.

LC: How effective is that then?

S11: For me very effective.

LC: Five, six, seven...?

S11: Six I think.

LC: Frequency?

S11: It doesn't happen all that often, probably a two.

LC: So if, I mean another part of this was the fact that you have to deal sometimes with somebody saying something destructive to you, you say that you confront it, would you confront it in every situation or...?

S11: No, no. You see we're talking about different situations here, we're talking about something that is a comment to do with the game, then I would sort of maybe take it a little bit to heart and go away and think about it, but if it was something away from the game, and it was criticism, that had nothing to do with the game at all, then I would meet it head on.

LC: So is not confronting it in a game situation, do you find that effective, just for you?

S11: Yeah. Erm..., you see if its in a game situation, and you try and confront it there and then, you can do more harm than good, because it can affect the outcome of what's happening, but if its outside the game situation, and its, I'll confront it there and then and try and resolve it there and then. If its on a one to one basis where you may have had a disagreement with somebody, with totally nothing to do with the game, I'll hit it head on and try to get it sorted straight away.

LC: OK, anything else? So you'd confront it if it was something personal, but with the basketball, in a basketball situation and it was something to do with basketball, you're more likely to just ease off a bit...

S11: Ease off, let it.. not let it ride, but confront it later on.

LC: OK, anything else with that?

S11: No I don't think so.

LC: OK the next one was to do with the amount of court time, and you say that if you're not getting court time it can become a source of stress because you start to think - Well why am I not getting any court time? Is there anything that you do to deal with that situation?

S11: I suppose I just think to myself that yeah, I'm there I'm in the squad and I'm there for a reason and just accept what ever court time I'm given basically. If I don't get a lot of court time, I don't think its because I'm a bad player, or I'm just there for the ride, or whatever, then it must be for a reason.

LC: OK, how effective is that? This sort of rationalising that there must be a reason for it, and..?

S11: Generally its very effective, a six.

LC: Frequency?

S11: Probably I do it all the time.

LC: OK, anything else that you'd do? Apart from personally just rationalising the situation?

S11: I think I try a bit harder just to see if I could get any more court time.. I think everybody wants more court time, and just try and generally lift my game.

LC: Is that effective?

S11: Not always, yeah.. to deal with the source of stress it is, I mean its not always effective in getting more court time, but to deal with it, yeah.

LC: So how effective would you say it is to deal with it as a source of stress?

S11: About a four.

LC: Frequency?

S11: About four again.

LC: Anything else?

S11: No, no. I'm pretty laid back really. I just let things flow over me.

LC: OK, next one was performing. You as an individual, if your performance isn't very good how do you deal with that as a source of stress?

S11: Not very well actually. I can be very self critical. I may have not done too badly but I think I've performed absolutely awful, and... probably criticise myself a bit too much.

LC: So to deal with it you criticise yourself, but maybe you go over the top. Would you say its effective then to deal with it?

S11: Not really, no. Probably I'm too self demeaning sometimes.

LC: So an effectiveness score?

S11: Three I think.

LC: Frequency?

S11: Not all that much, but its probably more often than I should do really, probably about a four or five.

LC: Anything else you do? If you've had a bad performance...

S11: Sulk!

LC: Sulk..?

S11: I do, I'm terrible...

LC: Ok, and do you sulk away from others or....?

S11: Yeah, I tend to go away in my own little corner and like I say I'm quite happy with my own company.

LC: How effective is that then, sulking?

S11: Its actually, I'll sulk for about half an hour and then I'm fine, I feel right as rain. You just want to be left alone basically, you know.

LC: So effectiveness?

S11: Probably about a six.

LC: Frequency?

S11: Oh, if I've had a bad.. well it depends on the game really, its not that often, probably about three.

LC: Anything else if you've not performed well?

S11: Erm..., again I'll ask for advice you know.

LC: Who would you ask for advice from?

S11: Well, I mean in general other players, that doesn't mean to say that I've got no confidence in what the coach says or anything like that, but I feel I can talk to players more easily than I can to the coach, I think that's the reason.

LC: How effective is that then? Talking to other players.

S11: Yeah, its effective. A five or six.

LC: Frequency?

S11: Five.

LC: OK. The other one that you said was the team, that if the teams not playing very well, that can be a source of stress, is there anything that you do with that to deal with that?

S11: I try and gee people up, try and be enthusiastic....

LC: How effective do you find that?

S11: It can be very effective, if everybody does it, but for myself it gets me into the game as well, if I'm sat on the bench and I'm feeling that I'm not particularly involved, I try and gee them up, and you get into the game that way.

LC: So how effective would you say?

S11: Probably five.

LC: Five. Frequency?

S11: Giving the game away now, saying how long I'm on the bench! Erm..., probably a five again.

LC: Anything else?

S11: No not really. Just try and gee everybody up as much as you can.

LC: OK, just a couple more to go. You said that it can be a source of stress when you're away at a major event is the time between matches and getting bored. Is there anything that you do in that situation?

S11: I tend to sleep a lot. Just go and have a lie down, which is probably why I don't sleep at night! Probably lie down for an hour or so, you know, just relax, try and find something to do, try and be constructive with the time that you've got available, find a pool table, have a game of pool something like that.

LC: Is that effective?

S11: Yeah, I think you've got to try and fill your time, I try and fill my time as much as I can.

LC: What sort of score would you give for effectiveness?

S11: Probably five.

LC: Frequency?

S11: Five again I think.

LC: Anything else?

S11: Probably just sit on my own and contemplate things, try not to think too much about what's happening and just drift basically.

LC: So is doing things like that, just sort of sitting by yourself and contemplating.... do you contemplate basketball or..

S11: Sometimes I just sit and watch the world go by. I like to people watch actually, I love to sit

and watch people. I can sit in a night-club and just sit there on my own and just watch what people are doing, its fascinating, I can while away a couple of hours just doing that.

LC: Is that effective then to do that?

S11: Yeah it is yeah.

LC: How effective?

S11: About a six.

LC: Frequency?

S11: Well its not all the time, so probably a three.

LC: Anything else?

S11: Not really no.

LC: OK the last one you said was the environmental conditions, the heat in particular. Is there anything you have done and will do in the future to deal with that situation.

S11: Well basically try and follow the guidelines that you're given, try and follow them to the letter, if you're told to drink, then you've got to drink, or whatever, erm...., basically if you're in a hostile environment like the heat and you've got to keep your salt levels and things up, so its important that you eat the right food and stuff. Its no good eating bags of crisps, you've got to eat the right sort of food. Just try and do what you're told basically.

LC: How effective do you find that then?

S11: Very. So long as you do what you're told, and you drink as much as you can when you've got the opportunity to drink then its very effective.

LC: Score?

S11: Seven.

LC: Frequency?

S11: Well as often as I can, so six. You can't do it all the time but..

LC: Anything else that you would do in that situation?

S11: I mean if it was like it was in Paris, it was absolutely red hot, I wouldn't go and sit in the sun and sunbathe things like that, which a lot of people do do, they want to get a tan, so just try and keep out of the heat basically as much as possible. I mean its OK sitting out for 10 minutes or so, but I wouldn't just go and bathe in it.

LC: Ok any other coping strategies that you think you use as an elite basketball player that we've not covered?

S11: No I don't think so, I think we've covered everything.... We've covered the fact that I let things go over the top of me, sometimes I'll confront them or I'll just sit on my own or whatever, I think we've covered everything.

LC: Right that's basically the interview the chat finished there's just the last bit at the end.

SECTION 6

LC: OK, so section 6 the conclusion. Did you enjoy or find the interview useful at all?

S11: Yeah I did actually I did, yeah, because it makes you think about things that you wouldn't normally think about basically, unless you're confronted with the question you tend not to think about it you know, if I hadn't answered those questions that you've asked me I wouldn't have even thought about them, they just happen.

LC: I mean what we can perhaps do if you want to look at them in a little bit more detail and see if there are things that you can perhaps use more frequently, and see which are the things that do cause you more stress than others and whether maybe you're doing the right coping strategy to deal with them, just so that you can make sure that you maximise your performance, and the sources of stress you experience don't hinder your performance. Did you feel you were able to tell your experiences fully?

S11: There were somethings that I didn't want to touch on...

LC: I can understand that yeah..

S11: So as regards most of it, yeah I think it is pretty true to life, yeah.

LC: Did I lead or influence your responses in any way or do you feel that what's down on paper, and what's on the tape, do you feel that's you and what you do?

S11: Yeah, I think so.

LC: Any other comments about the interview?

S11: Erm..., Its interesting, it is interesting. It would be nice to get some feedback on it.

LC: Ok I wil send you some feedback - thank you very much for your time.

APPENDIX E: IDIOGRAPHIC PROFILE SUBJECT -11

SOURCE OF STRESS	COPING
Finance - no getting my expenses back very quickly. I don't work and I also have to put my dogs in kennels	Ask the club for financial support Just pay the money out
Personal fitness linked to injury - should I train, shouldn't I train, etc.	Try to protect my injury - ease up If severe enough I would ask for treatment - it is good to get it confirmed
The injury may get worse the nearer we get to Atlanta	Nothing - just try to ignore it
Personal problems - I tend to dwell on them and wonder if I could have done anything to prevent them- the result is that my mind is not on basketball	Blocked it out by getting on with life Talked to family and friends for reassurance Talked to family and friends for advice
Problems with my car - without it I can't get to training	Try and make sure I keep my car i regularly serviced
Getting selected for the squad is always at the back of my mind	Try to rationalize what I am doing and what the purpose is behind it
Linked to getting selected - I think am I training enough	Look for advice and guidance from others
Playing in a massive arena can be very daunting	Try to block it out - try not to think about it too much Try to relax by listening to some music Sit on my own
Not being able to sleep well and having a morning game	Try not to think about the fact that I can not sleep
Getting to the toilet on the plane	Accept it, there is not a lot I can do about it
I get bored with travelling and all the waiting around. Due to being in a wheelchair it lengthens the journey (first on the plane and last off), then there is the time waiting to get accreditation for the championship	Make the best of the time when you can do something eg have a coffee, go around the shops Have laugh with other players Accept the situation as I have no control Sit on my own and relax, listening to music
Differences of opinion during training - especially when comments are said destructively and they then carry over in to free time	In training itself I do nothing - I keep myself to myself. I would say something during training, but only if really necessary Out of training I may confront the person concerned
Lack of court time. I start to question why I am not on court	Rationalize it is not because I am a bad player Try harder to lift my game
If the team has not played well - I wonder why ?	Try to gee the players up and look at the good aspects of our performance
Personally playing badly - I will dwell on it	Ask for advice from other players Sulk away on my own
Free time at a tournament - I get bored	Sleep a lot Try to use my time constructively Watch the world go by on my own
Knowing that we are going to be playing in very hot conditions - will I tire quickly, get blisters, become ill etc	Do exactly what I am told to do by the specialists Don't sit out in the sun
Sharing a room with someone who I do not get on with	Just put up with it