The Role and Development of Life Skills in

Young Sports Participants

By

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Under the umbrella of positive youth development, life skills represent an important area of research for young people. The personal competencies a young person possesses determine his or her capacity to effectively navigate the turbulence of adolescence and grow into adulthood. An increased understanding of the role, function, and enhancement of life skills therefore serves a great purpose in the design and evaluation of youth development programs. This thesis aimed to extend the current knowledge and practices through targeting the gaps in the life skills literature. First, using a qualitative design, the specific needs of young elite athletes were investigated while outlining a proposed methodology for future needs analyses. The importance of developing life skills in young athletes was emphasised as it was found that young athletes required a range of both sport specific and life skills. Second, an investigation into the function of life skills found that reported possession of key life skills partially mediates the relationship between youth experiences and well-being, illustrating this role for the first time. However, within youth samples there was a broad range in the degree to which these skills are applied and transferred, reinforcing the call for deliberate developmental programming. The lack of adequate measures in life skills research was addressed through the validation of BRSQ with young sports participants. Support for the utility of this measure allows for the greater investigation into the mechanisms through which life skills function. Finally, a life skills program was designed following the recommendations of the predominant youth development frameworks and comprehensively evaluated. This thesis progresses existing literature regarding the role and function of life skills as well as providing insight into how to best promote and evaluate the teaching of life skills in applied research programs.

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During the period of postgraduate study within the School of Sport and Exercise Sciences at the University of Birmingham, the following articles and conference abstracts were accepted for publication and/or presentation at scientific meetings.

Publications

Holland, M. J. G., Woodcock, C., Cumming, J., & Duda, J. L. (2010). Mental qualities and employed mental techniques of young elite team sport athletes. *Journal of Clinical Sport Psychology, 4*, 19-38.

Woodcock, C., **Holland, M. J. G.**, Duda, J. L., & Cumming, J. (2011). Psychological qualities of elite adolescent rugby players: Parents, coaches, and sport administration staff perceptions and supporting roles. *The Sport Psychologist*, 25, 411-443

In Press

Woodcock, C., Duda, J. L., Cumming, J., Sharp, L., & **Holland, M. J. G,** (In press). Psychological skill use in adolescents: Exploring structural and temporal validity of the TOPS. *The Sport Psychologist*

Under Review

Holland. M. J. G., Sharp, L., Woodcock, C., Cumming, J., & Duda, J.L. (Under Review) Validity and reliability of the Behavioural Regulation in Sport Questionnaire (BRSQ) with youth athletes.

Sharp, L., **Holland, M. J. G.,** Woodcock, C., Duda, J. L., & Cumming, J. (under review). A qualitative evaluation of the effectiveness of a mental skills training program for youth athletes: A multi-modal approach.

Sharp, L., Woodcock, C., **Holland, M. J. G.,** Duda, J. L., & Cumming, J. (under review). Validation of the Athlete Burnout Questionnaire with youth athletes.

Conference Proceedings

Sharp, L. (symposium convener), **Holland, M. J. G.,** Woodcock, C., Cumming, J., & Duda, J. L. (2010, December). MST with young athletes: Aims, findings, lessons learned, and proposed future directions. Division of Sport & Exercise (DSEP) 2010 biennial conference, London, UK.

    i.   Cumming, J., Sharp, L., **Holland, M. J. G.,** Woodcock, C., & Duda, J. L. An overview of a MST program for U16 rugby players.

    ii.   Woodcock, C., **Holland, M. J. G.,** Sharp, L., Duda, J. L., & Cumming, J. The process of delivering and evaluating a MST program: Applying lessons learned.

    iii.   Sharp, L., **Holland, M. J. G.,** Woodcock, C., Cumming, J., &Duda, J. L. "It changed my experience of the game": Results from a multi-method evaluation of a MST program

    iv.   **Holland, M. J. G.,** Woodcock, C., Sharp, L., Duda, J. L., & Cumming, J. An action research approach to MST evaluation: Moving the field forward.

Woodcock, C., Sharp, L., **Holland, M. J. G.,** Fisher, B., Duda, J. L. (symposium convener), & Cumming, J. (2010, October). An action research approach to mental skills training: Experience, evaluation, and evolution. Association of Applied Sport Psychology (AASP) annual conference, Providence, Rhode Island

    i.   Fisher, B., Sharp, L., Woodcock, C., **Holland, M. J. G.,** Cumming, J., & Duda, J. L. A youth coach perspective of a mental skills training program.

    ii.   **Holland, M. J. G.,** Sharp, L., Woodcock, C., Cumming, J., &Duda, J. L. Evaluating MST research procedures: Observations, reflections, and progressions.

    iii.   Sharp, L., Woodcock, C., **Holland, M. J. G.,** Duda, J. L., & Cumming, J. Youth athletes responses to a mental skills training program.

    iv.   Woodcock, C., **Holland, M. J. G.,** Sharp, L., Duda, J. L., & Cumming, J. Origins and evolution: Coming full circle with mental skills training.

Holland, M. J. G., Woodcock, C., Sharp, L., Cumming, J., & Duda, J.L. (2010). Validity and reliability of the Behavioral Regulation Questionnaire (BRSQ) with youth athletes. *Journal of Sport & Exercise Psychology, 32*, s175-s176. (Published abstract. Paper

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Sharp. L., **Holland, M. J. G**., Woodcock, C., Duda, J. L., & Cumming, J. (2011, Sep). *Delivering a mental skills training program to youth rugby players in Scotland*, UK. Paper to be presented at the Association for the Advancement of Applied Sport Psychology, Honolulu, HI, September 2011.

CONTENTS

GENERAL INTRODUCTION

"There can be no keener revelation of a society's soul than the way in which it treats its children."

(Nelson Mandela, 1995)

The healthy development of youth is a fundamental building block of our society. Efforts to promote positive personal growth and optimal functioning in young people permeate almost every salient social sphere including the family, education, religion, media, economics, and sport. The importance placed upon our responsibility to support young people is evidenced by the £90 billion the UK spends on education each year (HM Treasury, 2011) or the nearly 6 million adult volunteers who are involved in working with children and adolescents in the youth sport setting (Sport England, 2003).

Nonetheless, tens of thousands of young people, even those among the top fifth of academic performers, drop out of school each year (Sutton Trust, 2008). Furthermore, it is estimated that almost half of young people aged between 11- 17 years have committed at least one criminal act with an even greater proportion having experience of drinking, drug use, and serious assault (Joseph Rowntree Foundation, 2002). While many young people do not engage in such risky behaviours and demonstrate signs of healthy development, it is clear that young people can benefit from external support and the promotion of their personal competencies to facilitate optimal growth. The process of youth development is a continuous one, in which individuals aim to satisfy their basic personal and social needs to feel safe, cared for, valued, and emotionally grounded (Miller, 2003). During this process, usually most prominent in the period of adolescent, young people both have the most potential for growth but also are at their most vulnerable.

This thesis aims to contribute to the current understanding and practices within youth development research. To better understand the state of the current literature relating to youth

development this introduction aims to outline the relevant contemporary research. Specifically, areas of interest relate to the nature of adolescence, the growing field of positive youth development, the conceptualisation of life skills in young people, the knowledge this area can gain from the sports-based mental skills training literature, the value of sport for life skills development, how sport is currently being used to promote life skills, the gaps in the current literature, and finally the specific aims of this thesis that will allow it to contribute to our understanding of the development of life skills in adolescent sport participants.

Adolescence

In order to promote healthy growth in young people we must first understand the nature of youth and salient features of its development. Specifically, this thesis concerns itself with the period of adolescence. Typically viewed as the second decade of life, adolescence is a period characterised by biological, cognitive, psychological, and social change in which an individual transitions from childhood to adulthood (Lerner, Lerner, Almerigi, Theokas, Phelps, Naudeau, et al., 2006). For many, the large degree of personal change is also accompanied by an increase in the number, type and source of challenges faced. For example, in early adolescence, young people are primarily functioning within the family and school settings. With each year the individual not only has greater challenges to face in school (e.g., exams that determine their future) but is also likely to broaden the number of contexts which are important to them (e.g., work, social, sporting, and other extra-curricular activities: Danish & Nellen, 1997).

The increasing challenges presented from needing to effectively function within a growing set of contexts means that adolescence becomes increasingly complex and difficult to navigate (Roth & Brooks-Gunn, 2003). Even an adolescent who is very successful at managing these situations and seemingly well-adjusted needs to learn new skills, cope with stressors, overcome obstacles, and maintain or develop a sense of self (Wylleman & Lavallee, 2004). As

these skills can be difficult to develop when left to mature on their own, the result is that too often young people display maladaptive, anti-social, and/or risk taking behaviours (e.g., drug taking, risky sex behaviours, and criminal activities) that indicate poor personal development.

An emphasis on the prevalence of these negative behaviours has historically dominated the field of youth development, reinforcing the viewpoint that adolescence is a period of storm and stress (Lerner, 2005). Numerous studies have considered young people to be problems to be solved with applied programs aimed at remediating youth by reducing engagement in high-risk behaviours (Catalano, Berglund, Ryan, Lonczak, & Hawkins, 1998).

Until recently, this deficit view of adolescence has been the principal foundation of developmental sciences. Considered to have its origins in medical science, a deficit perspective has been propelled through both media attention and a criminal justice model of punishment over prevention (Damon, 2004). In general, studies of adolescent behaviour were dominated by naming, measuring, and predicting problem behaviours (Scales, Benson, Leffert, & Blyth, 2000). Although many developmental scientists recognise that adolescents may experience adversity and developmental challenges, it has recently been acknowledged that this is not the common experience for the majority of young people (Damon, 2004). Furthermore, there has been a growing appreciation that the removal of negative behaviours is not the same as the promotion of adaptive behaviours and ensuing healthy development. That is, an adolescent without signs of psychological or behavioural problems is not necessarily reflective of a young person fully prepared for adulthood (Lerner et al., 2006). Danish (2002) noted that, "To be successful in life, it is not enough to know what to avoid; one must also know how to succeed" (p.55).

The more recent dramatic shift in perspective, largely adopted throughout general psychology, places emphasis on building the strengths and positive behaviours of young people

rather than correcting or eradicating negative behaviours (Larson, 2000; Seligman & Csikszentmihalyi, 2002). The *positive psychology approach* recognises young people as resources of potential to be developed. This contemporary shift in perspective means that adolescence can now be viewed as a period of biological, psychological, cognitive, and social growth.

Positive Youth Development

The adoption of a positive psychology lens has led to the promotion of *Positive Youth Development*, defined by Damon (2004) as a perspective that "emphasises the manifest potentialities rather than the supposed incapacities of young people – including young people from the most disadvantaged backgrounds and those with the most troubled histories" (p. 15). Acknowledging that all young people have the potential for positive development, the research focus has turned to investigating what positive skills and attributes are needed by young people and how their growth might best be supported. To that end, Bernat and Resnisk (2006) defined positive youth development as "the deliberate processes of providing youth with the support, relationships, experiences, resources, and opportunities needed to become successful and competent adults" (p. 10)

The main goal of positive youth development, therefore, is to support young people's capacity to succeed, rather than simply cope, within their environment. To realise this goal, of embracing the challenges and transitions presented through adolescence, requires young people to demonstrate a range of skills and competencies such as the capacity to make responsible decisions, understand their values, form relationships and communicate with others (Boyd, Herring, & Briers, 1992). This broad range of personal skills must be flexible to deal with novel scenarios and applicable to the growing range of contexts meaningful to the individual.

To support the development of such competencies a number of frameworks within the positive youth development literature have been proposed. The dominant frameworks are the *5C's* (Lerner, 2004), *Developmental Assets* (Benson, 1997), and *Domains of Developmental Experiences* (Larson, 2000) models of development.

5C's. The 5C's framework proposed by Lerner (2004) was based on a review of literature relating to research and practice in positive youth development (e.g., Roth & Brooks-Dunn, 2003). From this review, five latent constructs were proposed that capture a number of mental, behavioural, and social relational components assumed to be indicative of positive youth development (Lerner et al., 2006).The five constructs are: 1) competence; 2) confidence; 3) connection; 4) character; and 5) caring and compassion.

Competence is the positive view of one's domain specific actions (e.g., academic, social, cognitive). For example: academic competence refers to school performance that is demonstrated, in part, by, grades and attendance; social competence refers to interpersonal skills such as conflict resolution; and cognitive competence refers to cognitive abilities such as decision making. Confidence is the internal sense of overall positive self-worth and self-efficacy. Connection refers to the positive bonds with people and institutions and is reflected by exchanges in which both parties, including the adolescent, contribute to the relationship. Character is defined as the respect for societal and cultural rules, possession of standards for correct behaviours, a sense of right and wrong, and integrity. Finally, caring and compassion captures a sense of sympathy and empathy for others. In addition, when an individual's behaviour reflects all five C's, a sixth C emerges, contribution. Lerner (2004) posits that through enacting behaviours indicative of these C's, a young person is making a positive contribution to one's self, family, and community. The demonstration of these attributes is considered, within Lerner's framework, to represent positive youth development.

The 5C's framework has been applied and evaluated through the 4-H study of positive youth development involving community-based programs such as 4-H clubs, Boys and Girls Clubs, YMCA, and Scouting in the United States of America. Started in 2002 and involving 4,000 participants to date, this longitudinal study has provided some initial support for the 5C's model (Lerner, Lerner, Almerigi, Theokas, Phelps, Gestsdottir, et al., 2005; Jelicic, Bobek, Phelps, Lerner, & Lerner, 2007). Within the United States the 4-H study was assessed using the Student Questionnaire (SQ) with youth between 9-19 years of age. The data from both the first and second waves of evaluation was tested using structural equation modeling to investigate the appropriateness of the 5C model. Results revealed that the overall construct of positive youth development positively predicted contribution and negatively predicted depression and risk behaviour.

Unfortunately, initial models from both waves failed to indicate an adequate fit. However, subsequent modifications of the model to allow the residual terms of competence and confidence, and character and caring to covary significantly improved the fit of the model to the data (Lerner et al., 2005; Jelicic et al., 2007). The need to modify the hypothesised model to achieve an acceptable level of fit to the data brings into question the conceptual strength of the 5C's. The apparent overlap of latent variables brings into question the conceptual distinctiveness of the 5 C's and thus the model might benefit from a further identification and definition of its central constructs.

A greater criticism of the 5C framework is its failure to identify the skills and behaviours participants need to demonstrate if they are to achieve the qualities described in the model. Therefore, the model limits the capacity of researchers to investigate the relative contribution of the individual's own actions and their environment. That is, how much does the young person contribute to their own development and how much do they passively receive

from their social surroundings. A similar view can be taken of Benson's (1997) developmental assets that aimed to break down larger latent constructs into relatively more tangible internal and external assets.

Developmental Assets. Benson's (1997) developmental assets model considers there to be a set of 40 assets (20 internal and 20 external; see Table 1.1) which promote positive development in young people. Internal assets are the capacities, skills and values needed to be internalised by young people if they are to develop character, identity and competence. External assets refer to the support and opportunities that are provided by family, schools and communities. The strength of this model is the recognition of both the competencies of the individual and their context. Other authors have noted the importance of matching the environment with the participants' stage of development (Côté & Hay, 2002; Eccles, Barber, Stone, & Hunt, 2003; Lerner, 2002) and specific needs (Taylor, 1995). The framework hypothesises that the more assets young people experience the greater the chance they have to succeed and the less likely they are to engage in risky behaviours. The model has gained support with assets being related to increased success in school, overcoming adversity, physical health, and delayed gratification (representing four out of seven indicators of thriving as defined by Benson; Scales et al., 2000).

Scales and colleagues (Scales, Benson, Roehlkepartain Sesma, & Dulmen, 2006) found a positive association between the level of developmental assets and academic achievement. Using a sample of 12-15 year olds, students were tracked over three years. It was found that participants whose assets either remained stable or increased over time had significantly higher GPAs than those whose asset levels had decreased. It was also notable that the modal developmental path for students progressing from middle to high school was a decline in assets.

These findings reflect the challenging nature of adolescence and the requirement to grow, or at least support existing, developmental assets in young people.

Table 1.1. Benson's (1997) 40 developmental assets.

External assets	Internal assets
Support	*Commitment to learning*
Family support	Achievement motivation
Positive family communication	School engagement
Other adult relationships	Homework
Caring neighbourhood	Bonding to school
Caring school climate	Reading for pleasure
Parent involvement in schooling	*Positive values*
Empowerment	Caring
Community values youth	Equality and social justice
Youth as resources	Integrity
Service to others	Honesty
Safety	Responsibility
Boundaries and expectations	Restraint
Family boundaries	*Social competencies*
School boundaries	Planning and decision making
Neighbourhood boundaries	Interpersonal competence
Adult role models	Cultural competence
Positive peer influence	Resistance skills
High expectations	Peaceful conflict resolution
Constructive use of time	*Positive identity*
Creative activities	Personal power
Youth programs	Self-esteem
Religious community	Sense of purpose
Time at home	Positive view of personal future

Similar to Lerner's 5C's framework (2004), however, the developmental assets model has not been without criticism. Theokas and colleagues (Theokas et al., 2005; Theokas, & Lerner, 2006) suggested that only 14 assets exist and that identifying 40 does not add to our understanding of youth development. They also argue that the 40 assets do not conceptually or psychometrically differ from the key 14 assets or the 5C's. Furthermore, it is suggested that the inclusion of 40 developmental assets reduces the applicability of the model due to the lack of clear or feasible objectives for any applied program. Finally, there is no distinction between the developmental outcomes and the skills employed to achieve them. Without those behaviours that young people can engage in there is little chance they are able to achieve sustained outcomes such as, for example, self-esteem and sense of purpose. In an attempt to more clearly understand not just the assets that an individual requires, a third model has proposed a taxonomy of experiences that contribute to the development of youth assets.

The Domains of Developmental Experience. The domains of developmental experience (Larson, 2000) proposes that through organised activities that promote supportive resources and the learning of skills, positive youth development can occur (Dworkin, Larson, & Hansen, 2003; Hansen, Larson, & Dworkin, 2003; Larson, Hansen, & Moneta, 2006). Larson argues that activities which promote positive youth development are intrinsically motivating and require attention and challenge over a prolonged period of time (Larson, 2000). Furthermore, the model identifies positive and negative domains of experience that contribute to youth development. Positive experiences can be further broken down into intrapersonal and interpersonal domains. Intrapersonal domains include identity exploration and formation, initiative work, and emotional control whereas interpersonal domains include interpersonal relationships, teamwork and social skills; and adult networks and social capital. Negative

domains are stress, negative peer influence, social exclusion, negative group dynamics, and inappropriate adult behaviour.

The model proposes that youth reports on their experiences are a central component to the growth of developmental assets. Greater positive experiences are considered to be associated with the promotion of developmental assets while negative experiences decrease assets. Furthermore, the potential for a context (e.g., school or sport) to promote specific assets is dependent on the experiences it provides.

The strength of the Larson (2000) model is the development of an instrument to measure 23 types of developmental experiences across a variety of voluntary orgranised youth sport activities (e.g., sport, music, faith groups). The Youth Experience Survey 2.0 (YES; Hansen, Larson, & Dwokin, 2003) assesses the assumed positive and negative experiences noted above and has received support for its psychometric properties (Hansen & Larson, 2005). Using the YES, the authors (Hansen et al., 2003; Larson et al., 2006) were able to examine different organised activities in relation to the youth experiences they provided. For example, faith-based activities were associated with identity work, prosocial norms and adult networks. Another context studied was sport, which was found to promote identity exploration, initiative work, and emotional control.

Within the findings leading to the formation of this model, Dworkin and colleagues (Dworkin et al., 2003) also noted that young people identified themselves as agents of their development. Adolescents actively engage in their own development through deliberate exploration and a process of trial and error. This further reinforces the importance of the relationship between an individual and their environment within youth development. In addition, it suggests that the personal competencies that facilitate positive engagement in young

people are also needed. Adolescents must have the skills and competencies that allow them to positively engage with their context in order to promote the desirable positive experiences.

In summary, the three dominant models in positive youth development provide a conceptual framework for the desirable characteristics of the individual or environment. However, beyond the noted criticisms related to conceptual and measurement marking the three models, there are also concerns relating to the application of these frameworks to inform an intervention with adolescents.

First, the models provide little guidance relating to the priority assets or experiences central to positive youth development. Indeed, Catalano and colleagues (Catalano, Berglund, Ryan, Lonczak, & Hawkins, 2004) have noted that the broad and varied aims of positive youth development programs hinder the capacity to compare studies and generalise findings.With such a broad range of assets or indicator assets (in the case of the 5C's) being advocated, the priorities for specific populations must be clear for any research or practitioner. Recommendations for methodologies used to identify the most salient needs of specific populations would be useful.

Second, the models offer little guidance on the specific behaviours that young people can engage in order to develop these assets. While none would argue with the value of the assets presented within the models, there are few recommendations on the skills needed by young people to achieve these characteristics (e.g., Jones & Lavallee, 2009). In this introductory chapter it has been noted that during adolescence there is a need for young people to be equipped with the necessary skills and competencies to navigate the challenges and transitions they will face in the multiple contexts of their lives (Danish, Petitpas, & Hale, 1993). In short, the models indicate a range of skills needed by young people but fail to describe how these skills may be acquired.   Despite their shortcomings, the prevailing three

models (Benson, 1997; Larson, 2000; Lerner, 2004) do provide a framework in which to consider the goals and practices of positive youth development. However, to optimally support adolescents as they grow we must also consider the tools they require, known as *Life Skills*.

A more recent model is that proposed by Gould and Carson (2008; see figure 1.1). The heuristic model of coaching life skills through sport aims to respond to the lack of theoretical explanations for the development and potential benefits of life skills. Supporting the argument of this thesis, Gould and Carson (2008) note that, "this deficit weakens the area, as few overarching ideas exist to guide research and explain why life skills do or do not develop through sport participation" (p. 65).

Emanating from both the positive youth development and sport psychology life skills literatures, the model aims to explain how life skills are developed through sport. Although not empirically tested, it has been proposed to provide a framework to organise existing findings, guide future research and the design of applied interventions. While it is not aim of this thesis to test the proposed model, there are notable commonalities between the approaches taken towards life skills research that allow it to be a useful tool to frame the discussions held herein.

The model starts on the left hand side and recognises the internal and external assets an individual has that determine their pre-existing make up. Internal assets include existing life skills, abilities and personal characteristics. This is crucial to a positive psychology approach as it recognises that no individual is devoid of competencies. Additionally, all young people have, at some point, a range of external assets such as significant others and environmental factors.

The second element of the model focuses on the young person's experience while engaged in an activity, specifically on the teaching or coaching of life skills. As well as both direct (i.e., formal) and indirect (i.e., informal) teaching strategies, this component highlights the importance of the adult leader and their coaching philosophy.

SPORT EXPERIENCES

<u>Current Coaching Characteristics</u>
Philosophy
Relationship skills
  caring
  listening
  showing interest
Competence
Accessibility

<u>Direct Teaching Strategies</u>
Clear & consistent rules
Reinforcement
  (quality & quantity)
Quality of instructions
Leadership opportunities
Opportunities to make
  decisions
Inidividual attention
Fairness
Team building

<u>Indirect Teaching Strategies</u>
Demands of sport
Program Success
Modeling
Social reinforcement
Positive social norms

LIFE SKILLS / PERSONAL DEVELOPMENT POSSIBLE EXPLANATIONS

<u>Social Environment</u>
Explanatoins
Identity changes/formation
Sense of belonging
Changes in
  perceived competence
  self-worth
  autonomy
Peer group membership
Positive social norms

<u>Utility of Life Skills</u>
Explanations
Specific life skills use
Life skill dispositional
  generalisation

POSITIVE OUTCOMES

Physical
  fitness
  health practices
  performance
Intellectual
  school achievement
  school engagement
Psychological / emotional
  set and achieve goals
  hard work ethic
  teamwork
  communication skills
  stress management
  preparation
  leadership
  organisation
  respect
  optimism
  perceived competence
  hope
  responsibility
  moral development /
  reasoning

NEGATIVE OUTCOMES

Physical
  injury
  overtraining
  disordered eating
  drug abuse / misuse
Intellectual
  school drop out
  head injury
Pyschosocial / emotional
  burnout
  stress
  athletic identity
  restricted social time

TRANSFERABILITY

A belief that the acquired
  skills are valued in other
  settings
Awareness of current skills
  physical & psychological
Knowledge of how and in
  what context skills were
  learnt
Confidence in teh ability to
  apply skills in different
  settings
A willingness to explore
  non-sport roles
The desire and ability to seek
  out sources of social support
The ability to adjust to intial
  failures or setbacks
Similarity of situations
Awareness / comprehension
  to transfer
Previous transfer experience
Support & reinforcement of
  transfer

INTERNAL ASSETS

Existing life skills
Personality characteristics
Physical abilities

EXTERNAL ASSETS

Previous coaches
Parents
Siblings
Peers
Socio-economic status
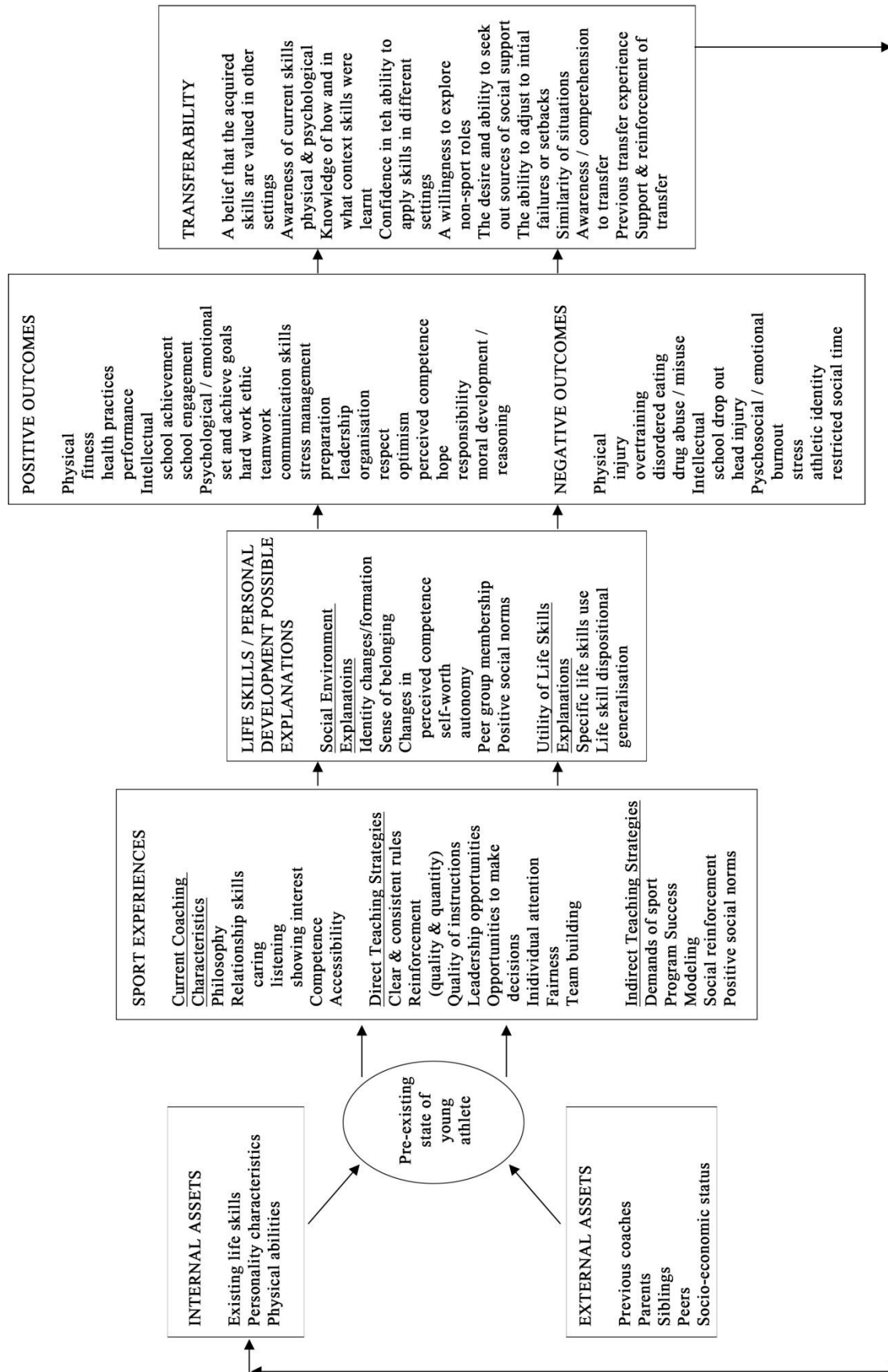
Pre-existing state of young athlete

Figure 1.1 A model of Coaching life skills through sport (Gould & Carson, 2008).

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The middle section of Gould and Carson's (2008) model aims to provide possible explanations for the development of life skills and subsequent influences on behaviour. Social environment explanations focus on the change in identity, belonging, social norms, and perceived competence, autonomy, and self-worth. Utility of life skills use explanations centre on the beneficial influence that the application of life skills can have throughout life domains. Whether through additive or interactional processes, these explanations are considered to account for the outcomes achieved via organised activities. Notably, the model recognises both the positive and negative outcomes that sport may foster.

The last section focuses on the transferability of life skills. This is the defining feature of a life skill and is commonly neglected within the literature. Gould and Carson (2008) note this to be a critical element in the model because transference does not occur automatically. Numerous factors, highlighted in the model, are considered to influence the degree to which life skills can and will be transferred to the non-sport setting. Finally, there is a feedback loop that recognises that life skills that are developed become a part of the individual's internal assets for their future participation in sport.

This model highlights many features of life skills and the existing literature. Two features stand out, first, the lack of theoretical explanations and, second, conceptual clarity of what life skills are. Gould and Carson (2008) state that the lack of theoretical explanations for how life skills promote adaptive outcomes (i.e., section three of their model) is a major weakness within the literature. While a number of the explanations may be feasible, this thesis aims to investigate the motivational processes within life skills development.

Motivation is the foundation to why people initiate behaviours, how they engage in those behaviours, and the subsequent outcomes that are achieved (Deci & Ryan, 2000). Unsurprisingly, motivation is well established as a central component within both sporting and

educational contexts, highlighting its relevance to the development of life skills through sport. Intrinsic motivation, as conceptualised by Self-Determination Theory (SDT; Deci & Ryan, 1985, see chapter 4 for a greater introduction to SDT), has been associated with many common outcomes as life skills. For example, both intrinsic motivation and life skills have been associated with greater learning, performance, and well-being.

Furthermore, intrinsic motivation is promoted through the satisfaction of the need for autonomy, relatedness, and competence (Deci & Ryan, 2000). Gould and Carson (2008) highlight these needs as social environmental factors that may be possible explanations for developmental outcomes derived through the promotion life skills. This conceptual parity as well as the central importance of motivation in both sport and education makes is crucial potential explanation to be investigated within life skill research.

Life Skills

The second area of weakness highlighted by Gould and Carson (2008) was the conceptual clarity surrounding the definition of life skills. The traditional models within positive youth development have demonstrated the broad range of skills, values, characteristics and morals that may be conceptualised within optimal growth. This has lead to an equally broad range in definitions for life skills. The definitions presented here are those that aim to provide life skills with a clear place within the positive youth development umbrella.

The World Health Organisation (1999) proposed a definition of life skills, referring to the psychosocial skills and abilities that can be practised to promote desirable qualities, such as self-esteem, and sociability. As a predominant driver in the field, Danish and colleagues (Danish, 1995; Danish & Donohue, 1995) defined life skills as those skills that enable us succeed within the environments in which we live. Within their definition, life skills may be

behavioural (e.g., communicating effectively with peers and adults) or cognitive (making

effective decisions, interpersonal (e.g., being assertive) or intrapersonal (e.g., setting goals).

In an attempt to draw together the many definitions proposed over the last twenty years

Gould and Carson (2008) stated that life skills are,

> "Those internal personal assets, characteristics and skills such as goal setting, emotional control, self-esteem, and hard work ethic that can be facilitated or developed in sport and transferred for use in non-sport setting" (p.60).

The definitions offered by the World Health Organisation (1999), Danish (1995) and

Gould and Carson (2008) all have similarities and differences. Rather than provide yet another

working definition, the key criteria for describing a life skill across existing perspectives are

presented in Table 1.2. These criteria are outlined to provide clarity throughout this thesis and

help it to sit within the existing literature.

Table 1.2. Key criteria defining a life skill

Features
Promotes coping, engagement, well-being, and healthy development
Be a personal skill or ability that can be practiced
Be applied to multiple life domains
Be transferred between life domains

First, the criteria indicate that a life skill must function to promote coping, engagement,

well-being, and healthy development in young people. Most, if not all, models of positive youth

development note beneficial outcomes such as the experience of well-being and academic and

social engagement (e.g., Scales et al., 2000). Second, life skills are competencies held by the

individual that allow him or her to cope and flourish within their environment. Numerous

authors have noted the importance of providing different contexts to promote youth

development (e.g., Eccles et al., 2003; National Research Council and Institute of Medicine,

2002; Petitpas, Cornelius, Van Raalte, & Jones, 2005), however, adolescents must be able to thrive in the changing, and often challenging, environments they find themselves in.

Third, a fundamental feature of a life skill is that it is relevant and applied to multiple domains of a young person's life. It has already been discussed that throughout adolescence the number of significant domains increases (Danish & Nellen, 1997). Skills must therefore not only benefit, for example, engagement in school but also one's participation in the family and peer group settings, as well as in sport, and other extra-curricular domains. This requires life skills to be transferrable. It is not feasible or desirable to rely on young people to repeatedly learn the skills required in each domain. Hence, transferring skills from one domain to another is the defining feature of a life skill. Examples of life skills are presented in Table 1.3.

One context in which the application of skills is especially salient is in terms of handling the demands of school and sport in the case of student-athletes. Via a series of focus groups, Jones and Lavallee (2009) identified a range of interpersonal and intrapersonal life skills needed by student-athletes to cope with the pressures of combining their academic and athletic lives. Such life skills fit within the categories of social skills, respect, leadership, family interaction skills, self-organisation, discipline, self-reliance, goal setting and motivation. Jones and Lavallee's findings support the conceptualisation of life skills presented in this thesis because this set of higher order themes is made up of lower order behaviours that can be applied throughout multiple life domains to promote positive developmental outcomes.

There are a number of benefits to this conceptualisation of life skills over the many presented within the positive youth development literature. First, when including morals and values within the concept of life skills, there must be an assumption that young people have, need, and/or want the same values as the program leaders.

Table 1.3. Examples of life skills conforming to key criteria

To set and achieve goals	To communicate with others
To control emotions	To be able to form relationships
To be self-motivated	To react positively to feedback and criticism
To develop and maintain confidence	To be able to deal with pressure
To evaluate yourself	To take responsibility for own development
To be organised	To deal with success and failure

This also assumes that those values presented by the program leader are "correct". Furthermore, many adolescents will not yet have a consciously formed set of robust values. Therefore, the current conceptualisation of life skills aims to provide young people with the competencies needed to live in a manner conducive to their own aspirations and values, even if they are not currently consciously aware of them.

This is particularly notable when considering the many young people who do not exhibit negative attitudes and risky behaviours indicative of a significant deviation from socially accepted moral standards. Danish (2002) noted that the role of skills within such individuals is more to do with the promotion of positive development rather than remedying problems. The inclusion of values and morals into life skills research assumes that a proportion of young people do not have socially accepted moral standards. Programs that target such young people (e.g., programs focused on adolescents who have been in trouble with the law) are conceptually and practically different from the current work and thus beyond the scope of this thesis.

Conceptualising Mental Skills Training within Life Skills

Of particular interest when considering life skills within sport is the similarity between the current concept of life skills and sport-based mental skills. Vealey (2007) states that

"mental skills training is the learning and implementation of mental techniques that assist individuals in the development of mental skills to achieve performance success and well-being" (p. 288). Vealey further differentiates between mental techniques, mental skills and psychological outcomes (see figure 1.1). Mental techniques are the strategies and tools that an individual can engage in (e.g., goal setting, imagery, self-talk). The application of mental techniques allows an individual to become more proficient at a mental skill (e.g., controlling emotions, managing arousal, and developing confidence) and achieve a greater capacity for self-regulation. Effective mental skills promote the achievement of desirable qualities such as optimal emotional state, high robust confidence, and appropriate attentional focus.

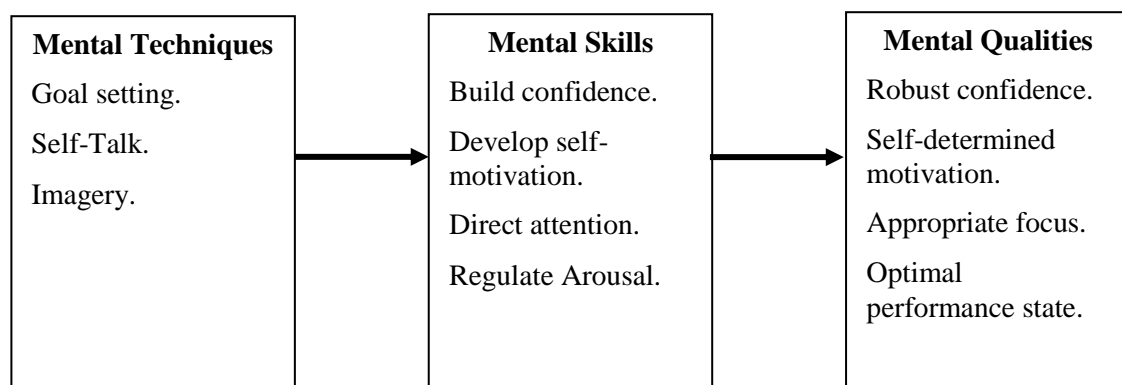| **Mental Techniques**	**Mental Skills**	**Mental Qualities**
Goal setting.	Build confidence.	Robust confidence.
Self-Talk.	Develop self-motivation.	Self-determined motivation.
Imagery.	Direct attention.	Appropriate focus.
	Regulate Arousal.	Optimal performance state.

Figure 1.2. Examples of mental techniques, skills, and qualities.

The conception of sports-based mental skills as actionable skills and abilities that are operationally separable from their desired outcomes mirrors the approach taken in conceptualising life skills. Therefore, life skills can be thought of as mental skills that are applied within, and transferred between, multiple life domains. This conceptual similarity is supported when we consider that mental skills training, like life skills training, is associated with positive outcomes such as greater self-determined motivation (Beauchamp, Halliwell Fournier, & Koestner, 1996), more positive performance and the development of desirable psychological characteristics such as hardiness (Sheard & Golby, 2006).

Collectively, the existing life skills literature and mental skills training literature provide a wealth of knowledge pertaining to the development of mental skills in athletes (see Vealey, 2007 for a review). First, it was noted earlier that a limitation to the existing life skills models is the lack of guidance relating to the specific needs of different youth populations. In the field of sport psychology Taylor (1995) has suggested that the needs of athletes can be understood through: 1) the physical, technical and logistical demands of the sport; 2) the psychological demands of the sport; and 3) the specific needs of the athlete. Applying such criteria to non-sport adolescents would develop the life skills researchers' capacity to consistently and systematically identify the needs of young people.

The second benefit of drawing on the sports-based mental skills literature is the wealth of information relating to specific mental techniques and skills that are readily applicable to other life domains (effectively making them life skills when transferred). For example, numerous life skills programs (e.g., GOAL; Danish, 1997) have the technique of goal setting as their foundation. Sport psychology has a long history of researching and applying goal setting for athletes in a similar fashion as is used in life skills programs (Kyllo & Landers, 1995). Factors influencing the effectiveness of this technique include goal types (Filby, Maynard, & Graydon, 1999) and goal specificity and difficulty (Bar-Eli, Tenenbaum, Pie, Btesh, & Almog, 1997), which are well understood within the sport psychology literature and can lead to specific recommendations for more effective life skills interventions. Furthermore, the role these techniques play in fostering positive outcomes such as well-being (Smith, Ntoumanis, & Duda, 2011) and performance (Mellalieu, Hanton, & O'Brien, 2006) is also more thoroughly understood. Therefore, through a greater understanding of the key features and role of effective mental skills training play in the sport setting we can become better equipped to support the development of those skills in other domains of an individual's life.

Finally, understanding mental skills allows researchers and practitioners to take advantage of sport as a context for positive youth development. Understanding the development and application of sports-based mental skills provides a platform from which these skills can be promoted and then transferred to other life domains. It is therefore important to understand the role and features of sport as a context for life skills development.

Sport as a Context for Life Skill Development

The development of life skills has been most effectively researched and practiced within organised youth activities (e.g., Larson et al., 2006). One context of organised youth activity that has been considered particularly effective in transferring life skills to young people is sport. Historical records demonstrate the value that sport has always been considered to play in personal development. Plato (1920) is quoted as saying, "The moral value of exercises and sports far outweigh the physical value" (p.46). Even today the assumption that sport builds character is a foundation of the Olympic movement (Olympic Charter, 2004). This value placed on sport has allowed sport to permeate almost every salient social sphere (e.g., family, media, education, economy, religion) and be connected to the larger ideologies of our culture (Coakley & Pike, 2009). These ideologies allow individuals to make sense and give meaning to the world around them as well as identifying what is considered important and right within a particular cultural milieu.

Danish (2002) noted that sport is a particularly salient context for youth development. He argued that sport has always been more than a game and can contribute to the personal growth of young people. This is apparent when we consider that a recent report suggested that 85% of children between the ages of 11-15 in England participated in some form of sport on a weekly basis (Department for Culture, Media and Sport, 2011). However, in addition to the large number of young people who participate, it is the many key characteristics of sport which

make it such a relevant context. For example, Larson (2000) argued that activities aimed to promote youth development and life skills need to be voluntary and promote intrinsic motivation, involve attention and elements of challenge, and require effort over time. Sport engagement frequently exemplifies these attributes. Sport is also a context in which specific goals are common, short-term, tangible, and easily measured. This provides an opportunity for continually planned development with regular recognition of achievements. Both these characteristics are important as achievement and competence are considered powerful mediators of psychosocial development (Danish, Forneris, & Wallace, 2005). Danish and colleagues also note that life skills are learned in the same way as sports skills, through demonstration, modelling, and practice (Danish & Hale, 1981). Furthermore, it has been argued that what is learned in sport can be transferred to other life domains (Danish et al., 1993). The skills developed in sport include setting goals, making decisions, dealing with success and failure, and working under pressure. In essence, these key sport skills are reflective of key life skills.

However, there is nothing magical about sport and the development and transference of life skills is not a natural or automatic occurrence (Danish, 2002). Unfortunately, the assumption that the mere participation in organised sporting activities will bring about development of sustainable and positive life skills has more recently been shown to be unfounded (e.g., Dworkin & Larson, 2006; Ogilvie & Tutko, 1971). Brunelle, Danish, and Forneris (2007) stated that the reality is that sport rarely reaches its potential. Rather than being an activity that enhances young people's lives, sport can be another place where the young people are, and indeed may be, far from flourishing.

Early research by Ogilvie and Tutko (1971) trying to establish the value of sport found no support for the assumption that sport participation inherently builds character. Furthermore,

they suggested that their evidence highlighted a number of detrimental outcomes resulting from sport. Dworkin and Larson (2006) conducted a qualitative investigation into youth sport and found peer dynamics and adult leaders could both be sources negative experiences. Other research has found sport participation to be associated with increased alcohol consumption (Eccles et al., 2003), increased stress and social exclusion (Larson et al., 2006), increased delinquency associated with identification with the "jock" culture (Miller, Melnick, Barnes, Sabo, Farrell, 2007) and self-aggrandisement (Adler & Adler, 1989). As a result of these negative experiences and outcomes, many critics question the over-riding value of sport. Danish and Nellen (1997) responded to such critics by suggesting that sport psychologists should decide which life skills would be of most value and how they could be taught through sport. Subsequent work has been based on the acknowledgement that the development of life skills must be deliberate and emphasised within sport if beneficial outcomes are to found (Danish, 2002).

When examining the nature of sport experiences that promote youth development, Gould and colleagues (Gould, Collins, Lauer, & Chung, 2007) found that successful coaches integrated the development of life skills into their coaching. In fact, these coaches recognised the teaching of life skills as an integral part of sport and aimed to provide specific strategies that targeted their development and transference. Danish and colleagues (Danish, Taylor, Hodge, & Heke, 2004) have also noted the need for young people to be continually exposed to the positive and deliberate strategies that specifically target the transference of life skills. The recognition that life skills development through sport needs to be deliberate, systematic, continual, with explicit strategies to encourage transference has led to the development of a number of programs aimed to develop life skills.

Life Skills Development Programs

A prominent program over the last two decades has been the *Going for Goal program* (GOAL; Danish, 1997). Based on the *Life Development Intervention* (Danish et al., 1993), GOAL was not initially intend to be a sport-based program. However, later iterations provided the framework for Sports United to Promote Education and Recreation program (SUPER; Danish, Fazio, Nellen, & Owens, 2002), thus reinforcing the relevance and capacity of sport within positive youth development.

The GOAL program aims to develop adolescents' sense of personal control and competence about their future, allowing them to make decisions and ultimately become better citizens (Danish, 2002).The program takes the form of 10 one hour sessions targeted towards secondary school age students. Table 1.4 outlines the sessions that make up the program. Danish (2002) states that several features are unique in the design of the GOAL program. First, skills are taught rather than facts because when learned and applied they promote empowerment within the individual. Second, the program is taught by high school students who have successfully graduated from the program. This aims to provide role models and be more beneficial to both the participants and the leaders. Finally, participants receive a manual that supports the individual's development throughout and beyond the program. However, one weakness of the program might be that sport is used as a metaphor, rather than a learning environment. The program takes place in a classroom setting and refers to sport rather than integrating the learning of life skills within the sporting context.

Another weakness of the GOAL from a research perspective is the lack of published evaluations of the program (e.g., O'Hern & Gatz, 1999; 2002), and those that have been published are often adapted or abbreviated versions of the program (e.g., Goudas & Giannoudis, 2005). According to Danish and Nellen (1997) unpublished evaluations of the

GOAL program has found that: 1) participants learned the information presented in the program; 2) participants achieved the goals they set; 3) participants found the process of learning skills easier than expected; 4) participants in the program had better school attendance compared to a control group; 5) male participants did not report the same increase in health compromising behaviours compared to the control group; 6) male participants report a reduction in violent and other problem behaviours; and 7) participants found the program fun, useful and important.

The findings of these studies are encouraging for the field of life skills promotion and positive youth development. However, a number of gaps exist in the current life skills literature. These gaps are to be addressed in order to progress our understanding of how to better study and impact life skills in future work.

Table 1.4. Outline of the Going for Goal program (Danish, 1997).

Workshop	Workshop theme
Workshop 1	**Dare to dream** – Participants discuss importance of dreams and practice dreaming about their future
Workshop 2	**Setting goals –** goals are considered dreams you work towards. Features of a reachable goal are discussed; positively framed, specific, important, under your control
Workshop 3	**Making your goals reachable –** participants apply knowledge from session 2 to set their own goals for next 2 months
Workshop 4	**Making a goal ladder** – on the template of a ladder, participants consider the individual steps needed to achieve their goal
Workshop 5	**Roadblocks to reaching goals** – participants discuss how negative and risky behaviours can prevent them reaching their goals
Workshop 6	**Overcoming roadblock** - using the process of STAR (stop, think, anticipate, respond) participants consider problem-solving strategies
Workshop 7	**Seeking help from others** – participants learn the importance of seeking help when reaching their goals
Workshop 8	**Rebounds and rewards** – participants discuss how to respond when they fail to make a step on their ladder and how to reward themselves when they do.
Workshop 9	**Identifying and building on your strengths** – participants identify their strengths and how they might develop them
Workshop 10	**Going for your goals** – through games the participants try to integrate the knowledge learned throughout program

Gaps in Life Skills Literature

Many of the current gaps in life skills literature have been alluded to in the introduction of this thesis and are the result of this field being in its relative infancy (Gould & Carson, 2008). More major concerns in this area relate to the lack of: 1) guidance on the most important life skills for specific young people; 2) theoretical foundations within applied studies; 3) comprehensive evaluation of applied studies; 4) measures assessing the life skills that are applied by young participants; and 5) the transference of skills within applied programs.

The lack of identification of priority life skills and the lack of a means of determining how to prioritise life skills has been discussed. Taylor (1995) noted that when considering the development of a sports-based applied development program one must consider the physical, technical, logistical, and psychological demands of the sport as well as the needs of the individual athlete. When translated to the multi-contextual nature of life skills the number of variables to consider becomes great. The implications are that the value of a generic life skills program is unlikely to satisfy the needs of many young people.

In addition, the predominance of the life development intervention (Danish, Petitpas, & Hale, 1993) and GOAL program (Danish, 1997) limits the range of life skills evaluated. Programs such as GOAL are founded in goal setting and do not plan for the systematic development of other skills potentially valuable to young people. This type of single-skilled program prevents the evaluation of other skills hypothesised to promote youth development within particular environments. Therefore, multi-modal development programs that can assess the value and development of a range of life skills are called for.

The lack of theoretical underpinning in many studies within life skills research limits our capacity to make systematic progress in applied programs and the field more generally. It was noted earlier that frameworks within positive youth development provide little rationale as

to how to develop life skills or the mechanism through which they promote healthy development and well-being. Fraser-Thomas and colleagues (Fraser-Thomas, Côté, & Deakin, 2005) argued that there is need to examine the way in which youth development occurs through sport. Gould and Carson (2008) presented a number of possible explanations including the development of identity, peer group membership, attachment to caring adults, and a sense of belonging. However, they note that these and other possible explanations must be tested empirically.

In relation to the psychological mechanisms, it may be that the promotion of more self-determined motivation is one way in which life skills produce positive developmental outcomes (Deci & Ryan, 2000). Within the sports based mental skills literature, there is support for the role of mental skills to promote more autonomous forms of behaviour regulation (Beauchamp et al., 1996). Beauchamp and colleagues found that through the development of self-set goals that provide autonomy and competence participants experience a greater self-determined motivation towards their activity. Furthermore, compared to the control group, the mental skills training group reported greater enjoyment and pleasure as well as a reduction in "harsh, self-controlling strategies" (p. 166). There is also research to support the hypothesis that the resultant increase in self-determined motivation is likely to be associated with greater well-being, engagement, and performance (Gagné & Blanchard, 2007), thus providing one mechanism through which life skills promote youth development that has not yet been investigate.

There is also a failure to comprehensively evaluate life skills programs. Gould and Carson (2008) noted a lack of research adopting longitudinal, experimental, and mixed method designs. Danish and colleagues (2004) noted that life skills development occurs over a prolonged period of continual exposure to deliberate strategies and positive environments.

However, with a few rare exceptions (e.g., Barber, Stone, Hunt, & Eccles, 2005; O'Hearn &

Gatz, 2002), evaluations of life skills programs have been either cross-sectional or without

sufficient follow-up data. The same can be noted for the use of mixed methods designs within

applied research. The use of qualitative measures can provide a rich source of data beyond that

which can be gathered through psychometric inventories. For example, understanding the

barriers that participants face when transferring skills, the skills they find most useful and easy

to transfer, the specific elements of the program that were most useful are all crucial questions

more suitable to a qualitative investigation of life skills programs and their impact.

Another void in the life skills literature relating to the evaluation of applied programs

revolves around the lack of measures assessing the application of life skills. The range of

definitions and limited clarity relating to priority life skills has prevented the development of

psychometrically robust and broadly accepted measures. Studies to date have commonly

employed measures investigating the knowledge of life skills rather than their application (e.g.,

O'Hearn & Gatz, 1999, 2002; Goudas & Giannoudis, 2005). Without a clear understanding of

the degree to which young people develop positive behavioural change it is difficult to judge

the effectiveness of programs and the value of life skills as a whole. This is particularly salient

when we consider that many of studies evaluated the GOAL program (or it's derivative,

SUPER), are intended to teach skills not facts (Danish, 2002).

The final main gap in the literature relates to the lack of investigation regarding the

transference of life skills. The defining feature of a life skill is its application in multiple

domains (Danish, 1995; Danish & Donohue, 1995; Gould & Carson, 2008). Unfortunately,

whether transference does indeed occur is rarely evaluated. Studies that have measured the

application of skills in multiple domains have demonstrated the value of doing so. Martinek,

Schilling, and Johnson (2001) found that even though participants were given one-to-one goal

setting tutorials with the intention that goal setting should be applied throughout their school context, 63% of participants did not set academic goals. Consequently, it is unclear whether many studies are developing life skills, as opposed to domain specific mental skills. The result is a possible assumption that positive developmental outcomes are likely to be accrued but that young people are still not adequately equipped.

In summary, the current literature pertaining to life skills advocates a broad range of positive attributes that contribute to healthy personal and social development in young people. Under the umbrella of positive youth development, life skills are considered to be a crucial determinant of young peoples' capacity to influence their own personal growth. A number of authors have proposed a range of skills, attributes and experiences necessary for young people. However, there is still a lack of understanding relating to how life skills promote youth development as well as psychometric measures and procedures within life skills research.

Taking into account the current state of the life skills literature the specific aims of this thesis are:

1. To conduct a comprehensive needs analysis of individual's psychological needs within a specific youth population.

2. To evaluate the degree to which the application of mental skills are transferred in young sports participants.

3. To investigate the hypothesised role that life skills play in promoting positive development outcomes.

4. To validate the measures needed to explore the mechanisms through which life skills promote positive development in young people.

5. To design an applied program for young sports participants that can promotes a range of life skills needed for positive youth development.

6. To outline and conduct a comprehensive evaluation of an applied program including the mechanisms by which life skills promote positive youth development.

First, this thesis aims to conduct a comprehensive investigation into the needs of a specific group of young people, specifically young elite athletes. Both the life skills and youth sport literatures have few recommendations regarding the specific needs of young people and how to identify them. Via a qualitative methodology, not only is it hoped to identify the psychological needs of this population but also to present recommendations on conducting future needs analyses.

This thesis has recognised the lack of studies that have measured the degree to which the application of life skills are transferred between life domains. It is therefore important to investigate how frequently skills are applied in multiple contexts. Understanding the extent to which this occurs is crucial in understanding the prevalence and function of life skills, as opposed to domain specific mental skills. Furthermore, few studies have attempted to empirically investigate the hypothesised mediating role that life skills play in the relationship between the adolescents' experiences and developmental outcomes. A greater appreciation for this role will allow researchers to further understand the value of life skills and lead the way in distinguishing how different life skills contribute to positive youth development.

Limited research has investigated the mechanisms through which life skills promote desirable positive outcomes. One reason for this is the lack of appropriate and validated measures with youth populations. Consequently, this thesis aims to validate the Behavioral Regulation in Sport Questionnaire (BRSQ; Lonsdale, Hodge, Rose, 2008) with young sports participants. This is a crucial part of developing suitable measures required to investigate the function of life skills and allow for the subsequent design of more effective life skills development programs.

Previous applied life skills programs have focused solely on the key skill of goal setting. The current thesis aims to develop a program which supports a greater range of skills required by young people as they progress through adolescence. Similar applied programs presented in the current literature have too often lacked the necessary evaluation to draw robust conclusions regarding its value. To that end, this thesis aims to conduct a comprehensive assessment of a development program including the application of targeted skills in multiple domains, motivational processes underpinning healthy development and the long-term benefits of the program.

Addressing these aims via the studies contained within the present thesis is hoped to contribute to the existing literature on the role of life skills and their enhancement in young peoples' lives. The research comprising this thesis also aspires to facilitate the future planning and evaluation of programs designed to promote positive youth development.

IMPORTANT MENTAL QUALITIES AND EMPLOYED MENTAL TECHNIQUES:

THE PERSPECTIVE OF YOUNG ELITE TEAM SPORT ATHLETES

Introduction

A popular focus of sport psychology consultancy over the past four decades has been the provision of mental skills training (MST) with athletes of various ages and competitive backgrounds. As discussed in the general introduction, mental skills and life skills share a similar conceptualisation. This is supported by Vealey (2007) who stated that MST is the learning and implementation of cognitive behavioural techniques "with the objective of assisting sports participants in the development of mental skills to achieve performance success and personal well-being" (p. 287).

While empirical studies have shown MST to be effective in fostering greater mental skills in athletes from a range of sports (e.g., Beauchamp, Halliwell, Fournier & Koestner, 1996; Sheard & Golby, 2006), there is often little rationale for the specific mental skills being targeted. Similar to life skills research there is limited guidance relating to the needs of specific populations of the means of identifying such needs. This study therefore aimed to investigate the needs of a specific population of young sports participants, specifically youth elite team sport athletes in an attempt to understand both the needs of these athletes and suitable methodologies to identify the needs of future populations. Through a greater understanding of youth needs and applied programs in sport it is hoped that life skills programs can better fit the needs of its target population.

According to Taylor (1995), any psychological intervention should take into account three factors: 1) the physical, technical and logistical demands of the sport; 2) the psychological demands of the sport; and 3) the specific needs of the athlete(s). In addition to these factors, an important consideration within MST that is often overlooked is the distinction between mental techniques, mental skills, and mental qualities. When discussing the desirable mental qualities for elite performance (e.g., robust confidence, appropriate attentional focus), Vealey (1988)

differentiated between the mental skills (e.g., maintaining confidence, refocusing) used to regulate those mental qualities and the mental techniques (e.g., self-talk, relaxation) employed to develop those skills. For example, a state of high self-confidence is a quality to be attained, rather than a skill in its self. The skill is the capability to regulate and maintain that self-confidence, which is achieved through the use of specific mental techniques.

With this distinction in mind, the aim of an MST program is to enhance one or more mental qualities for greater athletic performance and personal well-being through the implementation of mental techniques. To this end, research into sport expertise has sought to identify, among other things, the mental techniques, skills, and qualities that characterise elite performers. Although this work has highlighted a broad range of attributes, Krane and Williams (2006) concluded that a number of common mental qualities exist related to peak performance. These include (a) high self-confidence and expectations of success, (b) self-regulation of optimal arousal, (c) feeling in control, (d) focus on the present task, (e) viewing difficult situations as challenging and exciting, (f) being productively perfectionistic, (g) positive attitude and thoughts about performance, and (h) strong determination and commitment.

Further to those most commonly cited characteristics, additional qualities found to be important to elite adult athletes have included experiencing enjoyment in one's participation, discipline, automated coping skills, mental toughness, being prepared, competitiveness, mental technique use, optimism, a lack of fear, sport intelligence, and a willingness to sacrifice (Durand-Bush & Salmela, 2002; Gould, Dieffenbach & Moffat, 2002; Gould, Guinan, Greenleaf, Medberry, Peterson, 1999; Grove & Hanrahan, 1988; Jones, Hanton, & Connaughton, 2002; Mahoney, Gabriel, & Perkins, 1987; Orlick & Partington, 1988). In support of these findings, numerous studies have been able to distinguish elite from non-elite

performers by the quantity and quality of such attributes (e.g., Golby & Sheard, 2004; Orlick & Partington, 1988).

As suggested by Taylor (1995), the goal of research into the psychological characteristics of elite sport performers is to understand the needs of athletes and thus tailor psychological interventions accordingly. According to Visek and colleagues (Visek, Harris, & Blom, 2009), "formal assessment of the needs and psychological skills of team and individual athletes is a vital tool in the provision of services with a youth sport population" (, p. 280). However, the literature to date has neglected to reflect a comprehensive and detailed examination of (1) the psychological needs of developing young athletes and (2) the application of mental skills and techniques specific to young *team* sport athletes.

In terms of this first issue, numerous studies have focused on the desirable mental qualities of elite adult athletes rather than those deemed pertinent to young developing athletes. Côté's Developmental Model of Sport Participation (DMSP) highlights the necessity to consider athlete's developmental stage when designing sports programs (Côté & Hay, 2002). According to the DMSP, young athletes progress through sampling, specializing, and investment stages of sport participation. Each stage of the DMSP is characterised by differing psychological, social, and physical demands and challenges. It is therefore reasonable to assume that the mental qualities needed by young developing athletes may differ from what has emerged from studies involving elite adult athletes.

A key consideration for the focus of MST programs, as athletes move through the stages reflected in the DMSP, is the distinction between the psychological characteristics needed for the acquisition of expertise and those necessary to manifest (i.e., demonstrate) expertise (Baker & Horton, 2004). The present study aims to describe the psychological needs of young talented team sport athletes by investigating the fundamental mental qualities

perceived to be necessary to acquire expertise and optimise their athletic development within the specializing stage. This stage is characterised by a reduction in the number of extra-curricular activities that the young person participates in and an increase emphasis on developing sporting competence.

Holt and Dunn (2004) noted that "the majority of talent development research in sport psychology has been retrospective and descriptive in nature" (p. 200). It is recognised that research investigating young athletes can provide more pertinent and immediate insight into the experience of youth development (Durand-Bush & Salmela, 2002). For example, Gould and colleagues identified characteristics of burnout which were particularly salient to developing junior tennis players (Gould, Tuffey, Udry, & Loehr, 1996). When designing an effective MST program, the identification of the needs of the participating group of young talented athletes is far more valuable than the assumed needs derived from studies with elite adult athletes (Taylor, 1995).

A second drawback of the MST literature is that, to our knowledge, there has not been a needs analysis regarding the desired psychological qualities of young team sport participants. Both Taylor (1995) and Boutcher and Rotella (1987) argued for the importance of structuring a MST program in line with the unique demands and characteristics of the targeted sport. Furthermore, Baker and Horton (2004) attribute much of the ambiguity within the MST literature concerning salient psychological qualities to a lack of attention to the unique requirements of different sports. Thus, it would appear that a careful analysis of the psychological demands of varying types of sport activities is crucial to a more thorough understanding of the nature and development of key mental qualities in young athletes.

With these two limitations in mind, the current study aimed to examine young elite team sport athletes' perceptions and understanding of mental qualities deemed most relevant to

their sporting participation. Further, this study also examined the reported mental techniques employed by young elite team sport participants to promote their athletic development. Utilizing a qualitative methodology, the present research involved focus group interviews with adolescent athletes from a regional rugby union development program.

Method

Participants

Participants ($N = 43$; M age $= 15.9$ years, $SD = 0.8$) were purposively recruited from two under-16 male rugby union regional development programs in the United Kingdom. These athletes were considered to be in the specializing stage of development according to the DMSP (Côté & Hay, 2002). This stage is characteristic of the participant groups' age and increased time and commitment to their sport with a focus on specific performance development activities. Participants were contacted through the national governing body and each received an information letter and a parental consent form before the study commenced.

Data Collection and Procedures

Data were collected through six focus group interviews at the start of the season, each involving 5 to 10 participants and lasting approximately 45 to 60 minutes. Prior informal meetings with the sample had suggested that many of the constructs under investigation (i.e., mental qualities and mental techniques) had not previously been consciously considered by the participants. Morgan (1997) suggests that when examining subconscious thoughts and beliefs, focus groups are preferable to individual interviews as a more efficient means of in depth data collection through group interaction.

Each focus group consisted of pre-existing groups of players from the same regional development program and age group. Familiar groups were employed to encourage participants to feel comfortable while discussing comparable experiences (Rabiee, 2004). All focus groups

were conducted by the same two trained interviewers, each adopting either the role of moderator or observer.

All focus groups were both audio and video recorded. Audio recordings were subsequently transcribed verbatim, resulting in approximately 42, 000 words of text. The use of video tape provided an additional means of detecting body language and non-verbal communication to add a greater understanding of the data when analysed (Litoselliti, 2003).

Interview Guide

The aims of the present study were to gain an insight into the thoughts, beliefs, and experiences of young rugby players regarding the required mental qualities in their sport and techniques for developing the psychological aspects of their game. Although previous research has identified a number of constructs likely to emerge from this study, an exploratory investigation of the participants' phenomenological description of their mental qualities and technique utilization was the goal of the interview guide. Following the recommendations of Rubin and Rubin (2005) and Litoselliti (2003), the interview guide incorporated open and neutral questions with additional probes to gain greater detail during participant discussions.

The interview guide was comprised of five sections, beginning with a welcome from the moderator. This introduction was read from a predetermined script outlining the purpose and ground rules of the focus group (e.g., all participants must allow others to speak without worry or coercion). Secondly, an introductory set of questions were posed which aimed to relax the participants and encourage them to discuss their responses in depth (e.g., "What is it about rugby that you particularly enjoy?"). Third, a performance profiling approach (Butler & Hardy, 1992) was adopted to obtain a list of mental skills perceived to be salient for young athlete development in rugby union. To elaborate on the role of these proposed mental skills, follow-up questions and probes were included such as, "When you are optimally [mental quality],

what thoughts and feelings do you experience?" and, "Are there any situations in which this skill is particularly important?" Where appropriate, participants were encouraged to use examples from their own experience to explore responses to such questions.

Fourth, the participants were asked what mental techniques or strategies they used (and when) to gain control over or facilitate these mental qualities. Probes for understanding the use of mental techniques were included, for example, "Can you describe a time when you worked on your [mental qualities] through your use of [mental technique]?" and "Does your use of [mental technique] alter in different situations?" Finally, the observer summarised the dialogue and provided participants the opportunity to refute or expand on any aspect of the discussion.

Data Analysis,

Inductive content analysis was defined by Patton (1990) as "the process of identifying, coding, and categorizing the primary patterns in the data" (p. 381). Similar to previous qualitative studies in the field (e.g., Gould et al., 2002; Scanlan, Stein, & Ravizza, 1989, 1991), this method was employed to provide a descriptive account of the themes and patterns that emerged from the participants. The analysis followed the two-step method outlined by Côté, Salmela, Baria, and Russel (1993) to organise and interpret qualitative data. After reading and rereading transcripts, meaningful text segments or raw data units were identified, or coded (step one). These units represented a single idea or piece of information. Categories were then created by regrouping similar raw data units (step two). These categories were used to restructure the data into manageable themes which in turn reflect the greatest possible internal homogeneity and external heterogeneity within categories.

Two investigators separately carried out Coté et al.'s (1993) two-step process using NVivo7 software. The investigators then jointly reassessed the coding and categorizing of each data unit until agreement was reached, revisiting the original data when necessary. This process

of consensual validation through agreement has been employed in similar studies (e.g., Gould et al., 2002). The robust nature of data coding and categorizing was further confirmed by discussing the themes and related raw data with two experienced sport psychology researchers not involved in the data collection and analysis.

<div align="center">

Results

</div>

The current study investigated the perceptions of young rugby union players about the mental qualities required in developmental rugby programs and the mental techniques employed to facilitate these qualities. Specifically, they were asked which mental qualities they perceived to be most salient for young player development. The players were also questioned about what mental techniques allowed them to regulate their mental qualities.

Mental Qualities

A broad range of mental qualities were discussed by participants relating to competitive performance, training and their lifestyle as young athletes. The data analysis revealed 503 raw data units. These units were categorised into 11 higher order themes made up of 31 lower order themes (Table 2.1).

Enjoyment. A sense of enjoyment was described as the continued fun and satisfaction derived from sport participation and development within an elite performance programme. This quality was illustrated by a participant who said, "Enjoyment, just you know, it's so competitive. You've always got to have that enjoyment, and you're still playing the sport that you kinda, you want to do well in. So you've got to always be enjoying it."

Responsibility for Self. The second higher order theme was responsibility for self, considered as the ability to self-manage and conduct oneself in a manner appropriate for a developing athlete. Six second order themes contributed to the overall category, including achieving a life balance between rugby and other significant life domains. One participant

Table 2.1 The mental qualities perceived as important for the development of young athletes

Higher Order Theme	Lower Order Theme
Enjoyment	Enjoyment
Responsibility for Self	Life Balance
	Athlete Lifestyle
	Prepared
	Respect
	Role Model
	Sportspersonship
Adaptability	Adaptability
Squad Spirit	Leadership
	Effective Team Player
	Social Skills
	Peer Support
Self-Aware Learner	Go Getter
	Take Criticism
Determination	Desire to Improve
	Desire to Succeed
	Work ethic
Confidence	Confidence to Improve
	Confidence to Win
	No Fear of Failure
	Physical Confidence
	Self-Efficacy
Optimal Performance State	Optimal Performance State
	Controlled Aggression
Game Sense	Creativity
	Decision Making
	Effective Game Communication
Appropriate Attentional Focus	Appropriate Attentional Focus
Mental Toughness	Leadership under pressure
	Determination under pressure
	Confidence under pressure
	Optimal Performance State under pressure
	Game Sense under pressure

noted how, "You've got to get the balance right, you know. There's no point just doing rugby, rugby, rugby, rugby, 'cause... cause you'd get bored of it."

Responsibility for self also included maintaining an athletic lifestyle, which involved making everyday decisions conducive to developing and optimizing athletic performance. For example one participant recognised that:

It's really all about lifestyle choices. You can go out with your mates and get, I don't know, get drunk or you can... you can do some exercises at home. Do some weights. End of the day it's your choice.

Being mentally and physically prepared for training and competition was another subtheme in this category. One participant noted that "Preparation is everything. Without preparation none of us would be here." Responsibility for self also included showing respect for all those involved in an athlete's sport participation, being a role model for peers and younger players, and showing good sportspersonship on and off the field.

Adaptability. The capacity to positively adapt to new coaches, playing styles, environments, and sporting pressures is adaptability. Adjusting to changing environments is essential for young athletes who likely play for a number of teams as they progress through ever increasing competitive standards with differing coaches, team mates, and motivational climates. One player spoke of how, when being selected for a representative squad, "there's a lot of like new things that come into it when training and also off the pitch. So you kind of like, you've got to kind of adapt to it."

Squad Spirit. The fourth mental quality was squad spirit; the ability to foster both social and task cohesion for the enhanced performance and well-being of the whole team. An individual displaying squad spirit was thought to demonstrate leadership, be an effective team

player, have good social skills, and be able to provide social support to other players. For example, while discussing leadership one participant noted that:

> You know the captain's mentally no different while the ball's in play, but when their team scores it really shows why he's captain... 'cause you don't pick the best player in the team to be captain. You pick the guy that you know will pick everybody up.

Another conversation between participants highlighted the requirement of social skills:

> 1: You got to have a sense of humour as well.
>
> 2: Does that make you a good player?
>
> 1: Well yeah, it makes you *a good team player*.

Although participating in an individual player development program, these players recognised that effective squad spirit is related to both task and social cohesion. As noted by the following statement:

> I think that's a big point. Being mates with people and getting to know them. Because especially, like, this set up I didn't know many people, but then when you get to know people, like now, it's like way easier to play with them because you know their abilities, and you know their strengths and their weaknesses as well.

Self-Aware Learner. The fifth mental quality was self-aware learner and was defined as the awareness and ability to initiate engagement in activities aimed to facilitate one's own development. Closely tied to the responsibility for self theme, the qualities of a self-aware learner specifically related to enhancing performance.

Two lower order themes comprised the overall quality of being a self-aware learner. Firstly, a self-aware learner was deemed to have the capacity to positively frame and react to

criticism related to performance. This was illustrated by participants as recognising the need to "take criticism," "accept when you're wrong," and "be open to learning from your mistakes". Secondly a self-aware learner was thought to be a "go-getter," someone who actively seeks out and applies knowledge pertaining to performance enhancement. When discussing his development one participant noted, "You got to go out and do something to change it."

Determination. The athletes frequently mentioned terms such as determination, commitment, motivation, and work ethic. However they appeared to have difficulty distinguishing between them. During the second stage of analysis, determination was considered to be an umbrella term of this category indicating a desire and commitment to their performance and development through intense effort.

Determination consisted of three lower order themes: the desire to improve, the desire to succeed, and an intense work ethic. The desire to improve was a task oriented desire and commitment to develop their rugby performance, demonstrated by one participant as, "You've got to be willing to learn. 'Cause you're always learning a lot of new stuff and you've got to be ready like to take it in."

The desire to succeed was the hunger to win and be successful within the competitive program. For example, when asked about crucial mental qualities one participant simply said, "Have the will to win... determined to win", whilst another said, "You've got to play to win."

Finally, a behavioural component of determination was thought to be reflected in a strong work ethic. This work ethic demonstrated through the dedication of time and effort to develop their abilities in and outside of structured training. For example, one player spoke of the importance of a work ethic by stating:

You just give it your one hundred percent and you push yourself harder than

you've pushed yourself before… You'll push yourself harder than the other

people at that training session, and you just got to sort of try and stand out.

Confidence. When reflecting on the relative importance of different mental qualities,

one participant suggested, "Confidence, confidence is probably the main one." Confidence was

defined as the self-belief in one's ability to achieve success, promote oneself, and develop

through the active engagement of a program.

The overall theme of confidence was made up of the five lower order themes:

confidence to improve, confidence to win, self-efficacy, no fear of failure, and physical

confidence. Confidence to improve was a belief held by players relating to their ability to

continually improve skills and overall performance. For example, one athlete said:

My dad like tells me what I've done well after a match… So you just sort of

like, that gives you a confidence boost because… you just sort of think about all

your skills and how you can push to your full potential

Confidence to win was simply, "having the belief that you're going to win." Self-efficacy was a

belief in one's technical abilities to perform specific tasks. One participant described self-

efficacy as, "You're sure of yourself and you know that, you can do something so you can set

yourself a target to do it." No fear of failure was the absence of worries relating to performance

as one player mentioned:

You don't want to mess up when all the pressure's on you. And it's not until you

learn how to sort of manage those kind of areas, and there's this sort of

psychological aspect and often you'll start playing better once you start being

able to understand that.

The final subtheme was physical confidence, which described having self-belief in one's capacity to deal with the physical demands of rugby union. One participant said, "Like, have the [guts] to like smash somebody… without like the fear of getting hurt."

Optimal Performance State. Optimal performance state was being able to repeatedly achieve the emotional and physiological state necessary for performance excellence. One participant recognised the importance of "controlling your mind before a game, and not getting too nervous and not getting too psyched up or anything… It's being able to control your emotions before you play."

One separable component of the optimal performance states theme was controlling aggression. While discussing emotions one participant noted that a rugby player should, "Know your limits… know when to stop if you're angry… know where the line is."

Game Sense. A player's game sense is an implicit understanding and awareness which facilitates purposeful and effective game play. One participant said, "A good rugby brain." Another stated, "You don't have to be academic… you have to be practically intelligent. You know, knowing what you have to do on the pitch… When to do it, where to do it."

Effective game sense was comprised of the three lower order themes of creativity, decision making, and game communication. Creativity was the ability to create novel strategies of play and having a willingness to implement them in a game situation. One participant said it was, "Having vision. Being imaginative." Another participant expressed how creativity contrasted with fear of failure, noting how, "You've got to try new things. Like, not just worry about them if they fail or not. Try and do stuff."

Decision making was viewed as, "Someone who can make the right decisions whether they have the ball or not." Communication was perceived as another fundamental mental quality, as a number of players stated that, "You need to be a good talker", "You've got to

communicate", and "in training, before the game, in and after the game. Just always talking to each other."

Appropriate Attentional Focus. Having an appropriate attentional focus was the ability to regulate the appropriate intensity and direction of one's attentional focus at a given time. As expressed by one of the participants, young developing rugby players need to be "focusing on the game and trying to get any thoughts about anything else out of your head. So you're completely focused on what's about to come up." In addition, a number of participants identified that, "There's times when you need to switch off and just basically recover. You've just got to learn that."

Mental Toughness. Although mental toughness was a construct repeatedly raised by participants, few views were freely offered to define the construct. With probing, mental toughness was defined as the maintenance of one's own optimal mental qualities in the face of adversity and pressure. One participant said, "It's being able to deal with large amounts of pressure."

Probing the meaning of mental toughness uncovered the most salient constructs required while under pressure. These were deemed to be confidence, determination, game sense, leadership, regulation of performance state, and regulation of attentional focus. For example, when citing determination under pressure one participant noted, "If you're losing and stuff, you have the will power to actually keep playing, instead of just giving up." Another discussed confidence under pressure when he said, "If you're confident then you keep your head up high, and you just keep going with it. But you don't let anyone, whatever anybody says, you don't let that affect your confidence at all."

Mental Techniques

When regulating their mental qualities, these young athletes referred to a broad range of mental techniques employed in training and competition. The data analysis revealed 268 raw codes, categorised into five higher order themes made up of 23 lower order themes (Table 2.2). As none of the current study participants had ever received any formal sport psychology support the techniques discussed can be considered intuitively developed strategies related to the sports demands and environmental structures placed upon them.

Personal Performance Strategies. Personal performance strategies are individualised mental techniques employed by athletes to cope with pressure and optimise their performance state. This category encompassed techniques traditionally incorporated into MST such as goal setting and striving, adopting a process orientation, relaxation, the use of routines, self-talk, and visualization. However, participants also referred to their use of techniques less commonly employed in MST. For example, compartmentalization was the strategy of separating rugby performances over time. One participant noted, "You've got to realise that every game is a separate game… you just got to focus on this is a new game. You know, what you played in the last one's nothing to do with what you're doing now."

Participants reported that they utilised vicarious experiences by observing their teammates. As well as a source of confidence (Bandura, 1977), observation of one's teammates was also employed to enhance persistence and effort through social facilitation. As one athlete noted, "If you look at someone who is putting their heart into it that usually says 'well they're doing it, I can do it as well. I can push myself.'" Personal performance strategies also included stress avoidance, as one participant noted, "you try and just forget about it all."

Table 2.2 The mental techniques employed by young athletes to develop their mental qualities

Higher Order Theme	Lower Order Theme
Personal Performance Strategies	Compartmentalization
	Goal Posting and Striving
	Music
	Physical Preparation
	Process Orientation
	Relaxation
	Routines
	Self-Talk
	Skill Based Warm Up
	Stress Avoidance
	Vicarious Experience
	Visualization
Team Strategies	Huddles
	Pre-Match Team Talks
	Role Clarification
Supportive Climate	Autonomy Support
	Coach Support
	Parental Support
	Peer Support
	Positive Challenge
Reflection on Action	Coach Supported Review
	Parent Aided Review
	Video Analysis

Supportive Climate. The participants' responses regarding a supportive climate reflected the young rugby players' adaptive responses to social support structures for the broad range of player needs. This category included taking advantage of, or responding to, the environmental dimensions of autonomy support and positive challenge as provided by coaches, peers, and parents. Autonomy support was highlighted as, "Being given responsibility for yourself" and, "People like my parents, they don't put any pressure on me." Positive challenge was illustrated by one player, "Being put under that sort of pressure at different times and within games… the more you do it, the more you start to cope with it and you start to learn how to deal with it."

In the view of the players, the role of different significant others within their participation were clearly distinguished within a supportive climate. Peer support focused on emotional support provided through informal interactions. For example, "If you're seen to be doing something well and your team mates acknowledge it as well that will help you boost you confidence." Coach support referred to the informal support provided by support staff through positive reinforcement and persuasion. One athlete stated, "It comes from a coach as well because my coach, will say to me before a game "I think you're a really good player" and then that gives you confidence for a game to play your best." Finally, parents offered a more holistic support to players including financial and other tangible resources as well as a role in listening, reflection, and supporting the athlete's confidence and emotional state. One participant noted that, "When [parents] are taking you places they obviously must believe that you have some sort of talent and are not just wasting your time… which is a good feeling."

Team Strategies. Participants noted a number of team structures that contain strategies aimed to enhance players' psychological qualities and performance. These strategies include team huddles led by players, pre-match team talks lead by the coach and role clarification. Pre-match team talks are indicative of how team strategies can be both formal and informal.

Participants noted that, "when you warm-up everyone's helping each other, and just talking to each other, and calming everyone down and getting them ready." In addition, formal talks as part of a routine were also referred to; "good team chat before a game… you all feel up for it and more confident so probably play better."

Role clarification was the recognition of roles and leadership positions within a squad or team. The identification of player roles was considered very important because, "everyone has a role, everyone's doing that role, everyone's filling it. If one person's not doing their job, that's when the team falls to bits."

Reflection on Action. Reflection on action involves players' reviewing performances to gain an understanding of their strengths and weaknesses. Lower order themes within reflection on action include coach supported review, parent aided discussion, and video analysis. A coach supported review is the player centred post-performance reflection facilitated by the coaching staff. This is often an informal and unstructured review of training and competition, as one participant said:

> Right after the game it's really fresh in your mind, and it's a really important
>
> time to get feedback on it… you look back on where things went well and where
>
> things went wrong, and how you can develop yourself… we'll always have a
>
> chat after the game with our coaches.

Parents were recognised as a great resource for reflection due their engagement and proximity to their child's sporting participation. One participant noted that he would, "sit down and just talk. If my dad came and watched the game… talk to him about doing things well and stuff." Video analysis was a formal technique employed at a team level rather than just for the individual player. One participant noted that, "we have some of our games recorded on video so you can see as a team what you've done well and need to work on not just on your own."

Discussion

A number of studies have investigated the mental qualities deemed important to sporting achievement among adult elite athletes. However, similar to life skills literature, little is known regarding the needs of young athletes and in particular young team sport athletes. This study aimed to address these voids in the literature by investigating the mental qualities viewed as salient to a specific population, specifically young elite rugby players. In addition, the mental techniques they employ to facilitate the development of such characteristics were also investigated.

In support of previous research with adult sport participants (Durand-Bush & Salmela, 2002; Gould et al., 2002; Krane & Williams, 2006), a range of common mental qualities were perceived as crucial to young athletes' sporting development. For example, determination has long been held as the foundation of sporting performance and achievement (Duda & Treasure, 2001) and is a quality repeatedly cited as required for elite performers (e.g., Gould et al., 2002). A number of qualities not commonly found in previous studies with adult athletes also emerged. These novel attributes seem particularly relevant to the developmental stage and sport type captured in the current sample of young elite rugby players. The emergence of qualities such as squad spirit and elements of mental toughness (e.g., leadership under pressure) are reflective of the demands of team sports. These themes capture the requirement for young athletes to develop within multiple competitive and pressured social environments, which was considered a crucial component of their sport experience and development.

Higher order themes of adaptability and self-aware learner are constructs that have not been identified previously in past work on psychological skills and may be tied to the developmental stage of the targeted group of young athletes. For example, self-aware learner reflects the need for young athletes to take responsibility for their own development rather than

being a passive receiver of knowledge and is considered by the players as a crucial attribute for lifelong development. This supports the work of Dworkin and colleagues (Dworkin, Larson & Hansen, 2003) who found athletes considered themselves to be agents of their own development. Furthermore, this is in line with the self-regulated learning literature which has shown that individuals who actively engage in their own development show greater sustained achievement over time (Zimmerman, 2002). The current findings also imply that designers of MST should consider including self-regulation processes that support the promotion of self-aware learning in athlete-focused psychological interventions (Duda, Cumming, & Balaguer, 2005).

Related to self-regulation are a number of broader mental qualities noted by participants that function beyond their sporting performance. The higher order themes of responsibility for self and squad spirit incorporate lower order themes such as life balance, athlete lifestyle, respect, role model, sportspersonship, social skills, and peer support. These mental qualities go beyond the playing field and may be classified as life skills (Danish, Petitpas, & Hale, 1993). The mental qualities deemed necessary by the current sample support previous work examining the life skills required by young athletes (e.g., Jones & Lavallee, 2009) and illustrate the importance of considering the larger social context in which young athletes develop. These accumulative findings are indicative of a growing emphasis on the role of sport psychology to support the development of a broader set of psychosocial competencies within young athletes beyond that of simply sports performance (e.g., Danish, Petitpas, & Hale, 2007; Visek et al., 2009).

The recognition of life skills as an important component of the list of qualities marking positive development in young athletes is likely a concomitant facet of the developmental stage of the current sample of young athletes. According to the DMSP (Côté & Hay, 2002), the

developmental stage of an athlete's sport participation influences his or her psychological, social, and physical engagement. It is important to keep in mind, however, that although the absolute number of extra-curricular activities may be dropping (a characteristic of the specializing stage), young athletes of this age and competitive level are also faced with increasing academic expectations and demands (e.g., the time required to complete homework). Moreover, they are at the heart of that transitional period of physical, and emotional development when the focus is on trying to 'grow up' and meet the responsibilities and roles of a maturing adolescent. Lerner and colleagues (Lerner, Lerner, Almerigi, Theokas, Phelps, Naudeau, et al., 2006) have highlighted adolescence as a period of biological, cognitive, psychology, and social transition within a broader life context.

The sporting and life demands placed upon young athletes within this transitional period may result in a heightened requirement for particular mental qualities, such as the development of responsibility for self and becoming a self-aware learner, to an extent not previously experienced in their sport careers. Further, it might be the case that athletes in the specialization stage may be at the ideal "window of opportunity" for developing such attributes when compared to their older athlete counterparts. With this possibility at hand, it is unsurprising to find discrepancies between the current findings and those stemming from studies of adult athletes in terms of what mental attributes are most pertinent (e.g., Durand-Bush & Salmela, 2002). These findings support the role of life skills in young athletes as well as highlighting the great importance of identifying the specific needs of the target population.

Understanding the techniques employed by young athletes can provide some foundation on which to develop and more effectively implement MST programs. The current sample of athletes had no prior experience of MST or other formal forms of psychological support. Therefore, any mental technique employed by these athletes has been learned intuitively

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through experience. The current results support previous studies that have found mental techniques developed through natural learning experiences may be categorised into personal, team and environmental strategies (Calmels, D'Arripe-Longueville, Fournier, Soulard, 2003; Holt, Tink, Mandigo, & Fox, 2008).

Mental techniques reported by the study participants included goal posting and striving, relaxation, self-talk, and visualisation. Vealey (2007) noted that these are the four traditional mental techniques most widely emphasised by sport psychology consultants. However, the present sample also discussed the use of less commonly cited techniques that may not be as widely employed by consultants and/or reflected in the content of current MST programs. For example, compartmentalisation was a personal strategy identified by the young elite rugby players in this study but rarely discussed in previous MST literature.

Other examples of less common mental techniques proposed by the young athletes were mostly a function of their participation in a team sport, such as the employment of team huddles and role clarification. The importance of team-based structures and strategies in the case of older athletes was highlighted by Gould and colleagues (1999). They found more and less successful Olympic teams to differ on group-based influences, such as social and organizational factors.

Taken in their totality, the present results hold implications for firstly, the design and, secondly, the evaluation of MST and life skills programs in the case of young developing team sport athletes. When considering the content of MST programs, the current findings emphasise the benefit of a comprehensive needs analysis on the target population. Taylor (1995) advocates the integration of personal and sports based demands when planning interventions. The range of techniques employed by young athletes found in this and others studies (e.g., Calmels et al., 2003) also suggests that MST program designers should consider the inclusion of less

commonly used mental techniques (e.g., the compartmentalisation of negative as well as positive game performances).

This study has illustrated the breadth of mental qualities deemed necessary for the young talented athlete to ensure healthy and efficient development into elite sport that may otherwise be missed due to lack of prior assessment of athlete needs. For example, too few studies appear to consider the broader life skills when implementing performance based interventions with young athletes (Visek et al., 2009).

The priority of life skills noted in the current study recognises the adolescent athlete within their broader life context. To ensure both sustained athletic engagement, as well broader youth development, it is crucial that young athletes are equipped and able to apply the necessary tools needed to support the growing demands they are faced with. However, Danish and colleagues (e.g., Danish 2002; Danish, Taylor, Hodge, & Heke, 2004) have noted that the transference of life skills is not a natural occurrence and the application of psychological skills in multiple domains must be deliberately and systematically taught. Consequently, these results suggest that many young athletes would benefit from specific life skills training programs.

The second implication of the present study relates to the evaluation of MST programs for young athletes. MST research to date has commonly focused on outcomes relating to mental technique use (e.g., Fournier, Calmels, Durand-Bush, Salmela, 2005), performance (e.g., Thelwell, Greenlees, & Weston, 2006) and psychological correlates of performance variability (e.g., anxiety, confidence; Daw & Burton, 1994). According to Vealey's (2007) definition of MST, personal well-being is a fundamental aim of psychological interventions. Considering this point, and the growing emphasis on personal development, the lack of outcome measures relating to athlete well-being (e.g., see Sheard & Golby, 2006 for an exception) and personal growth and development when evaluating the effectiveness of MST

programs with young competitors is perplexing. The breadth of mental qualities revealed also suggests that MST programs should be appraised in terms of their capacity to promote self regulation, quality motivation and sustained dedication in young talented athletes (Duda et al., 2005).

Limitations

While the findings of this study extend previous research, a number of limitations should be considered. Firstly, the specific nature of the population under investigation means that the current findings may not be directly generalizable to other groups of young developing athletes. Secondly, the results reported are those of the athletes and represent their experiences and demands. A comprehensive view of the needs of the young athletes sampled would be further supported by the triangulation of findings with significant others such as parents and coaches.

Conclusion

In order to better tailor MST and life skills interventions for young athletes, sport psychologists must consider the integration of psychological, physical, technical, and logistical demands of the sport with the needs of the athlete (Taylor, 1995). To that end, the current study aimed to identify the needs of adolescent athletes in the specializing stage as they develop into elite performers. The findings highlight the need to carefully investigate the targeted population in the contexts of the sport and stage of development before drawing conclusions regarding the priority of psychological qualities for young athletes. Our results also point to the potential role of MST and life skills training in promoting greater personal well-being and self-reliance among athletes along with the outcome of prolonged performance success (Vealey, 2007).

This study also investigated the current mental techniques employed by young elite athletes. Results suggest that a large number of personal and team based strategies are naturally

employed by athletes without prior intervention. Such strategies include both traditional and less commonly cited mental techniques that should all be considered within a youth athlete development program. It would seem prudent for any MST program geared for such a population to take into account the variability of techniques in use and also reinforce and refine the techniques already being effectively employed.

ROLE AND TRANSFERENCE OF SPORT BASED MENTAL SKILLS

Introduction

Over recent years there has been a growing concern over the healthy development of our youth. The desire to not only reduce anti-social and risky behaviours, but also enhance the positive skills and characteristics in young people has come to the forefront. This shift towards a positive psychology approach was brought about by the recognition that the reduction in negative, maladaptive behaviours is not sufficient for young people to develop optimally and that the absence of ill-being is not the same as well-being (Seligman & Csikszentmihalyi, 2000). A number of current researchers within the youth development literature reinforce this argument stating that young people should be able to do more than simply cope in their environment, they should be able to thrive (e.g., Lerner, Brentano, Dowling, & Anderson, 2002). This has lead to the focus, within the context of youth development, on increasing positive characteristics, skills and assets for the enhancement of the young person's well-being and personal growth.

The range of skills required by young people to thrive is determined by their environment and stage of development. The most influential developmental period is that of adolescence, defined as a period of biological, cognitive, psychological, and social transitions (Lerner, Lerner, Almerigi, Theokas, Phelps, Nadeau, et al., 2006). Accompanying this stage of development is an increase in the range of domains in which young people must function optimally. Danish and Nellen (1997) noted that a child must only succeed in the family, while later in life they must also succeed at school, within social networks, in a workplace and in their community at large. Even within a typical and established developmental path, this cocktail of growth related challenges and transitions requires young people to learn new skills, cope with stressors, overcome obstacles, and maintain or develop a positive and stable sense of self (Wylleman & Lavallee, 2004).

For young people to successfully navigate adolescence, so that they may thrive rather than simply survive, they must be equipped with the necessary skills and competencies. The literature considers this required set of abilities and capacities as life skills, which are defined as those skills that allow an individual to cope with their environment (Danish, 1995; Danish & Donohue, 1995). According to Boyd, Herring and Briers (1992), "The development of life skills allows youth to cope with their environment by making responsible decisions, having a better understanding of their values, and being better able to communicate and get along with others."

As the later childhood and adolescent years become increasingly complex and difficult to manage (Roth & Brooks-Gunn, 2003), so the obstacles to optimal development become greater. This has lead to a surge of attention in the more holistic youth development area from politicians (e.g., Department for Education and Skills, 2002), educators (e.g., Qualifications and Curriculum Authority, 2011), and researchers (e.g., Lerner & Steinberg, 2009). For example, *Every Child Matters* (Department for education and skills, 2003) and *Fair chances for the future* (Minister for the cabinet office, 2009) are just two policies targeting schools capacity to develop life skills in young people.

There is evidence to support the need for such policies. Research has shown that first year undergraduate students' academic success and personal well-being can be predicted by their coping skills (Giacobbi, Lynn, Wetherington, Bodendorf, & Langley, 2004). This research supports the argument that having a well developed set of life skills enables young people to set and strive towards their goals within a given situation and prepares them for the range of personal, environmental and transitional stressors. Such life skills include, setting and striving towards personal goals, making decisions, managing emotions and self-esteem, and communicating and collaborating with adults and peers to develop broader social networks.

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When planning programs aimed to develop life skills we must consider that the environment in which young people operate largely influences their psychological and behavioural outcomes. Opportunities provided to young people and the experiences they gather will greatly determine their development. Dworkin, Larson, and Hansen (2003) investigated the "growth experiences" of young people in organised activities. These growth experiences are defined as "experiences that teach you something or expand you in some way, that give you new skills, new attitudes, or new ways of interacting with others" (p.20). They found that young people from a range of extra-curricular activities (including sports, fine arts, performance arts, clubs, and organisations) highlighted growth experiences in six areas: exploration and identity; initiative; self-regulation; peer-relationships; teamwork and social skills; and adult networks and social capital.

Interestingly, Dworkin and colleagues (2003) also found that young people portrayed themselves as the agents of their own development. That is, young people determined their own progress and "growth emanated from their own thoughts and actions" (p.24). This supports the findings presented in chapter 2 in which "responsibility for self" and "self-aware learner" were key themes required for healthy youth development. This is particularly important when we consider that not all organised activities provide exclusively positive experiences (Dworkin & Larson, 2006; Fraser-Thomas & Côté, 2009).

Role of sport-based skills in the mediation of experience and well-being.

One environment that has been shown to be particularly appropriate for the development of our youth is sport. It is a long held belief that the mere participation in sport builds character in young people. While this view has been contested (e.g., Dworkin and Larson, 2006; Ogilvie & Tutko, 1971), it is true that sport has the potential to be a context very well suited to youth development. Larson (2000) noted that positive organised youth

development activities need to be voluntary and promote intrinsic motivation, require attention and elements of challenge, and require effort over time. Sport is particularly well suited to fulfil these criteria, whereas other activities, such as school and religious groups are not always voluntary and may not require attention over time (Larson, 2000).

Sport is also well suited to the development of life skills given the existing knowledge relating to sports based MST programs. Within sport psychology literature it is established that greater mental skills are associated with greater task oriented motivation (e.g., Harwood, Cumming, & Fletcher, 2004), intrinsic motivation (Beauchamp, Halliwell, Fournier, & Koestner, 1996)), well-being (e.g., Sheard & Golby, 2006), capacity to cope with anxiety (e.g., Neil, Mellalieu, Hanton, 2006), and skill development and performance (e.g., Sheard & Golby, 2006; Thelwell & Greenlees, 2003). The study described in Chapter 2 also found that mental skills are a key consideration when identifying the needs of young sports participants.

Although specific to the sport context, these findings are relevant due to the conceptual similarity between sports based mental skills and life skills. That is, life skills are mental skills which are applied in multiple contexts. This point is consonant with the view of Gould and Carson (2008) who extended the definition of life skills to, "Those internal personal assets, characteristics and skills such as goal setting,... that can be facilitated and developed in sport and are transferred for use in non-sport settings [e.g., school]" (p.60).

Like sport-centred mental skills, life skills have been associated with a number of positive outcomes (see Chapter 1 for detailed review). Gould and Carson (2008) noted how these benefits include psychosocial competencies that are intrapersonal (e.g., setting and achieving goals, greater confidence, increased work ethic, stress management, and well-being) and interpersonal (e.g., teamwork, communication skills, leadership, and responsibility). All

these skills are life skills because they are salient to the multiple domains in which adolescents operate.

Aims of study

Although research has investigated the relationship between life skills and psychological outcomes, little work has looked at the role that life skills play in the relationship between experiences and outcomes. The aims of the current study are to investigate the relationship between youth sport experiences (drawing from the work of Larson, Hansen, & Dworkin, 2003), mental skills (both sport and life based), and psychological well-being. Specifically, the present research addressed a number of related questions: 1) is there a relationship between the degree to which mental skills are applied in sport and other settings among young people? 2) Are greater sport based mental skills and life skills related to increased positive experiences and well-being in youth? 3) Does the application of mental and life skills have a mediating effect in the relationship between youth activity experiences and well-being?

One limitation to the literature in this area is the notable lack of measures assessing life skill application. Although numerous studies have aimed to develop techniques and skills in sport and then transfer them to other settings, no measure exists to assess the parallel application of techniques and skills in multiple contexts required to evaluate this aim. To overcome this limitation, an established sports focused measure of mental techniques use was employed to assess the relationship between techniques applied in sport and other settings. This provided a broader assessment of mental technique and skill use among young people and will allow conclusions to be drawn regarding the skills developed by youth and their transference outside of sport. Mental skills and techniques considered fundamental within sport psychology literature were included; i.e., goal setting, self-talk, emotional control, and

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attentional control. Research findings have repeatedly found these skills and techniques to be associated with greater performance and well-being in athletes. Additionally, they were selected because they are considered appropriate for employment in different life domains, thus making them valuable life skills.

Methods

Participants

Four hundred and thirty sports participants (Male = 320, Female = 110) with a mean age of 16.14 years (SD = 1.15) took part in the study. Participants came from a range of team sports (86.9%; e.g., rugby union, field hockey, association football, and netball) and individual sports (13.1%; e.g., tennis, swimming, and gymnastics). Participants had a mean of 8.35 years (SD = 3.01) experience in their sport and were diverse in competitive standard, including school (23.4%), club (35.3%), and national (41.3%).

Measures

Descriptive Information. Participants supplied relevant demographic information including age, sport, years of sporting experience, and sporting standard.

Youth Experiences. The Youth Experience Survey 2.0 (YES 2; Hansen & Larson, 2005) was designed to assess school-aged students' developmental experiences while participating in organised activities. The YES 2 is made of 70 items and contains three subscales each relating to personal and interpersonal development and five subscales relating to negative experiences.

Personal development subscales include identity experiences (e.g., "I tried a new way of acting around people"), initiative experiences (e.g., "I learned about setting priorities"), and emotional regulation (e.g., "I became better at handling stress"). Interpersonal subscales include interpersonal relationships (e.g., "I learned about helping others"), teamwork and social

skills (e.g., Learned to be patient with other group members"), and adult networks social capital (e.g., "This activity improved my relationship with my parents/guardians").

Negative experience subscales include stress (e.g., "This activity has stressed me out"), negative influences (e.g., "I did something in this activity that was morally wrong"), social exclusion (e.g., " I felt left out"), negative group dynamics (e.g., "I get stuck doing more than my fair share"), and inappropriate adult behaviour (e.g., "adult leaders "hit" on me").

Participants rated if they have experienced what was described within each item on a 4-point scale (1 = not at all; 4 = yes, definitely). Hansen and Larson (2003) have demonstrated the validity of the YES 2 with youth participants with alpha coefficients for all subscales ranging between .77 and .95, as well as a good factor structure through confirmatory factor analysis.

Mental Skills Application in Sport and School. The application of mental skills and techniques in sport and school settings was measured using the Test of Performance Strategies 3 (TOPS 3; Thomas, 2009). The four practice subscales of goal setting, self-talk, emotional control and attentional control were administered. These subscales were selected to prevent an excessive questionnaire length for the participants and because of their greater relevance to the school domain.

Each item within these subscales was administered twice. First, the original items were used to assess skill or technique application in sport (e.g., "In my sport I set realistic but challenging goals for practice"). Second, items were modified to be suitable for application in school (e.g., I set realistic but challenging goals for my school lessons). The school lesson rather than exams was adopted as the focus of the items to reflect the practice context in the sport-related items. The use of an adapted TOPS 3 was chosen because of the lack of validated

measures providing an in depth assessment of the application of mental skills and techniques in both sport and other domains.

Each subscale contains four items each rated by participants on the frequency of use with a 5-point scale (1 = *never*; 5 = *always*). Previous research has found each subscale of the TOPS 3 to have achieved appropriate internal reliability (Cronbach alphas ranging from 0.78 to 0.84) and factoral validity (Hardy et al., 2010) and therefore valid standalone measures of the mental skill or technique.

Well-Being. Participant well-being was assessed using the Subjective Vitality Scale (Ryan & Frederick, 1997). Vitality refers to the psychological experience of vigour, enthusiasm and energy. A five-item version of the subjective vitality scale was used (e.g., I feel energised). Participants rate the extent to which they agree with each item on a 7-point scale (1 = *not at all true*; 7 = *very true*). Previous research has supported the internal reliability and predictive validity of this scale (e.g., Adie, Duda, & Ntoumanis, 2008; Gagne, Ryan, & Bargman, 2003; Reinboth & Duda, 2004).

Procedures

Participants were contacted through their coaches who were informed of the nature of the study. Information sheets and informed consent were then provided to potential participants and their parents/guardians for any participant under 18 years of age. Participants who volunteered were informed of their right to withdraw, that there were no right or wrong answers to the items contained within the questionnaire and they should complete the items honestly and independently. The multi-section questionnaire was administered either before or after training in a quiet room at the training facility and took no more than 20 minutes to complete.

Confirmatory Factor Analysis

To investigate the appropriateness of the TOPS 3 for assessing mental technique use in both sport and school two confirmatory factor analyses were conducted. The first CFA involved four subscales of the TOPS referenced to sport. A separate CFA was performed with the four adapted subscales of the TOPS 3 that were adapted to the school context.

Before performing the CFA data were screened for outliers and normality. Mahalanobis distance was used to assess multivariate outliers. Using a criterion value of $p > 0.001$ (Tabachnick & Fidell, 2001), mahalanobis distances were evaluated as χ^2 values with the number of variables determining the degrees of freedom. 11 cases violated the χ^2 and were omitted from further analysis, leaving a sample of 419. Multivariate normality was investigated using Mardia's (1970, 1974) normalised estimate of multivariate kurtosis while adopting Bentler's (2005) recommended cut off nonnormal data scoring greater than 5.00. A Mardia's coefficient of 15.860 and 17.374 for the sport and school TOPS scores respectively indicated a significant deviation from multivariate normality.

Using Amos 18, the CFAs were conducted using the robust maximum likelihood bootstrapped estimation method to account for the nonnormal distribution. Following Hu and Bentler's (1998) recommendations, a two-index presentation strategy has been adopted. Comparative Fit Index (CFI; Bentler, 1995) and non-normed Tucker-Lewis Index (TLI; Tucker & Lewis, 1973) compare the measurement model with a null model and provide scores ranging from 0.00 to 1.00 (0.00 indicating poor fit, 1.00 indicating perfect fit). CFI and TLI scores $\geq .90$ are considered to reflect a good fit (Kline, 1998). The Root Mean Square Error of Approximation (RMSEA, Steiger, 1990) and Standardised Root Mean Square Residual

(SRMR, Bentler, 1995) compare the measurement model with a predicted model and provide

scores ranging from 0.00 to 1.00 (0.00 indicating perfect fit, 1.00 indicating poor fit). RMSEA

and SRMR scores of ≤ .80 represent a good fit (Browne & Cudek, 1993). Hu and Bentler

(1998) have since proposed more stringent cut offs (CFI and TLI ≥ .95; RMSEA and SRMR ≤

.60), however Marsh, Hau, and Wen (2004) have argued against the standard practice of

adopting higher cut-off criteria without specific rationale. Table 3.1 shows the model fit for the

sport and school measures illustrating a poor model fit for both scales.

Table 3.1. CFA fit indices for measures of sport and school mental techniques and skills.

	χ^2 df	p	CFI	TLI	RMSEA	SRMR
Sport TOPS	289	<.001	.869	.840	.069 (.060-.078)	.0668
School TOPS	275	<.001	.890	.866	.066 (.057-.075)	.0612

Further inspection of the modification indices, factor loadings as well as Cronbach alphas of

individual subscales suggested the removal of two mental skills subscales (i.e., emotional

control and attentional control). Two revised models including only the mental techniques (i.e.,

goal setting and self-talk) were then analysed. Fit indices for these revised models show

improvement and reflected a good fit to the data (see Table 3.2). Examination of the individual

parameter estimates revealed all factor loadings to be significant. The sport mental techniques

subscales achieved standardised loadings ranging from .48 - .75 and criticial values of all

unstandardised loadings exceeded 1.96. The school mental techniques standardised loadings

ranged from .45 - .74 and criticial values of all unstandardised loadings exceeded 1.96.

Consequently, the subscales for the mental techniques only were carried forward for further

analysis.

Table 3.2. CFA fit indices for revised model of the measures of sport and school mental techniques.

	χ^2 df	p	CFI	TLI	RMSEA (95%CI)	SRMR
Sport TOPS	67.7	<.001	.939	.910	.079 (.059-.099)	.0426
School TOPS	62.1	<.001	.944	.918	.074 (.051-.083)	.0426

Descriptive Statistics

Means, standard deviations, and alpha coefficients of the variables are displayed in Table 1. With the exception of school goal setting and the experience of stress all subscales achieved the recommended .70 alpha coefficient (Cronbach, 1951). Lowenthal (2001) has suggested that in subscales containing only four items, a lower cut-off of .60 indicates an acceptable alpha coefficient. As both subscales were very close to the more conservative .70 criterion (i.e., school goal setting = .68, experience of stress = .69), these subscales were retained for subsequent analysis but the results related to these variables should be viewed with caution.

Correlations

To initially investigate any association between the application of the targeted mental techniques in sport and school, bivariate correlations between the parallel subscales were conducted. Significant correlations were found between both the reported use of goal setting ($r = .45, p < .01$) and self-talk ($r = .67, p < .01$) in sport and school.

Cluster Analysis

Profiles of participants' use of mental techniques were generated with the use of cluster analysis. To determine whether groups of participants that demonstrated a greater application

of mental techniques in sport carry this over to other domains, only subscales tapping the mental technique use in sport were used to profile the athletes. Participant responses to the other subscales were used to validate the resulting profiles through an assessment of convergent validity. As noted by Speece (1994), there are two issues inherent within cluster analysis. First, different cluster solutions can be created with the same data set when different cluster procedures are employed. Second, there are no gold standard criteria to determine the most appropriate cluster solution. Therefore, to produce reliable clusters the steps recommended by Hair, Anderson, Tatham, and Black (1998) were carried out and followed by a rigorous validation of the solution.

First, all dependent measures were standardised by calculating the z-scores. Second, univariate and multivariate distributions were examined to assess normality. No cases were identified as outliers, unsurprising following the CFA. Third, clusters were initially formed using hierarchical cluster analysis and verified using non-hierarchical procedures.

Hierarchical cluster analysis. Hierarchical cluster analysis was conducted using Ward's method of linkage, while the number of clusters was identified by viewing the dendogram and examining the squared Euclidean distance (Aldenderfer & Blashfield, 1984). Ward's method of linkage was chosen because it avoids long snake like chains and minimises within cluster differences. Examination of both the dendogram and squared Euclidean distance suggested that either a two cluster solution provided the best fit to the data.

Non-Hierarchical cluster analysis. To verify the two cluster solution was indeed the most suitable fit to the data, a non-hierarchical analysis was conducted examining two, three and four cluster solutions. These cluster solutions were chosen because of their observed regularity in the literature and the conceptual parsimony they offered. Using a K-means cluster procedure and predetermined cluster centres (i.e., the mean score of the clusters derived from

the hierarchical analysis) as seed points, clusters were reclassified. Once again, the two cluster solution appeared to provide the best fit to the data.

Groups were identified as high and low in use of mental techniques using a criterion z-score cut-off of $\pm$ 0.5 (Hodge & Petlichkoff, 2000). This resulted in a high sport mental technique use cluster and a low mental technique use cluster. It should be noted that these are relative labels and readers are recommended to examine the absolute means, standard deviations and z-scores of the two clusters presented in Table 3.3.

Table 3.3. Descriptive results for the total sample and cluster groups.

| | | | | | | Clusters | | | | |
| | | Total | | | | low | | | High | |
	α	Mean	SD	z	Mean	SD	z	Mean	SD	z
Sport mental technique use										
Sport Goal Setting	.71	3.11	.74	.00	2.61	.60	-.63	3.59	.52	.52
Sport Self-Talk	.73	3.03	.77	.01	2.51	.60	-.65	3.54	.55	.55
School mental technique use										
School Goal Setting	.68	2.93	.70		2.67	.63		3.20	.67	
School Self-Talk	.78	2.73	.82		2.39	.73		3.07	.77	
YES 2										
Identity	.77	2.37	.61		2.27	.56		2.46	.65	
Initiative	.88	2.19	.56		2.06	.54		2.31	.57	
Emotional Regulation	.79	2.25	.72		2.06	.65		2.42	.73	
Social Skills	.87	1.99	.58		1.89	.61		2.08	.53	
Relationships	.75	2.17	.55		2.07	.47		2.25	.60	
Adult networks	.78	2.36	.63		2.18	.58		2.51	.64	
Stress	.69	2.64	.72		2.54	.71		2.73	.73	
Well-being										
Subjective Vitality	.82	4.88	1.00		4.59	1.02		5.17	.90	

Table 3.4. Descriptive information for the total sample and cluster groups

		Total	Cluster Low	High
	n (%)	419	207 (49.4)	212 (50.6)
Age	mean	16.14	16.16	16.12
	SD	1.145	1.13	1.17
Gender	Male (%)	318 (75.9)	158 (76.3)	160 (75.5)
	Female (%)	101 (24.1)	49 (23.7)	52 (24.5)
Sporting experience (yrs)	mean	8.35	8.21	8.50
	SD	3.09	3.05	3.14
Competitive standard	National (%)	173 (41.3)	77 (37.2)	96 (45.3)
	Club (%)	148 (35.3)	57 (34.3)	77 (36.3)
	School (%)	98 (23.4)	59 (28.5)	39 (18.4)

Cluster Validation. Following the recommendations for assessing the internal validity of the cluster solution from Morizot and Le Blanc (2005) the 2-cluster solution was found to be the best fit. Morizot and Le Blanc (2005) propose six guiding criteria: (1) the extent to which the cluster solution is reproduced with different cluster algorithms (known as consensus classification); (2) the extent to which the cluster solution is internally robust; (3) the increase in homogeneity measures; (4) the extent to which each additional cluster provides meaningful contribution to the personal profile; (5) the matching to expected profiles from previous literature; and (6) the spreading of sample size between the clusters.

Different cluster algorithms were employed via the hierarchical and k-means cluster procedures. Following the k-means procedure with seed points created from the hierarchical analysis, 93% of the sample remained in the same cluster for the two cluster solution. Additionally, conducting k-means cluster without initial seed points resulted in 100% of the

sample remaining in the same cluster as when seed points were entered. These results are higher than for any other cluster solution. Furthermore, after conducting a k-means cluster without seed points on a randomly selected 70% of the sample, all participants remained in the same cluster, demonstrating the clusters to be internally robust. Again, this is higher than for any other cluster.

Cluster homogeneity was assessed through calculating the *H* coefficient which indicates the extent to which the variance in each group is smaller than that of the whole sample. Tyron and Bailey (1970) suggested that coefficient greater than .75 is excellent; between .50 and .74 is good; and between .25 and .49 is acceptable. The two cluster solution *H* coefficient was .71, suggesting a good degree of variance within the cluster compared to the whole sample.

A two cluster solution is an acceptable theoretical classification of individual's profile of mental techniques use. There is no conceptual rationale that should predict a three cluster solution would provide a more comprehensive qualitative or quantitative profile of young student-athletes' mental technique use. This premise is supported by Woodcock and colleagues (Woodcock, Duda, Cumming, Sharp & Holland, under review) who also found a two cluster solution to be the best fit to their data regarding young athletes use of mental skills and techniques.

Finally, Morizot and Le Blanc recommend that a valid cluster solution should have no less than 5% of the whole sample. The two cluster solution provided the most equal split with clusters containing 49.4% and 50.6% of the sample.

External validity of the two cluster solution was assessed through the degree of separation of groups on all subscales, particularly the clustering variables. A multivariate analysis of variance (MANOVA) was conducted with the cluster group membership serving as independent variables and mental techniques use in sport variables serving as the dependent

variables. The results indicated a significant multivariate effect (Pillai's trace = .61, $F_{2, 416}$ = 3.28, $p < .001$, $\eta^2 = .61$). Follow up univariate analysis revealed that the two clusters significantly differed on their use of goal setting ($F_{1,417}=32.4$, $p<.001$, $\eta^2=.437$) and self-talk ($F_{1,417}=33.4$, $p<.001$, $\eta^2=.445$) in sport. Examination of the means indicated that the high mental techniques use cluster group reported applying goal setting and self talk more frequently in the sport context when compared to the low mental techniques use group.

Group differences in demographic information

To investigate any differences between cluster groups in demographic information, four separate ANOVAs were conducted with cluster membership entered as the independent variable and age, gender, years of sporting experience, or sporting standard entered as dependent variables respectively. No significant differences were found between groups on age, gender, or sporting experience. No significant differences were found between groups in respect to age, gender, or sporting experience. However, a significant difference emerged between groups in sporting standard ($F_{1,147}=4.75$, $P=0.03$). As depicted in Table 2, the high sport mental techniques use group performed at a higher competitive standard than what was the case for the low sport mental technique use group.

Group differences in academic mental techniques

To examine if the cluster groups differed in mental techniques application in school, a MANOVA was conducted with cluster group membership serving as the independent variable and school mental technique use variables serving as the dependent variables. The results indicated a significant multivariate effect (Pillai's trace = .212, $F_{2,416}=3.28$, $P<.000$, $\eta^2=.212$). Using a bonferroni adjustment (resulting in an alpha level of .007), univariate analysis of the main effect was conducted which revealed significant results for school goal setting ($F_{1, 417}$ = 69.2, $p < .001$, $\eta^2 = .142$) and school self-talk ($F_{1, 417}$ = 85.3, $p < .001$, $\eta^2 = .170$). Examination of

the means revealed that the high sport based mental techniques group reported using significantly more goal setting and self-talk in school than the low sports mental techniques group.

As a follow up, a discriminant function analysis was conducted to test the predictive value of the academic mental techniques for the sport based mental techniques group membership. That is, does the degree of mental technique use in school predict whether an individual will be classified as high or low in sport based mental technique use? Cluster groups served as dependent variable while school goal setting and self-talk served as the independent variables. Results revealed a significant mean differences in both school goal setting and self-talk when predicting sport based mental technique use group ($\chi^2(2)=99.1$, $p<.000$). A significant association between cluster group and school mental technique use was found that accounted for 26.9% of between group variance. This suggests that the constructs were similar but distinct. Furthermore, the structural matrix confirmed that both school goal setting (.79) and self-talk (.87) predicted sport based mental technique use group by achieving greater than the .30 recommended cut-off (Tabachnick & Fidell, 2007).

Group differences in youth experiences

To assess group differences in youth experiences as a function of mental technique use in sport, a MANOVA was again conducted with the YES subscales used as dependent variables. A significant multivariate effect was found (Pillai's trace = .108, $F_{2,416}=3.87$, $P=.001$, $\eta^2=.108$).

Again using a bonferroni adjustment (resulting in an alpha level of .025), univariate analysis of the main effect revealed significant results for initiative experiences ($F_{1, 417} = 11.4$, p = .001, $\eta^2= .047$), emotional regulation ($F_{1, 417} = 15.9$, p < .001, $\eta^2= .064$), interpersonal relationships ($F_{1, 417} = 6.43$, p = .001, $\eta^2= .027$), teamwork and social skills ($F_{1, 417} = 6.74$, p =

.001, $\eta^2 = .028$), and adult relationships ($F_{1, 417} = 19.2$, $p < .001$, $\eta^2 = .077$). Examination of the means revealed that the high sports mental techniques group reported significantly higher scores on all of these subscales of the YES. Examination of the means revealed the high sport mental technique use group reported significantly more identity work, initiative, emotional regulation, positive relationships, and adult networks and social capital, and lower stress than the low sport mental technique use group (see Table 3.3 for means).

No significant univariate effect was found for identity experiences ($F_{1, 417} = 5.61$, $p = .019$, $\eta^2 = .024$) or stress ($F_{1, 417} = 4.06$, $p = .045$, $\eta^2 = .017$).

Group differences in well-being

Group differences in experienced psychological well-being were investigated through an analysis of variance with group membership entered as the independent variable and subjective vitality entered as the dependent variable. Results indicated a significant difference between groups in their subjective vitality scores ($F_{1,418} = 34.4$, $P < .000$). Examination of the means (see Table 3.3) revealed that the high sport mental technique use group reported significantly higher well-being (as evidenced via feeling of aliveness and mental/physical energy) than the low sport mental technique use group.

Assessment of mediation

Using a causal steps procedure (Holmbeck, 1996), a structural equation modelling approach was employed to conduct the mediation analysis due to the multiple indicators for the latent variables under investigation (see figure 3.1). The first step (M1) requires there to be an adequate fit of the model that includes only direct paths between the YES (predictor) and SV (outcome). The second (M2) step requires a full mediation model without a direct path from YES to SV to show adequate fit. Both models from the first and second step must be statistically significant. The third (M3) step is a comparison between the full mediation model

and a partial mediation model, in which both the mediation and direct paths are included. If no significant improvement in fit is found between the full and partial models then full mediation is demonstrated. If the paths between the YES (predictor) and SV (outcome) are reduced in the partial model compared to the direct model yet remain significant, partial mediation is demonstrated.

Table 3.5 shows that all models showed at least an adequate fit to the data. A chi square difference test indicated a significant improvement in fit from the full mediation to the partially mediated model (Δ5.73, p <.05), suggesting a partial mediation. In the direct model the path between YES and SV was significant (γ = .83, p <.001). While this path remained significant in the partial model, the strength of this path was reduced (γ = .58, p = .01). As a result, the analysis supports the partial mediation model with respect to the role of mental techniques in sport (Holmbeck, 1997) in the relationship between youth experiences and young people's reporting of well-being.

Table 3.5. Fit of path models for mediation

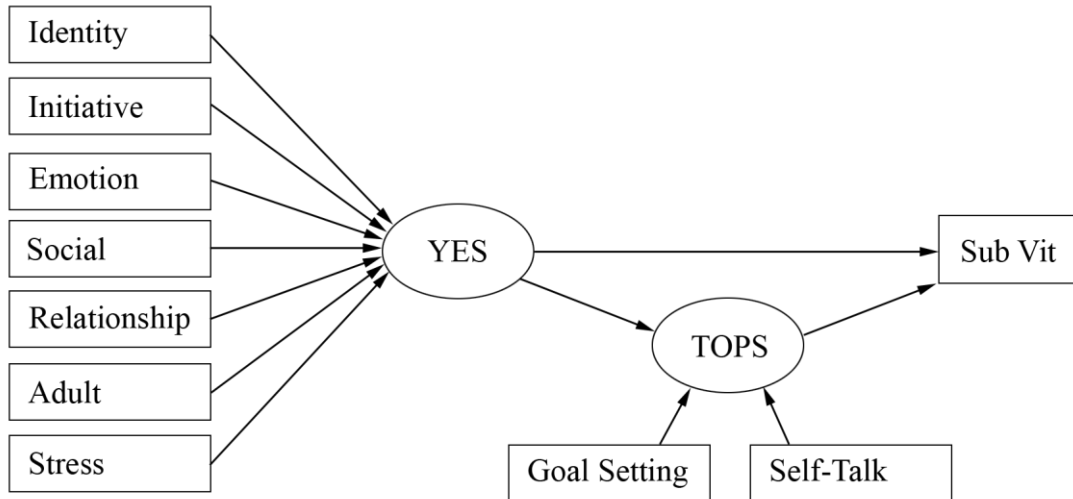|	χ^2(df)	χ^2/(df)	TLI	CFI	SRMR	RMSEA (90% CI)
M1: Direct model	52.34 (14)	3.74	.87	.92	.054	.11 (.08-.15)
M2: Full mediation	63.17 (26)	2.43	.90	.93	.054	.09 (.06-.01)
M3: Partial mediation	57.44 (25)	2.30	.90	.94	.046	.08 (.06-.11)

$\Delta\chi^2$(df): M2 vs M3 = 5.73 (1), p <.05.

Figure 3.1. The path model for the mediation analysis

Discussion

The aim of the current study was to assess the relationship between youth sport experiences, mental techniques (both sport based and school based), and psychological well-being. More specifically, a number of questions were being investigated regarding the relationship between the degree to which mental techniques were applied in sport and school, the benefit of mental techniques use in sport for the psychological well-being of student-athletes, and the mediating effect of mental techniques employment in sport on the relationship between youth experiences and their well-being. The capacity to measure life skills as mental skills and techniques being applied in multiple domains was also a consideration within the current methodology.

The lack of measures in life skills research to adequately assess the application of mental techniques and skills has been a notable weakness in the literature (Gould & Carson, 2008). The current study employed an adapted measure of sports based mental skill and

technique use, namely the TOPS 3. Results showed this to be a suitable measure of the application of both sport relevant and school based mental techniques. Unfortunately, the mental skills component (i.e., the assessment of key mental skills or abilities and mental techniques) of the TOPS 3 failed to achieve adequate psychometric validity overall. For this reason only mental techniques were carried forward in this investigation. Nonetheless, mental techniques are the tools that young people may possess and are fundamental to the developmental of life skills and their associated outcomes.

To facilitate further investigation the sample was clustered using their application of mental techniques in sport. Two clear groups emerged, one relatively high and one relatively low in their application of mental techniques in sport. Although only two mental techniques are included, goal setting and self-talk are considered fundamental strategies and so it may be assumed they are representative of a broader inclination to apply mental techniques. Consequently, the fact that high and low mental technique clusters were supported suggests that individuals may be more or less prone to applying mental techniques in general.

This is an important consideration because if we are aware that young people have a more global view of mental skills and techniques then the barriers they face and the support they require may be better addressed. For example, it would be important for any development program (whether based in sport or academics) to understand why particular participants apply techniques to a lesser extent than their peers in order to provide appropriate support. Potential reasons may be a lack of knowledge or understanding of mental techniques in general and how to apply them, low confidence in their general ability to use mental techniques and/or in the ability of the techniques to bring about the desired outcomes, and/or a lack of positive reinforcement from the environment that might otherwise encourage the application of mental techniques. These potential barriers, when pertaining to the employment of mental techniques

in general, can be easily addressed. It should be noted that this sample had received no formal mental skills/psychological training of any variety beyond that which may be provided informally by a coach. Therefore, any observed generalisation of mental techniques may be the result of young people's lack of understanding of the potential for transference of these techniques and, therefore, potentially eradicated following a period of training in which greater knowledge allows for greater compartmentalisation.

The clusters did not differentiate on age, gender, years of sporting experience. However, the two groups did differ on sporting standard with the high mental technique group containing a significantly higher standard of sport participants than the low mental technique group. This supports previous research which has found application of mental techniques and skills to distinguish between elite and sub-elite athletes (Gould et al., 1999; Orlick & Partington, 1988).

A primary question of this study was whether there was a relationship between the mental techniques applied in sport and school. Results showed that there was a significant moderate correlation between sport and academic mental technique use. In addition, discriminant function analysis demonstrated that the degree to which an individual applied school based mental techniques significantly predicted their sports based mental techniques cluster membership. These results demonstrate a significant and positive relationship between the application of techniques in two domains, namely the classroom and the sport setting.

Similar to previous research using both quantitative and qualitative methodologies (Larson, Hansen, Moneta, 2006; Holt, Tink, Mandigo, & Fox, 2008), these findings suggest a degree of commonality in the techniques used across salient life domains. However, the extent to which this naturally occurring commonality exists is difficult to accurately determine from the current literature. It is notable that, although there is a positive relationship between the application of sport and school mental techniques, their use in sport is significantly greater than

what was observed in school. Our result is aligned with the work by Larson and colleagues (e.g., Larson, et al., 2006) who found that all the organised activities they investigated were associated with higher degrees of developmental experiences in comparison to school class work.

The second major question addressed in this study focused on whether a greater application of mental techniques in sport was associated with increased positive experiences and psychological well-being. Results found that the group high in applying mental techniques in sport perceived they had significantly greater positive experiences and significantly less stress than their low mental technique use peers. Although no causal relationship can be inferred, these results support research that suggests an association between our environment and the skills we possess.

Petitpas and colleagues (Petitpas, Cornelius, Van Raalte, & Jones, 2005), in their framework for psychosocial development programs through sport, recognised the need for participants' external assets that shape their social support. Sustained social support, high in both quantity and quality, is crucial if young people (regardless of setting) are to develop relevant techniques, skills, and confidence to apply them (Benard, 1997, Petitpas, Danish, Giges, 1999). Additionally, an individual's capacity to cope with an environment and adopt a positive perspective is dependent on their psychological skills they possess (Danish, Petitpas, & Hale, 1993).

The same pattern was found for well-being, with the high mental technique group use reporting significantly greater subjective vitality than the low mental technique use group. This result supports previous research that has found a positive relationship between mental skills and well-being (Krane & Williams, 2006). Boyd and Zenong (1999) discussed the role of mental skills as a foundation to witnessing confidence and well-being. They note that the

capacity of an individual to control his or her mental and emotional state is crucial to their

sustained psychological well-being. Vealey (2007), in her framework of mental skills training

for athletes and coaches, states the first role of mental techniques and skills to be that of

developing foundation skills. Such skills include self-awareness, self-confidence, achievement

drive, and psychological well-being. Furthermore, sports based mental skills programs have

been shown to have a significant and positive effect on athletes' well-being (Sheard & Golby,

2006). Although the results of this study do not imply causality (noting that it would make

conceptual sense for an individual reporting high well-being to employ greater mental

techniques and skills), the findings do reinforce the strong relationship between an individual's

employment of mental techniques and their feelings of mental/physical vitality,

The current results taken together provide a strong case for the value of mental skills

training across domains. The possession of mental techniques and skills in sport appears to

provide a foundation for transferring those skills to other non-sport settings with the application

of mental techniques correlating between sport and school. In addition, the employment of

goal setting and self talk in the sport domain is associated with greater youth experiences and

well-being. However, a number of issues remain. While the current data offer an understanding

of the frequency that individuals apply these specific mental techniques, the findings do not

shed light on the quality of the mental techniques being applied. Previous research has found

that the natural and intuitive learning of mental skills and techniques results in a lower quantity

and quality of mental skills/techniques compared to the case for athletes having attended

systematic mental skills training programs (Calmels, D'Arripe-Longueville, Fournier, &

Soulard, 2003).

The ability to cluster participants into high and low mental technique groups indicates

that there is a discrepancy in the application of mental techniques in youth sport populations.

While unsurprising, this reinforces the point that a proportion of young people either do not have or do not apply the tools that promote healthy and positive development. With respect to demographic characteristics, the two clusters which emerged in the current research sample differentiated only on sporting standard. Although this study can infer no causal relationship, this is indicative of previous findings that suggest greater mental techniques and skills lead to greater performance and development (e.g., Gould, Guinan, Greenleaf, Medbury & Peterson, 1999; Thelwell, & Greenlees, 2001; Thelwell, Greenlees, & Weston, 2006; Krane & Williams, 2006).

The current study also supported previous research that found young sports participants to apply greater mental techniques and skills in sport that other settings (Larson et al., 2003). This finding implies that, although some degree of transference occurs intuitively, the transference of mental techniques between sport and school does not occur completely. Holt and colleagues (2008) revealed similar findings regarding inconsistent and incomplete transference of techniques and skills in high school athletes. As noted above, we cannot definitely state whether limited transference is due to environmental and social factors (Benard, 1997, Petitpas, Danish, Giges, 1999) or personal factors (Danish et al., 1993).

Given the value of the mental techniques and skills during such a turbulent period as adolescence, and the sporadic nature of their development and transference, it brings into focus the need for systematic and targeted interventions to build mental skills in young people and encourage their transference to non-sport domains. Further research should therefore examine the teaching of mental techniques, the corresponding development of mental skills and the nature of effective transference.

The major criticisms of mental skills transference/life skills are threefold. First, there is a lack of measures assessing the mental techniques and strategies employed by young people in

a valid and reliable manner. Many studies have investigated life skills development through the assessment of understanding the content of the program, rather than any subsequent application of those techniques. Second, few investigations have measured the parallel application of techniques in sport and non-sport settings. This more comprehensive evaluation is required if we are to more thoroughly understand the impact of such programs on the holistic development of young people. Third, limited research has investigated the longitudinal benefits of life skills programs. Assessing young peoples' knowledge or even application of mental techniques and skills following an intervention is not an adequate reflection of any long term behavioural change in technique use, skill development, and associated outcomes.

It should be noted that the current research did encounter a number of limitations, specifically relating to the measurement of mental techniques and skills. First, the adapted measure (i.e., the TOPS3; Hardy, 2011), aimed to resolve a salient void in the literature which does not provide a broad assessment of mental skills. Although goal setting and self-talk are considered fundamental mental techniques, their representation of broader mental technique use should be viewed with caution. Second, while the frequency of mental technique application was measured, an assessment of the quality of those mental techniques would provide a more comprehensive understanding as to their benefit to participants. While this would make a desirable addition to the current study, the authors know of no robust measure tapping the perceived effectiveness of the mental techniques and skills being applied within the sport context.

ASSESSING THE VALIDITY AND RELIABILITY OF THE BEHAVIOURAL

REGULATION IN SPORT QUESTIONNAIRE FOR ADOLESCENT AGE

ATHLETES: A MULTI-METHOD APPROACH

Introduction

Motivation is a central construct in human behaviour and experience. When participating in an activity such as sport, it is variability in motivation that will determine the vigour, direction, and regulation of an athlete's engagement (Deci & Ryan, 1985). Considered to reflect a social cognitive process, motivation reflects the meaning of the context for the individual and determines behavioural and psychological outcomes such as effort, persistence, performance and well-being (Duda, Cumming, & Balaguer, 2005). As discussed in Chapter 1, motivation therefore holds a central role as a potential explanation for how life skill development may promote positive outcomes. According to the model proposed by Gould and Carson (2008; see figure 1.1), social environmental factors, including motivational antecedents, play an important role in determining the outcomes achieved as a result in participating in sport. In addition, Beauchamp, Halliwell, Fournier & Koestner (1996) found a greater quality of motivation and performance measures in participants taking part in a sport specific mental skills training program compared to those in the control group. Although Beauchamp and colleagues did not consider skill application in non-sport settings, our conceptualisation of life skills, being mental skills applied in multiple domains, allows comparison to be drawn from such studies.

With the many positive common outcomes associated with more autonomous motivation (see Deci & Ryan, 2000) and life skills it is conceivable that motivation is a key process and explanation in the understanding of life skills and how they may benefit sport participants. Therefore, being able to assess individual differences in motivation in a valid and reliable way is of critical importance when attempting to understand and/or enhance athletes' sporting experiences.

The Behavioural Regulation in Sport Questionnaire (BRSQ; Lonsdale, Hodge, Rose, 2008) is a recently developed measure of behavioural regulations in competitive sport, as conceptualised by Self-Determination Theory (SDT; Deci & Ryan, 1985). Developed due to the mixed support for previous scales assessing different motivations for sport participation (specifically the Sport Motivation Scale; Pelletier, Fortier, Vallerand, Tuson, Briere, & Blais, 1995), the BRSQ's utility as a theory-based measure capturing reasons for sport engagement has been supported recently in the case of undergraduate students and adult athletes (Lonsdale et al., 2008; Lonsdale, Hodge, & Rose, 2009). Only one study to date has employed the BRSQ with young sport participants. Specifically, Assor, Vansteenkiste and Kaplan (2009) used a modified version of the BRSQ with adolescent age sport participants (age = 15.62 yrs, SD = 1.70). In their modified version a number of items were added to split the introjected regulation subscale to differentiate approach and avoidance items. Additionally, some items were deleted to increase conceptual clarity within subscales. The current research aims to extend the efforts of Assor and colleagues to more thoroughly examine the validity and reliability of the original version of the BRSQ with a youth sport population.

SDT (Deci & Ryan, 1985) is a theory of human motivation, development, and optimal functioning that addresses the different self-regulatory styles an individual may hold towards participation in an activity. The degree of self-determination a person exhibits reflects the extent to which a behaviour is autonomous (i.e., volitional and congruent with the individual's sense of self) or controlled (i.e., motivated through external outcomes and contingencies). Each behavioural regulation can be placed upon a continuum reflecting lower to higher self-determination. The position of the behavioural regulations on the continuum is aligned with differential consequences for learning, engagement, performance, and well-being (Deci &

Ryan, 1985), with more autonomous regulations being associated with more positive outcomes and less self-determined regulations linked to more maladaptive outcomes.

The continuum can be divided into three types of motivation: intrinsic motivation, extrinsic motivation and amotivation. At one end of the continuum sits *amotivation,* a state without either autonomous or controlled motivation for engagement. Unlike all other behavioural regulations, amotivation is void of any intentionality. For example, a young athlete scoring high on amotivation is likely to question why he or she is participating.

Extrinsic motivation represents behaviours that are initiated due to some separable outcome. Deci and Ryan (1985) posited that extrinsic motivation can be divided into four discrete behavioural regulations. The least self-determined style of extrinsic motivation, and therefore positioned next to amotivation on the continuum, is *external regulation*. External regulation is described as the classic form of extrinsic motivation in which behaviour is tied to specific external contingencies such as tangible rewards or punishments (Deci & Ryan, 1985). A young athlete who is externally regulated may participate in order to maintain a school scholarship or to avoid punishment by the coach or his/her parent as a result of missing training.

Next to extrinsic regulation on the continuum is *introjected regulation,* which comprises behaviour that is controlled by contingent consequences that are self-imposed. These behaviours are initiated to avoid shame or guilt or enhance feelings of self-worth. The young athlete who is marked by introjected regulation participates due to a sense of guilt after recognizing her parent's investment in her sport or for the boost in self-esteem experienced after successful performances.

Identified regulation occurs when the values and outcomes of an activity are recognised and accepted but not fully internalised (Deci & Ryan, 1985). Although this regulation

represents volitional engagement, the outcomes associated with participation are still instrumental. The young athlete who is more identified in reasons for sport engagement may not particularly enjoy practices but values the physical fitness gained through training.

The most self-determined form of extrinsic motivation is *integrated regulation*. As regulations for engagement become more internalised and more fully accepted, behaviour is assumed to become integrated (Deci & Ryan, 1985). Hence, this regulatory style exists in activities that are congruent with an athlete's values and identity. The young athlete who identifies himself as an athlete, and considers participation congruent with his sense of self and what is deemed important in his life, would be considered high in integration.

Intrinsic motivation is the most self-determined form of behavioural regulation representing the most autonomous regulatory style. Intrinsically motivated participants engage in an activity for the satisfaction provided inherently within it (Deci & Ryan, 1985). That is the activity, and the pleasure it provides, is the outcome in and of itself. The young athlete who is intrinsically motivated participates for the enjoyment derived from playing sport.

Consonant with SDT (Deci & Ryan, 1985), current literature supports the propositions that greater self-determination is associated with more positive outcomes such as well-being (Gagne, Ryan, & Bargmann, 2003), athletic performance (Gillet, Vallerand, & Rosnet, 2009), and persistence (Pelletier, Fortier, Vallerand, & Briere, 2001). Self-determination is also negatively associated to maladaptive outcomes such as burnout (Lonsdale, et al., 2009).

Previous research (Assor, et al., 2009; Lonsdale et al., 2008) has supported the validity and reliability of the BRSQ (including the original as well as Assor et al.'s adapted version) as a measure of the different behavioural regulations as conceptualised within SDT. Lonsdale et al. (2008) proposed both six factor and eight factor versions of the BRSQ. The six factor version contains subscales assessing the regulatory styles proposed by SDT including

amotivation, the four extrinsic regulations and intrinsic motivation. Pulling from the work of Vallerand and colleagues (e.g., Vallerand, Blais, Brière, & Pelletier, 1989), the eight factor version divides intrinsic motivation into three further sub-dimensions including intrinsic motivation to know, intrinsic motivation to accomplishment, and intrinsic motivation to experience stimulation.

Early validation by Lonsdale et al. (2008) of the six factor version of the BRSQ resulted in a very good model fit (factor loadings between 0.63 – 0.91) and a better fit than the eight factor version. The six subscales were found to be internally reliable with Cronbach alphas above 0.71. Support for the concurrent validity and suitable test-retest reliability (intraclass coefficients ranging from 0.73 – 0.90) also emerged. Assor and colleagues (2009) provided support for the internal reliability of the BRSQ subscales with modified subscales for introjection and identified regulations among young adolescents (Cronbach alphas ranging from 0.73-0.87).

A further important tool in assessing the validity of an SDT based measure is the simplex structure (Ryan & Connell, 1989). Because the behavioural regulations within SDT are placed on a continuum, regulations closer to each other should share more common characteristics and therefore correlate more highly than those further away. Researchers examining the validity of SDT based measures have examined the extent to which correlations fit this hypothesised structure. Lonsdale et al. (2008) and Assor et al. (2009) both found support for the BRSQ's simplex pattern with adult and youth populations respectively.

While the work of Assor and colleagues (2009) is an important step in assessing the appropriateness of the BRSQ in the case of youth populations, their examination offers only limited support. To our knowledge, a comprehensive psychometric evaluation of the original BRSQ has not been conducted with young athletes. Such extensive testing is important as it is

not suitable to generalise findings of psychometric analyses based on data provided by adults to young people. This consideration is vital because children and adolescents are unlikely to have achieved the same cognitive or psychosocial development as adult populations (Brustad, 1998).

Brustad (1998) noted that researchers need to recognise the key cognitive-developmental differences between children, adolescents, and adults when developing and employing psychological measures. Important developmental differences include age-related variability in abstract reasoning capacity, information processing characteristics, and the structure of self-esteem. Abstract reasoning capacity relates to a child's inability to consider hypothetical propositions or a perspective outside of his or her own experience. Information processing characteristics of children are limited due to an inability to process various sources, or forms, of information concurrently. Finally, the structure of self-esteem develops and differentiates from childhood to adolescence. As youngsters mature into adulthood the nature and number of dimensions that contribute to self-concept changes, as does their relative importance (Marsh & Shavelson, 1989). It is likely that the understanding of self-concept required to respond to items contained in the BRSQ, in particular in the integrated regulation subscale, are still not fully realised until the child has moved through the adolescent period (Archer & Waterman, 1994).

Although research has provided support with adult-aged athletes and preliminary work in the case of adolescents, this study aims to further investigate the validity and reliability of the BRSQ with adolescent-aged sport participants. Specifically, we assessed the factor structure, internal reliability, simplex structure, concurrent validity and test-retest reliability of the six factor version of the BRSQ. It is increasingly being recognised that the employment of mixed methodologies is an important element within questionnaire validation. Consideration of participants' qualitative experience while responding to items can provide a rich insight into the

suitability of a measure for a particular sample. For example, while employing a cognitive

interviewing protocol to investigate the appropriateness of a questionnaire assessing 9-14 year

old students' self-reported mastery goal structures, Koskey and colleagues (Koskey,

Karabenick, Woolley, Bonney, & Dever, 2010) found participants were unable to understand

the language used and also wrongly interpreted some of the items. Specifically, the wording of

several of the items were found to be beyond the reading ability of, or too abstract for, young

participants. Problems were also identified with participants' ability to recognise the context

and content of many items. This insight would not have been detected through quantitative

psychometric assessment of the measure in question alone.

Traditionally such 'think aloud' methods have been employed in research investigating

the cognitive processes involved in various problem solving tasks (Someren Barnard, &

Sandberg, 1994). Recently, a number of authors have employed think aloud protocols to assess

how participants complete questionnaires and process questionnaire items (e.g., French, Cooke,

McLean, Williams, & Sutton, 2007). Via the use of the 'think aloud' protocol, the current

study also aimed to investigate the process through which participants complete the BRSQ and

any problems they may experience in responding to the BRSQ items. This process is assumed

to be multi-dimensional and entails determining the participants' understanding, interpreting,

and responding to items (Tourangeau, Rips, & Rasinki, 2000).

Understanding refers to the ability of the participant to adequately comprehend the

language used. For example, are respondents able to read and understand the words and phrases

contained within items? The *interpreting* phase refers to the correct comprehension of

sentences such that participants recognise what is being asked. Finally, *responding* is the ability

to indicate the appropriate answer within the structure of the questionnaire's response format.

Other studies have adopted a framework incorporating four phases: namely comprehension,

retrieval, judgement and response (e.g., Tourangeau et al., 2000). *Comprehension* relates to the previously noted stages of understanding and interpretation. The *retrieval* phase considers the participants' capacity to gather necessary information from their memory or value system and to then form an appropriate answer. *Judgement* is the process of using the retrieved information to judge an appropriate answer for the given question. Finally, *response* equates to the previously noted phase of responding (Tourangeau, et al., 2000). Integrating these models to consider the phases of understanding, interpretation, retrieval, judgement, and responding can provide greater scope to accurately place, describe, and subsequently address any problems encountered.

In sum, the current investigation aimed to employ both qualitative and quantitative methodologies to assess the content, structural and temporal validity of the BRSQ. Study 1 presents a 'think aloud' protocol which aims to provide a qualitative examination of problems experienced by participants throughout the stages of completing the BRSQ. Study 2 is a quantitative psychometric assessment of the BRSQ with a youth sport population. Conducting the qualitative component prior to quantitative assessment allowed for the possibility of revisions to the wording of the BRSQ items so that they were more age appropriate.

Study 1

Study 1 aimed to provide a qualitative examination of participants' understanding and cognitive processes while completing the BRSQ. In order to provide a qualitative examination of participants' experience, the think aloud approach asks participants to verbalise otherwise silent thoughts as they respond to the items (Someren et al., 1994). Participants are not required to explain or justify their thoughts. They are merely asked to continually report what they are thinking while reading and responding to the items. Ericsson and Simon (1993) have shown that verbalizing thoughts while completing a task does not influence the sequence of thought

processes when compared to completing the same task silently. This method is argued to be particularly suited to tapping both the products and processes of cognition through the concurrent measurement of thoughts (Someren et al., 1994).

Method

Participants

The participants were 13 young sport participants (male = 8, female = 5; age M = 15.71, SD = 1.86) from a range of sports (rugby, tennis, gymnastics, equestrian, cricket, hockey). All participants were competing at least at regional level within their sport in the UK.

Measures

Participants completed the 24 item version of the BRSQ which includes subscales tapping six behavioural regulations (intrinsic motivation, integrated regulation, identified regulation, introjected regulation, extrinsic regulation, and amotivation). Each subscale comprised four items.

Participants were requested to rate the extent to which each item is true of them on a scale of 1 (*not at all true*) to 7 (*very true*). Example items include; 'I participate in my sport because I enjoy it' (intrinsic motivation); 'I participate in my sport because it's part of who I am' (integrated regulation); 'I participate in my sport because I value the benefits of my sport' (identified regulation); 'I participate in my sport because I would feel guilty if I quit' (introjected regulation); 'I participate in my sport because if I didn't other people will not be pleased with me' (extrinsic regulation); and I participate in my sport but I question why I continue' (amotivation).

Procedures

The procedures for the 'think aloud' protocol were followed in accordance with guidelines suggested by Someren and colleagues (1994). All participants were provided with a

letter of information regarding the nature of the study and a parental consent form to be

completed by both the participant and their parent or guardian. After completing the consent

form, participants were provided with standardised instructions (adapted from Green and

Gilhooly, 1996). Key elements of these instructions were that; participants should constantly

verbalise aloud everything they think while completing the questionnaire, participants should

not try to plan or explain their thoughts, there are not right or wrong answers.

Participants were then provided an opportunity to practice on a separate set of items to ensure

their understanding and comfort with the 'think aloud' method. Gaining comfort with the 'think

aloud' protocol allows for fewer distractions and less need for questions or reassurance. This is

important, as Ericsson and Simon (1993) maintain that 'thinking aloud' will not interfere with

task relevant cognitions unless in response to external stimulus such as an investigator's

remarks.

The 'think aloud' protocol was conducted in a quiet and comfortable room convenient

for the participant. While completing the BRSQ, the investigator was sat out of sight of

participants so as not to influence responses. The investigator remained silent unless the

participant remained quiet for approximately 10 seconds, in which case the investigator

provided prompts to the participant (e.g., 'please continue to think-aloud'?').

Data Analysis

All audio recordings were first transcribed verbatim and segmented into individual

items within the BRSQ. Data were analysed through the process of segmenting and coding in

accordance with recommendations by Someren et al. (1994). Each transcript was segmented

into material relating to each of the BRSQ's 24 items. Segments were then analysed to

highlight problems encountered by individual participants while responding to each item. A

coding scheme of encountered problems was then developed by the primary author using the

various phases of the questionnaire completion process. This coding scheme was then assessed through a consensual validation process with the second and third authors to ensure trustworthiness.

Results

Identified problems are presented by phase of questionnaire completion.

Understanding

Not understanding language within items. This problem relates to the participants not understanding the language or vocabulary of item 12. Comprising part of the introjected regulation subscale, item 12 states, 'I participate in my sport because I feel obligated to continue.' The problem encountered was that a number of participants ($n = 3$) did not understand the word 'obligated'. For example, one participant said, "Because I feel obligated to continue. I am not sure what obligated means. I can't really answer that because I don't understand the question." Another participant stated, "Because I feel obligated to continue. I don't understand that word. What does obligated mean?"

Interpretation

Not interpreting the item correctly. Some participants did not interpret the meaning of items in the integrated subscale as intended. Item 3 ('I participate in my sport because it's an opportunity to just be who I am') and item 24 ('I participate in my sport because it allows me to live in a way that is true to my values') were found difficult for some participants ($n = 2$ and 4, respectively) to comprehend.

While completing item 3, one participant noted that, "Because it's an opportunity to just be who I am. Um, I don't understand this as much. Um, I try and ride to my best ability." Another participant encountered problems with item 24 when she stated, "Because it allows me

to live in a way that is true to my values. True to my values, um, I don't know if [sport] is, um. I'm not really sure what the question means."

Motivation as an antecedent. While completing item 17 (an item in the identified regulation subscale; 'I participate in my sport because it teaches me self-discipline'), some participants (n = 3) indicated that they were confused whether the item was tapping the teaching of self-discipline as a consequence of participating rather than as a reason for initiating their participation in sport. One participant thought aloud, "Because it teaches me self-discipline. Well, I suppose it does a little bit but I am a bit mouthy on the pitch so it is not that good for my self-discipline. I'll put that as a five." Clearly this interpretation is not aligned with the intent of the item, which is to tap the degree to which the potential for sport to develop self-discipline is a motivation for the respondent to participate.

Retrieval

Lack of self-awareness. While assessing the integrated regulation, it was apparent that a number of the young participants (*n* = 3) were not aware of personal values required to accurately respond to items. While completing item 24 one participant said, "Because it allows me to live in a way that is true to my values. What does this mean? What are my values? I don't get it." Another participant noted, "Because it allows me to live in a way that is true to my values. Um, I am not sure about this. I am not sure what my values are. That sounds really bad!"

Responding

Within the responding phase, no problems were encountered. That is, no participant experienced difficulty with the questionnaire format, the procedure for selecting an appropriate number on the provided likert-scale, or the scale anchors in the case of any of the items.

Discussion

The data stemming from the 'think aloud' procedure revealed a number of issues related to the BRSQ as an appropriate measure for young sports participants. Firstly, within the understanding phase of questionnaire completion, concerns regarding the readability of language and comprehension of item 12 were identified. It is reasonable to assume that a rewording of this item is likely to resolve this issue in young participants. Removing the word obligated and revising the item to, for example, 'I participate in my sport because I feel I have to continue,' might rectify the problem in comprehension. Assor et al. (2009) omitted this item from their version of the BRSQ due to the item lacking conceptual clarity, therefore we cannot be sure of this item's influence on previous quantitative analysis of the BRSQ with youth athletes.

When considering the readability of the items it is noteworthy that the original item ('I participate in my sport because I feel obligated to continue') scores 56.7% on the Flesch Reading Ease scale (scored from 1 to 100, 100 indicating very easy to read) and 7.5 on the Flesch-Kincaid Grade level (suggesting it is appropriate for US school grades 7-8, students aged 12-14 years old, Kincaid, Fishbourne, Rogers, & Chisson, 1975). On the other hand, the newly proposed revision of the item scores 86.7 on the Flesch Reading Ease scale and 3.6 on the Flesch-Kincaid Grade level, suggesting it is appropriate for child ranging from 8-10 years old. Although it appears that the original item should not be problematic (which assumes that all participants have achieved their supposed reading age), this improvement in readability is

likely to ensure that all young athletes are going to be able to correctly understand the item in future research administrations.

The next phase of questionnaire completion is interpretation of items. Two problems were encountered that relate to the correct interpretation of items contained within the BRSQ. First, analysis of responses to items 3 and 24 demonstrated that three participants did not comprehend the question relating to how sport engagement can be aligned their values. This may reflect an inability to grasp the meaning of the question or suggest that these participants have not yet formed values that they are consciously aware of (as is discussed further below).

Second, some participants did not recognise that item 17 was asking whether self-discipline is a motivating factor towards rather than an outcome of sports participation. This problem may be remedied by rewording the item. For example, 'I participate in my sport because I believe that playing will develop my self-discipline.' This item was also removed from Assor et al.'s (2009) analysis of the BRSQ due to differences in cross-cultural interpretation of 'self-discipline', again preventing us from drawing comparisons between results.

With respect to the retrieval phase, there were issues with respect to capturing the concept of integrated regulation in terms of the participants' self-awareness and understanding of their own values. Previous measures of behavioural regulations have often lacked psychometric support for the integrated regulation subscale because, in adult populations, it has not been adequately distinguishable from either identified or intrinsic motivation (Markland & Tobin, 2004; Pelletier et al, 1995). However, Wilson and colleagues (Wilson, Rodgers, Loitz, & Scime, 2006) recently examined items tapping integrated regulation within the Behavioural Regulation in Exercise Questionnaire (BREQ; Mullen, Markland, & Ingledew, 1997). They

found it was possible to assess integrated regulation without compromising the validity of the BREQ in adult populations.

When employing a revised version of the BRSQ with an adolescent sample, Assor and colleagues (2009) reported a Cronbach alpha of 0.74 for the integrated subscale. In addition, and aligned with SDT (Deci & Ryan, 1985), they found the integrated subscale to be distinguishable from, yet significantly and positively correlated with, both intrinsic motivation (r = .64, $p < .05$) and identified regulation (r = .59, $p < .05$). It should be noted, however, that these results were found using the modified version of the BRSQ described earlier.

According to Archer and Waterman (1994), the integration of behaviours into one's sense of self is a process that occurs over time and within contexts. Adolescents have not always established the required value systems or a conscious understanding of the specific behaviours that reflect those values. Therefore, a valid and reliable assessment of adolescents' integrated regulation is likely impossible. The current think aloud data supports this proposition and suggests that a measure of young participants' integrated regulation may be inappropriate or at least, problematic. The findings suggest that adolescents (age 14-17 years) may not have the cognitive or psychosocial development to accurately respond to certain items within the integrated regulation subscale.

It is noteworthy that no problems were identified within the responding phase of questionnaire completion. This suggests that the scale and layout for providing responses within the BRSQ was sufficiently straight forward for young participants to understand and manage.

Finally, the 'think aloud' protocol revealed that only 30.8% ($n = 4$) of the current sample encountered no problems when completing the BRSQ. This demonstrates that the

majority of the sample encountered difficulty when responding to this questionnaire. In Study 2, a psychometric examination of the BRSQ, guided by the results of Study 1 was conducted.

Study 2

When administered to adult populations, the BRSQ has been shown to exhibit acceptable internal reliability, a good measurement model fit, robust simplex structure, concurrent validity (as determined via subscale relationships to athlete burnout and flow), and acceptable test-retest reliability (Lonsdale et al., 2008; Lonsdale et al., 2009).

Assor and colleagues (2009) provided some support for the validity of a modified version of the BRSQ. They found acceptable internal reliabilities and support for the simplex model. Furthermore, their study reported evidence for the concurrent validity of the identified and introjected subscales (although the latter was modified into two subscales). Extending the work of Assor et al. (2009), this second study aims to more comprehensively assess the psychometric properties of the original BRSQ with a youth population through a number of stages. First, descriptive statistics and correlations were assessed in order to investigate the norms and hypothesised simplex structure of the BRSQ. It is proposed that the behavioural regulations along the self-determination continuum should show an ordered correlation structure, or simplex model (Ryan & Connell, 1989). Specifically, the regulations next to each other should be highly correlated while those further apart are less, or negatively, correlated.

Second, confirmatory factor analysis was conducted to examine the factorial validity of the BRSQ based on the findings of Study 1. Third, to investigate the concurrent validity of the instrument, the six BRSQ subscales were correlated with a measure of self-esteem. According to Deci and Ryan (1985), more autonomous motivational styles should be associated with greater well-being. Thus, we expected that self-esteem would be positively correlated with more autonomous behavioural regulations while the young athletes' perceptions of self-worth

should be associated with more controlled behavioural regulations. Finally, test-retest reliability was determined with a subgroup of the larger sample to evaluate the temporal stability of the BRSQ.

Method

Participants

Participants were 659 sports participants (male = 467, female = 160; age M = 15.28, SD = 1.13) from a range of sports (rugby, football, hockey, netball, cricket, basketball). Participants had a mean of 5.55 years (SD = 2.58) experience in their sport and were diverse in competitive standard, including recreational (6.4 %), club (36.0 %), regional (15.0 %), and national (42.6 %).

Measures

After obtaining informed consent and collecting demographic information, participants completed two questionnaires. First, the 24-item version of the BRSQ slightly modified from the 'think aloud' study was administered. In the revised version, the word obligated was defined within the item. Second, participants completed the 10 item General Self-Worth subscale of the Self-Description Questionnaire II (SDQ; Marsh, 1990) to investigate the BRSQ's concurrent validity. Items were rated on a likert type scale from 1 (*false*) to 6 (*true*). An example item from the General Self-Worth subscale is 'Most things I do, I do well.' This subscale has been found to be a valid measure of adolescents' overall feelings of self-worth (Marsh, 1990).

Procedures

Participants were recruited through their sports club or organization. All participants received a letter of information and an informed consent form to be completed by both the

participant and his or her parent or guardian. Prior to completing the questionnaires, participants were requested to answer all questions independently and as honestly as possible.

Data Analysis

Data were first screened for missing data, errors and both univariate and multivariate outliers. Assumptions of univariate and multivariate normality were then tested for each item by calculating skewness, kurtosis and Mahalanobis distances. Descriptive statistics were calculated for each subscale. Internal consistency was determined via Cronbach alpha (Cronbach, 1951) for the items representing each subscale within the BRSQ. Bivariate correlations between subscales were determined to assess the hypothesised simplex model of the instrument.

To investigate the BRSQ's assumed factor structure, Confirmatory Factor Analysis (CFA) was performed with Maximum likelihood procedures using AMOS 18.0 (Byrne, 2010). Analysis was informed by findings in Study 1 which raised some issues worthy of further investigation. More specifically, CFA was performed on three models, 1) the original 24 item model of BRSQ, 2) the original model of the BRSQ omitting the integrated regulation subscale, and 3) the original 24 item model omitting problematic items 12, 17, and 24. Following the CFA, the best fit model was then taken forward for subsequent analysis.

Concurrent validity was investigated by examining the bivariate correlations between the subscales of the BRSQ and the SDQII General Self Subscale. Test-retest reliability was assessed by calculating intraclass correlation coefficients using a subset of the complete sample ($n = 38$) who completed the BRSQ on two occasions separated by three months.

Results

Data screening

Data were screened for multivariate outliers by calculating the Mahalanobis distance. Using a criterion value of $p > 0.001$ (Tabachnick & Fidell, 2001), mahalanobis distances were evaluated as χ^2 values with the number of variables determining the degrees of freedom. Cases ($n = 32$) which violated the χ^2 values were deleted.

Multivariate normality was assessed using Mardia's (1970, 1974) normalised estimate of multivariate kurtosis. Applying Bentler's (2005) recommendations, a score greater than 5.00 indicates the data is nonnormal. Results revealed a Mardia's coefficient of 61.51 clearly indicating a significant deviation from multivariate normality. To account for the nonnormal distribution further analysis was conducted with a maximum likelihood bootstrapping. Similar to chapter three, the recommendations of Byne (2010) were followed with 90% bias-correction confidence intervals.

Confirmatory Factor Analysis

Assessment of overall model fit. As with the previous chapter, a two-index presentation strategy was adopted, as per Hu and Bentler's (1998) recommendations. Comparing the measurement model to a null was achieved via Comparative Fit Index (CFI; Bentler, 1995) and non-normed Tucker-Lewis Index (TLI; Tucker & Lewis, 1973), with scores greater .90 being considered a good fit (Kline, 1998). The Root Mean Square Error of Approximation (RMSEA, Steiger, 1990) and Standardised Root Mean Square Residual (SRMR, Bentler, 1995) compare the measurement model with a predicted model with scores less than .80 representing a good fit (Browne & Cudek, 1993).

Results suggest model 3 as reflecting the best fit to the data. Although the CFI and TLI have not reached the stricter cut off of 0.95, the fit indices have reached the acceptable cut-off levels recommended by Marsh, Hau and Wen (2004). While all models did satisfy the traditional cut-offs for the RMSEA and SRMR only model 3 achieved 0.60 on RMSEA,

suggesting a very good fit. Furthermore, a χ^2 difference test revealed model 3 to provide a

significantly better fit to the data than models 1 and 2, $p > 0.001$ and $p > 0.01$ level

respectively. For all subsequent analysis model 3 of the BRSQ was taken forward.

Table 4.1. Fit indices for the three measurement models tested.

	Omitted Items	χ^2 (df)	p	CFI	TLI	RMSEA (95% CI)	SRMR
Accepted limits			> 0.05	≥ 0.90	≥ 0.90	≤ 0.80	≤ 0.80
Model 1	-	969.0 (236)	< .001	.91	.89	.07 (.64-.74)	.07
Model 2	Integrated Subscale	697.8 (160)	< .001	.92	.90	.07 (.63-.74)	.07
Model 3	12, 17, 24	639.1 (191)	< .001	.94	.93	.06 (.55-.65)	.07

Descriptive Statistics

Descriptive statistics were calculated to establish norm scores and the internal reliability

of subscales via Cronbach's alpha (1951). Table 4.2 shows the descriptive statistics and alphas

for model 3. All subscales reached the criterion alpha coefficient of 0.70 (Nunnally &

Bernstein, 1994). In the case of the integrated, identified and introjected regulation subscales

(i.e., those that were in the modified model 3), the observed alphas were higher for model 3

than model 1 (growing from .71 - .75, .75 - .83, .71 - .85 respectively).

Factor correlations

Table 4.2 also shows the inter-factor correlations. Self-determination theory (Deci &

Ryan, 1985) proposes that the behavioural regulations can be placed along a continuum

reflecting the degree to which behaviours are more autonomous or controlled (Figure 1). As a

result, factors should be more highly correlated to those factors more closely located to them on

the continuum. This pattern of correlations constitutes the simplex structure (Ryan & Connell, 1989).

Table 4.2. Subscale descriptives and correlations for measurement model 3 of the BRSQ.

	Means	SD	Alphas	IM	IG	ID	IJ	ER	Am
IM	6.38	0.74	.83	-					
IG	5.21	1.20	.75	.51**	-				
ID	5.43	0.99	.83	.52**	.56**	-			
IJ	2.93	1.58	.85	-.19**	.09*	.14**	-		
ER	2.38	1.26	.86	-.37**	-.08*	-.78*	.61**	-	
Am	1.79	1.04	.85	-.53**	-.15**	-.20**	.47**	.62**	-

* $p = < 0.05$, ** $p = < 0.01$

Concurrent Validity

Concurrent validity was assessed via the determination of bivariate correlations with the General Self-Worth subscale. In accordance with SDT propositions (Deci & Ryan, 1985), more autonomous motivational regulations should be associated with greater well-being and optimal functioning. On the other hand, more controlled motivational regulations and amotivation are expected to be related to diminished well-being. The players' overall self-concept was significantly and positively correlated with intrinsic motivation ($r = .129$, $p < 0.001$) and significantly and negatively related with extrinsic regulation ($r = -.151$, $p < 0.001$) and amotivation ($r = -.136$, $p < 0.001$). Although not all the behavioural regulations were found to be significantly associated with the SDQ general subscale, these results provide at least partial support for the concurrent validity of the BRSQ.

Test-retest Reliability

Interclass correlations (ICC) using a two-way random effect model were calculated to determine the test-retest reliability of the modified BRSQ subscales. Temporal reliability is considered to be supported with ICC scores greater than 0.70 (Vincent, 1999). Results revealed mixed support for the subscales of the BRSQ with more self-determined regulations showing greater reliability over the three month period. The observed correlations were as follows; intrinsic motivation (.88), integrated regulation (.75), identified (.78), introjected (.67), extrinsic regulation (.62), and amotivation (.57).

Discussion

Motivation is a fundamental concept within youth sport participation that determines behaviour initiation, quality of engagement, and associated outcomes (Duda, et al., 2005). The capacity for researchers to validly and reliably measure motivation in young athletes is, therefore, of crucial importance. The validity and reliability of the BRSQ has recently gained support among adult populations as a SDT based measure of motivation. Although Assor and colleagues (2009) have provided some evidence of the BRSQ's validity and reliability with an adolescent population, no comprehensive evaluation of a non-modified BRSQ with young athletes has been conducted.

Brustad (1998) noted the importance of recognizing developmental differences among child, adolescents, and adults when administering psychological measures to youth samples. That is, children and even older adolescents do not necessarily have the cognitive-maturity to accurately complete some questionnaires. With such concerns in mind, the present study aimed to assess the appropriateness of the BRSQ for youth athletes using a mixed-method approach.

Study 1 comprised of a qualitative examination of the young athletes experiences of completing the BRSQ. Via a 'think aloud' protocol, any problems the participants encountered

were identified. Results revealed that 69.2% of participants encountered some form of problem within the understanding, interpreting, and/or retrieval phases of questionnaire completion.

Study 2 aimed to assess the validity and reliability of a slightly modified version of the 24 item BRSQ for young athletes, as informed by the results of Study 1. Specifically, within item 12 ("I participate in my sport because I feel obligated to continue") the word obligated was defined within the item. Confirmatory factor analysis results supported the qualitative assessment of the BRSQ which suggested that a number of items were inappropriate for the young population. When these items were omitted from the model, the BRSQ showed a significantly better fit to the data.

The qualitative assessment of the BRSQ called into the question the ability of the current sample of adolescent participants to appropriately complete items comprising the integrated regulation subscale. Previous authors have noted that full integration of behavioural regulations and development of self-concept is unlikely to have occurred during childhood and adolescence (Brustad, 1998; Archer & Waterman, 1994). Consequently, previous self-determination based studies and measures employed with young participants often omit the integrated subscale (e.g. Mullan, Markland, & Ingledew, 1997). Although above criterion cut-offs, the current study found the internal reliability of the integrated regulation subscale (.73) to be lower than that of the other subscales (.83 - .86). These results do not replicate those of Assor and Colleagues (2009) who found the integrated subscale (.80) to have comparable Cronbach alphas to the other subscales (.73-.87).

The observed inter-factor correlations supported the structure of motivation regulations, as assumed within the SDT continuum, through the confirmation of the hypothesised simplex model (Ryan & Connell, 1989). Consequently, these results provide further support for the validity of the BRSQ for young athletes.

Another proposition of SDT (Deci & Ryan 1985) is that the different behavioural regulations would exhibit differential relationships with other psychological constructs. With respect to self esteem, SDT assumes that more self-determined behavioural regulations will be more positively associated with greater self-esteem while more controlled behavioural regulations will be more negatively associated with self-esteem (Deci & Ryan, 1985). Previous research with young athletes has shown self-worth to have this relationship with the behavioural regulations (e.g., Gagne et al., 2003). Within the results of the current study, correlations between the behavoural regulations measured by the BRSQ and SDQ general subscale also confirmed this pattern. That is, although significant correlations were not found for every subscale of the BRSQ, scores on the self-worth subscale did show a proposed pattern with behavioural regulations at either end of the continuum in the expected direction. Specifically, self-worth was found to be positively correlated to intrinsic motivation and negatively correlated to extrinsic regulation and amotivation. The present findings, therefore, provide partial support for the concurrent validity of the revised BRSQ.

The temporal stability of the BRSQ was assessed through intraclass correlations from measures administered on two separate occasions to a subsample of the current participants. The recommended cut-off of 0.70 was achieved only in the case of the intrinsic motivation, integrated regulation, and identified regulation subscales. These findings support the test-retest reliability of the more autonomous subscales within the BRSQ. Scores on the more controlled subscales were marked by interclass correlations below the 0.70 cut-off suggesting a lack of temporal stability.

However, it may be that the period over which the BRSQ was administered to achieve test-retest scores was too long to support high temporal stability across all the motivation regulations (plus amotivation) tapped. Previous researchers have shown that motivational

profiles are likely to alter over time. Similar to the current research, results from a 12 week tournament-long study conducted by Cresswell and Eklund (2005) suggested that although more autonomous regulations remained stable, the more controlled regulations were found to increase. This is to be expected as similar studies have found indices of ill-being such as burnout to increase throughout a season (e.g., Cresswell & Eklund, 2005). The increased burnout is caused by the occurrence of more important competitions and the onset of fatigue after a season of participating in their sport. However, regardless of the increased fatigue players at the end of the season are still likely to report enjoying sport and engage in it volitionally. Our observed pattern of sustained autonomous engagement is consonant with this premise.

The combination of both the qualitative and quantitative results highlights a number of issues that need to be considered when employing the original BRSQ with young participants. First, previous studies have questioned the appropriateness of the integrated subscales for adolescent participants. The current study found that some participants were unable to understand what it meant to be true to their values or even what their values were. This is likely the result of those particular adolescents not having a sufficiently developed self-concept to be consciously aware of their values. Nevertheless, quantitative analysis did provide some support for the validity and reliability of the integrated subscale. Taken in totality, these results suggest that in the case of adolescent athletes the integrated subscale should be used with caution.

The subscales for both the identified and introjected regulations also contained items that were found to be problematic in study 1 due to their language. Therefore, it may be appropriate to consider the readability of the items when administering the BRSQ with young participants. For example, one problematic item in the introjected subscales was 'I participate

in my sport because I feel obligated to continue' which may be changed to 'I participate in my sport because I feel I have to continue.'

One further source of difficulty was found when confusion arose between whether an item was assessing the motivation to participate in sport or the outcome of that participation. The item 'I participate in my sport because it teaches me self-discipline' was often answered as though the question was 'How effective is sport in teaching you self-discipline?' The conceptual difference between antecedents and outcomes being confused within this item is a matter of great importance in relation to subsequent SDT-grounded research assessing motivation regulations.

In addition to the difficulty encountered with the item 'I participate in my sport because it teaches me self-discipline,' there is also an issue relating to the specificity of this item. Self-discipline is one benefit that may be valued as an outcome of sports participation in young athletes. However, this is only one example of the very many benefits that may potentially be accrued through a healthy engagement in sport. While one participant may value self-discipline very highly another may place more importance on other benefits. While a participant still identifies with the benefits of sport, and therefore should score highly on the identified regulation subscales, his or her score may be skewed due to them not specifically valuing self-discipline. This identifies the danger in generating very specific items to capture more general concepts and perspectives.

In summary, the current results go some way to support the validity and reliability of the original BRSQ when administered to young athletes. Although these findings do support the structure of the questionnaire, there appears to be some issues that need to be considered when administering this questionnaire with youth populations. First, the maturity of participants must be considered to assess the appropriateness of the integrated subscale.

Second, these findings suggest that some items may need to be altered in order to be appropriate for young athletes. Third, the temporal reliability of the more controlled/less autonomous subscales of the BRQ was questioned. However, it should be noted that the period over which test-retest was ascertained in the present study was longer than usually adopted in the psychometric literature.

Although the current study provides some support for the use of the BRSQ with young athletes, further examination into the BRSQ is still required. First, further examination is needed into specific items to ensure their readability for young athletes. Second, as argued by Assor and colleagues (2009) a number of items lack conceptual clarity. For example, the inclusion of self-discipline as a distinguishing characteristic for identified regulation is too narrow a view of what the subscale encompasses. Third, further investigation into the integrated subscale should be aimed to establish its appropriateness for young populations.

A GAMES-BASED LIFE SKILLS DEVELOPMENT PROGRAM FOR YOUNG SPORTS PARTICIPANTS

Introduction

Young people face a barrage of biological, cognitive, and social transitions and challenges as they progress through adolescence. Many of these challenges emanate from different areas of their lives, all of which play a part in the healthy development of the individual (such as family, school, sport, etc). To thrive in the face of these challenges requires young people to be equipped with the necessary skills and competencies. This range of competencies are known as life skills and have been defined as, "those internal personal assets, characteristics and skills such as goal setting,... that can be facilitated and developed in sport and are transferred for use in non-sport settings" (Gould & Carson, 2008; p. 60).

Life skills researchers (e.g., Danish, 2002; Durlack & Weissberg, 2007; Gould & Carson, 2008; Jones, 2012; Petitpas, Cornelius, Van Raalte, & Jones, 2005) have made an overwhelming argument for the need to systematically develop life skills in young people rather than depend on the participation in existing organised school and extra-curricular activities for this to occur. Indeed, the reliance on merely participating in youth activities such as sport, to learn key techniques and skills that could be used in other life domains, as compared to more explicit methods of learning, has shown equivocal results at best (Holt, Tink, Mandigo, & Fox, 2008; Larson, Hansen, & Moneta, 2006).

For many, the possibility that sport is not supporting the growth and development of young people in a positive way is a crucial failing in both the sport organisation and in terms of optimising youth development. Numerous authors have posited that the role of applications of sport psychology in the case of young people is firstly to develop physically and psychologically healthy individuals with performance improvements being of secondary

importance (e.g., Danish & Nellen, 1997) and by others a pre-requisite for optimal performance (Miller & Kerr, 2002).

Although there is a growing body of applied research in the field of life skills there are still a number of voids in the literature that warrant attention. First, there is a lack of description and rationale provided relating to the development of applied programs. Second, the mechanisms by which life skill development promotes positive developmental outcomes such as well-being has not been systematically examined. Finally, weaknesses in the evaluation of applied programs prevent us from drawing conclusions as to their true value to young people.

Developing a life skills programs. Before considering its design it is important to identify the broad aims and setting of a life skills intervention. Through the delivery of a school-based program, the aims of the present work were to identify and build on participants' existing skills so that they set and strive towards their personal goals in sport and school. The school setting consists of a number of features which make this context a popular choice for positive youth development programs (Catalano, Berglund, Ryan, Lonczak, & Hawkins, 2004). Schools are a place where young people spend the majority of their time and so can receive continual reinforcement for adaptive behaviours. Many tasks presented at school provide opportunity for regular tangible and meaningful goals that can promote goal setting habits and accrue positive perceptions of competence and identity. School is a setting in which young people are used to learning knowledge, techniques and social norms. In general, young people also consider school to be a safe environment where they can forge trusting adult and peer relationships. Finally, schools provide an ideal domain where there is opportunity to transfer skills from one domain (e.g., sport) to another (e.g., academics). This was shown in chapter 3 as results found mental technique application in sport to be correlated with mental technique

use in school. In addition, our results revealed that the use of those mental techniques within the sporting domain was associated with greater well-being. As school is such a salient context for young people, efforts to increase achievement and well-being should be readily welcomed.

However, there are some disadvantages to or challenges associated with school-based life skills development programs. For example, many students might be turned off by the view that it is "another class" and may have a preconceived idea of the leaders and peers (e.g., young people known as "sporty", "clever", or "stupid") which can influence engagement in the program. Consequently, the current development program aimed to draw from the strengths of the school environment while overcoming the barriers it may present.

To best work within the school-setting the present program was designed to promote the intrinsically motivating nature of games-based activities using adapted versions of mini-sports and games as well as activities taken from non-sport youth development programs (e.g., Orlick, 2004). The strength of this approach is due to the role that divergent activities are considered to have on psychosocial development. For example, Larson and colleagues (2006) found that different organised activities promote different experiences. Sport, compared to other organised activities such as faith based groups or the arts, was associated with experiences relating to identity exploration and emotional development. However, sport has not always been considered a context prone to developing fairness and moral character (Gould, Chung, Smith, & White, 2006a). Holt and Jones (2008) noted that the nature, culture, and values prevalent through sport can often determine the experience and outcomes derived. A games-based approach, as adopted here, allows the group and its leaders to define the culture and values important to the group without preconceived ideas linked to the participants' previous experiences in sport. This approach can also promote group belonging as development is based

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on participants' shared experiences within the program. The games-based approach also asks the participants to learn from experience, make sense of what is taught in terms of their daily lives and then practice and reflect on those experiences. As a result, it is conducive to a deeper style of learning that promotes greater understanding and potential application to other settings.

Although a number of life skills programs of this nature have been developed and delivered, the detail or rationale regarding the design of the program in question is rarely provided. The current chapter aims to discuss the foundations upon which the present program is based. The structure of this intervention was designed drawing from what was found to be good practice in existing life skills programs (e.g., SUPER, Danish, 1999; Play It Smart, Petitpas et al., 2004) and life skills development frameworks (Danish et al., 1993; Gould, Collins Lauer & Chung, 2006; NRCIM, 2002; Petitpas et al., 2005).

Most current life skills development programs have their roots in the Life Development Intervention (LDI) framework (Danish et al., 1993). This framework centres on the development of goal setting strategies to develop the life skills needed to cope with critical life events. More recently, a number of recommendations have been provided to offer a more detailed guide to the development of life skills programs.

A salient framework for positive youth development programs was proposed by the National Research Council and Institute of Medicine (NRCIM; 2002) which stated that programs should engage and develop the physical, intellectual, psychological/emotional, and social characteristics of its participants. The NRCIM (2002) also noted the importance of the psychosocial environment created within an applied program through highlighting eight required features of effective positive youth development setting (see Table 5.1).

Table 5.1. Features of positive developmental settings (NRCIM, 2002)

Required features of a positive youth development setting
Physical and psychological safety
Appropriate structure
Supportive relationships
Opportunities to belong
Positive social norms
Support for efficacy and mentoring
Opportunities for skills building
Integration of family, school, and community

In a similar vein, Petitpas and colleagues (2005) noted the four key components of an effective program to be: context; external assets; internal assets; and evaluation (to be discussed separately). Context refers to a psychologically safe environment in which young people experience intrinsically motivating and meaningful activities. This context must be appropriate for the particular group as Eccles and colleagues (Eccles, Midgley, Wigfield, Buchanan, Reuman, Flanagan, & MacIver, 1993) argued that optimal development can only take place when there is a good fit between the participants' stage of development and their environment. This is supported by Côté and Hay (2002), who noted that the developmental stage of an participant influences his or her psychological, social, and physical engagement.

External assets include caring adults and positive peer groups. Internal assets are the targeted life skills that define the personal skills and competencies of the individual. The inclusion of the context and external assets supports the notion that the development of life skills requires more than the increase in participant knowledge relating to life skills, but necessitates a mindset as well as the experience of particular activities (Gould & Carson, 2008).

The importance of the mindset of the coach or program leader is one of four primary considerations within Gould and colleagues (2006b) model for coaching life skills, developed through interviews with coaches recognised for their ability to teach life skills (Gould, Chung, Smith, & White, 2006a; Gould, Collins, Lauer, & Chung, 2007). Their model highlights; the philosophical foundations of the program leader; the leader-participant relationship; the specific life skills development strategies; and environmental considerations and use of resources.

Taken together, these frameworks (Danish et al., 1993; Gould, Collins Lauer & Chung, 2006; NRCIM, 2002; Petitpas et al., 2005) highlight the importance of the leaders' philosophical foundations, the provision of external assets, the development of the participants' internal assets, and the formation of a safe, motivating, and challenging environment. Furthermore, the current thesis has highlighted the need to conduct a thorough needs analysis of the participating young people. The resulting five criteria therefore set the stage for the development of the life skills development program.

Finally, it is worth remembering that the defining feature of life skills is their transference or application in multiple domains. Danish (2002) has noted that there is nothing magical about a ball, a racket, or sports pitch. Relying on transference to occur intuitively is misplaced and thus the teaching of such transference must be a deliberate component of any life skills development program (Martinek et al., 2001). Following the guidance of Danish and colleagues (Danish, Taylor, Hodge, & Heke, 2004), strategies included in the present program to encourage transference included encouraging the application of techniques and skills in multiple domains from the beginning of an activity; creating similar situations between sport and other domains (in this case school); providing opportunities to practice transference;

encouraging reflection on experiences across the target domains; and following up on experiences to reinforce positive behaviours.

However, as the current program adopted a games-based approach and was not directly set in the participants' sport, the program aimed to utilise the five components drawn from described frameworks to promote the application of skills in multiple domains through the strategies of Danish and colleagues (2004). From an evaluation perspective the investigation centred on the application of techniques and skills in multiple domains to assess the development of life skills. These skills were introduced and reflected upon within the context of the games and activities embedded in the program sessions.

Mechanisms of life skills. The results of chapter three revealed that mental skills play a mediating role in the relationship between youth experiences and well-being. However, the understanding of the mechanisms through which life skills promote well-being, and other positive outcomes, are a noted gap in the literature (Gould & Carson, 2008). Consequently, the current study aimed to investigate the potential role of motivational processes (as proposed in Self- Determination Theory (SDT; Deci & Ryan, 1985) as a possible mediator of the impact of this life skills program on the targeted outcomes.

SDT (Deci & Ryan, 1985) is a theory of motivation, development, and optimal functioning with centres on the self-regulatory styles held by individuals towards different behaviours. The self-regulatory styles, or behavioural regulations, can be placed on a continuum ranging from more controlled to more autonomous behaviours. At the controlled end of the continuum is the behavioural regulation of amotivation, reflecting a complete absence of motivation towards an activity. Moving towards the more autonomous end of the continuum sits extrinsic motivation, including external regulation, introjected regulation,

identified regulation, and integrated regulation (Chapter 4 more detailed explanation of these regulations). The most autonomous form of regulation is intrinsic motivation, characterised by participation initiated for the pleasure and satisfaction experienced during an activity.

When participation in an activity is founded upon more autonomous behavioural regulations it is considered more self-determined. Many studies have associated greater self-determination with both successful behavioural change (Ryan, Patrick, Deci, & Williams, 2008) and an increase in positive outcomes such as performance, engagement, and well-being in both sport (e.g., Adie, Duda, Ntoumanis, 2010; Gagné & Blanchard, 2007) and school (Ryan, & Deci, 2009).

SDT also proposes that in order to be more self-determined in an activity, one's engagement must satisfy the innate psychological needs of autonomy, relatedness and competence as they strive towards valued outcomes (Deci & Ryan, 2000). Satisfaction of these needs promotes more self-determined motivation while the thwarting of them reduces it (i.e., promotes more controlled motivation). Life skills have been associated with the development of self-responsibility (autonomy), greater adult and peer relationships (relatedness) and self-confidence (competence) (Danish & Nellen, 1997; Danish, Fazio, Nellen, & Owens, 2002). It therefore may be hypothesised that the development of life skills supports individuals' satisfaction of the basic needs and self-determination. In turn, this greater self-determination fosters greater well-being and other positive outcomes. These predictions are supported by research by Beauchamp and colleagues (Beauchamp, Halliwell, Fournier, & Koestner, 1996) who found that participants engaged in mental skills training program experienced greater self-determination compared to those who focused on physical skill development and a control group. The current study therefore aims to study whether any variance in well-being associated

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with greater life skills may be due, at least in part, to a change in participants' self-determination.

Evaluation of applied life skills programs. Evaluation involves the multifaceted assessment of the program. Numerous issues regarding the determination of the effectiveness of a life skills program have been highlighted within the life skills literature (e.g., Gould & Carson, 2008; Petitpas et al., 2005) and earlier chapters of this thesis. Specifically, few studies have assessed: a) life skill development in multiple domains (a key criterion in defining a life skill), b) measured the application of life skills rather than declarative knowledge of mental techniques, c) provided follow-up data to investigate the long term impact of interventions, d) investigated the mechanisms through which life skills promote positive outcomes, and e) provided other sources of data other than participants' self-report. In this present study, we attempted to apply these considerations to the evaluation of the current life skills development program.

In summary, the present study aims to comprehensively evaluate a development program designed to promote the psychosocial competencies of its participants. This program focused on developing participants' ability to set goals and strive towards them with the required life skills. In evaluating this program, we determined whether participants applied mental skills in sport and school with greater frequency than those not in the program. Finally, we also investigated whether participants self-reported motivation and well-being in order to assess the mediating role of self-determination in the relationship between life skills and positive developmental outcomes.

Methods

Participants

Participants were recruited from a medium sized urban state secondary school in the West Midlands, UK. This school was selected due to interest shown from senior members of staff and its capacity to host and schedule the intervention.

The main inclusion criteria for participation was to be in year 10 (aged 14-15 years old; which is one year prior to students taking their GCSE or BTEC exams), taking Physical Education (PE) as an academic subject, and regularly participating in some form of organised sport. All year 10 students studying PE were involved in organised sport, allowing a potential total sample of 50 students. While ensuring an even split between gender and those students studying for GSCE ($n = 38$) and BTEC ($n = 12$), participants were randomly allocated to either an experimental group ($n = 15$), a wait list control group ($n = 15$), or no group ($n = 20$; See table 5.2 for a breakdown of group). Of the 30 participants (male = 18, female = 12; age, $M = 14.06$ years, $SD = .03$) all agreed to participate and provided parental consent.

Table 5.2. Breakdown of intervention group.

	Female BTEC	Male BTECH	Female GCSE	Male GCSE
Experimental Group	2	4	4	5
Control Group	2	4	4	5
No Group	0	0	3	17

Participants had been in their school for a mean of 3.31 years (SD = .41) and were involved in various sports including football (57%), dance (20%), athletics (10%), netball

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(10%), and martial arts (3%). A range of ethnicities were represented in the sample including white British (70%), black (13%), asian (13%) and mixed (3%).

Measures

So that the development of life skills, as opposed to domain specific mental skills, could be evaluated all measures were contextualised for sport and school settings. The only exception was the assessment of well-being which was measured as a global construct.

Demographics. Information was collected to determine any demographic differences that may account for variance between in groups. Such information included gender, age, years in that school, main sport, years participating in that sport, standard in main sport, and ethnicity.

Motivation. The Behavioural Regulation in Sport Questionnaire (BRSQ; Lonsdale et al., 2008) was used to measure participants' motivation in sport according to self-determination theory (SDT; Deci & Ryan, 1989). The 24-item version of the questionnaire was employed, which is made up of six subscales each relating to the behavioural regulations as set out with SDT. Participants respond on a Likert-type scale ranging from 1 (*not at all true*) to 7 (*very true*) to statements reflecting why individuals participate in sport. For example, "I participate in my sport because I enjoy it" (intrinsic motivation subscale) and "I participate in my sport because I would feel like a failure if I quit (introjected regulation subscale).

The BRSQ has received psychometric support from previous studies with older samples (Lonsdale, Hodge & Rose, 2008, 2009). However, following the validation of this measure presented in chapter 4, an adapted version was administered with parenthesis providing explanation of some words (i.e., item 12) and clarification of others (items 17). In addition, the

meaning of an individual's values was explained were required as the views and ideas that make you who are, including what you enjoy, like and think is important. The current study supported the internal reliability of the BRSQ's subscales with Cronbach alphas ranging from .70-.84.

Motivation in school was assessed using the Academic Motivation Scale (AMS; Vallerand, Pelletier, Blais, Briere, Senecal, & Vallieres, 1992). In line with the BRSQ, the AMS is a 28-item assessment of self-determined motivation. Unlike the BRSQ, the AMS does not have a subscale measuring integrated regulation (for discussion on this please see chapter 4), while intrinsic motivation is assessed via the three subscales of *to know*, *to accomplish*, and *to experience stimulation*. A mean score for intrinsic motivation, comparable to the BRSQ, is then calculated from these subscales. Participants rate the extent to which items correspond to their reasons why they go to school on a 7 point Likert-scale, from 1 (*does not correspond at all*) to 7 (*corresponds exactly*). Previous studies (e.g., Vallerand, Pelletier, Blais, Briere, Senecal & Vallieres, 1993) have shown this measure to be a valid measure with Cronbach alphas ranging from .76 to .86. The current found similar alphas ranging from .71-.86.

Mental Skills Application. Mental skills application in sport and school were assessed using 4 scales the Test Of Performance Strategies 3 (TOPS 3; Hardy, 2010) as was the case in Chapter 3; namely goal setting, self-talk, attentional control, and emotional control. These subscales were selected to prevent an excessive questionnaire length for the participants and because of their greater relevance to the school domain. Furthermore, the use of an adapted TOPS 3 was chosen because of the lack of validated measures providing an in depth assessment of the application of mental skills and techniques in both the sport and school domains. In order to achieve comparable scales, the sport practice scale of the TOPS 3were

administered and then adapted for academic lessons. The adapted scales considered the conceptual as well as practical parallels between sports practice and school lessons while competition was comparable to exams or tests.

The four subscales each contained four items which were rated on frequency use with a 5-point scale (1 = *never*; 5 = *always*). Although research has found the previous version of the TOPS to have appropriate internal reliability (alphas ranging from 0.78 to 0.84) and factoral validity (Hardy, Roberts, Thomas, & Murphy, 2010), the study described in chapter 3 did not support the psychometric attributes of the emotional control subscale. In the current study, all subscales assessing both sport and school mental skills and techniques achieved Cronbach alphas above .70 with the exception of emotional control which achieved .65 (sport) and .64 (school). Because these scores do not deviate too far from the recommended cut off (Lowenthal, 2001), the emotional control subscales are included in subsequent analyses, however readers are advise to exercising caution when interpreting findings involving this subscale.

Well-being. The Self-Description Questionnaire II (SDQ: Marsh, 1992) is a multidimensional inventory assessing adolescents' self-concept. From this measure the general subscale was administered. This 10 item scale measures participants overall self-concept by asking them to report how true statements are for them on a Likert scale 1 (*False*) to 6 (*True*). Example items include, "Overall, I have a lot to be proud of" and "Most things I do, I do well." The SDQ has been repeatedly shown to be a valid and reliable measure with the general subscale achieving a Cronbach alpha above the recommended cut off in previous studies (.84; Marsh, 1992) and this one (.83). Furthermore, it has been considered, "most validated self-concept measure available for use with adolescent children" (Byrne, 1996, p. 117).

Additional intended measures

In addition to the quantitative measures outlined above, a number of further measures were intended to be administered. However, due to situational constraints these measures were not able to be collected in full. Additional data collection aimed to provide a mixed method approach as well as triangulation of data sources. These measures intended to provide a fuller and richer set of data, allowing a greater understanding of the effectiveness of the program as well as providing direction for future iterations for the program.

Although these measures were not able to be completed, they are discussed here. This aims toboth highlight the logistical constraints often imposed on applied research projects and promote best practise within life skills intervention research.

Teacher ratings. To support and extend the participants' self-report measures, teacher behavioural ratings were also administered. Objective third party observations from significant others with vast access to the participants aimed to provide triangulation of results, thus providing greater evidence for or against real word change of participants' engagement in salient life domains.

The teacher ratings (see appendix) included both closed questionnaire items and open questions for broader comments about the participants' behaviour in class over the past week. The closed questions asked teachers to rate the extent to which they agreed with items on a likert-type scale ranging from 1 (Disagree) to 5 (Agree). Items assessed life skills application and work habits of the participants. Life skills application included items such as participants' capacity to set and strive for goals (e.g., "The student is able to set appropriate goals for class" and "The student plans strategies to achieve classroom goals"). Work habits included items

from Hoge and colleagues (Hoge, Smit & Hanson, 1990) standards of work habits scale (e.g., "The student comes prepared to work" and "The student makes good use of work time"). Teachers were also asked open ended questions prompting them to note any disciplinary action involving the participant, any behavioural or academic commendations received by the participant, and any other notable observations they had made of the participants' behaviour.

In line with the administration of the self-report questionnaires, the teacher ratings were intended to be collected one week prior to, immediately after, and three months following the development program.

Follow up focus groups. To gain a qualitative understanding of the experiences of those involved in the program a number of focus groups were intended. Adopting a mixed method approach would enable a greater exploration of the experience, benefits, barriers, and preferences relating to the development program of those involved. These focus groups would target three groups of people. First, the student participants from the experimental group who had taken part in the program. Second, teaching staff that had helped organise the program and directly observed the sessions and its participants within the school setting. Third, administrative staff (e.g., the deputy head) that are responsible for the students' timetable and adoption of initiatives, such as this program, within the school.

Specifically, focus groups aimed to assess the perceptions of those involved in the program relating to any development of life skill knowledge and application, particular life skills they liked or disliked, appropriateness of teaching strategies and leader, how the program fit within the school and sport setting, and any recommendations they have for future iterations of the program.

Leader reflections. To compliment the data assessing the experience of those receiving the program, and provide a professional practice perspective, leader reflections were also collected. These reflections aimed to examine the program leader's experiences of conducting such a program in a real world setting with young people. In line with other data collections, reflections were conducted one week prior to the program, following each session, and three months following the program (before the other final data collections to avoid reflections being influenced by others).

Each reflection was a structured consideration of the program or specific session in relation to four areas. The first section focused on the aims of the session. Specifically, whether the aims were achieved? If they were realistic? If they were relevant to the group? Finally, if the aims could be better tailored to the group in the future? The second consideration was to the planning and preparation of each session. This section included, whether the planning and preparation was sufficient? What else could have been considered before the session? And if any other resources or activities could have been used?

The third part of the reflection focused on the session itself. Questions included, did the session go as intended? Were theoretical considerations implemented as intended? How did participants respond? How did I [the leader] feel throughout the session? The occurrence and resolution of disciplinary issues? What could have been done differently to improve the session? The final section looked forward to future sessions. Specifically asking, what was learnt about participants that should be considered in future sessions? What can we do in future to improve the engagement of the participants in future? How can we ensure theoretical considerations and life skills are utilised to the maximum?

These reflections aimed to give a comprehensive examination of the leader's experience. Taken together with the other quantitative and qualitative measures the intended evaluation was conceived to allow a full and rich understanding of every facet of the program. Unfortunately the nature of these programs will always incur some form restrictions imposed upon them.

Procedure

Following ethical approval granted by the university ethics committee and arrangements made for facilities with the hosting school, information sheets and consent forms were provided to the potential participants and their parents. Once consent forms were returned baseline measures were administered. This was conducted before groups were randomly allocated to ensure it had no influence on responses. Measures were repeated one week post intervention and again three months post intervention (follow up).

Intervention

So that it could be placed within a school environment the program involved ten weekly 45 minute sessions during one academic term (see table 5.2). The program used goal setting as its foundation. Early sessions consisted of how to apply effective goal setting in sport and school while later sessions used goal setting as a tool to develop other skills (e.g., setting a goal related to effective communication with teachers and peers before next session).

When planning the current program, a number of considerations were drawn from frameworks provided in the youth development and life skills literature (Danish et al., 1993; Gould et al., 2006b; NRCIM, 2002; Petitpas et al., 2005). These included taking into account the needs of the participants, the leaders' philosophical foundations, the provision of external

assets, the identification and development of the participants' internal assets, and the formation of a safe, motivating, and challenging environment.

The needs of the participants were initially assessed through a review of the literature (see chapter 1 for a review) and discussions with the school staff. Key areas identified were then confirmed by discussing with participants their hopes for such a program. From this needs analysis, it was concluded that the most suitable goals for the program were deemed to be: a) to develop participants' ability and confidence to set meaningful goals; and b) to develop the mental skills needed to effectively strive towards those goals and achieve greater well-being.

The philosophy of the current development program was embedded in a positive psychology approach that was group-centered. Positive psychology views young people as positive resources to be grown rather than problems to be solved (Seligman & Csikszentmihalyi, 2000). Consistent with Danish and colleagues (Danish et al., 1993), the emphasis was on what participants need to succeed ("what to say yes to") rather than highlighting what to avoid ("Say no to"). Furthermore, it recognises the importance of personal growth over athletic outcomes. A group centered approach focuses on the needs of the individuals within the group and allows aspects of the program to be led by them. Previous research has noted that young people are agents of their own development (Danish, 2002; Dworkin, Larson, & Hansen, 2003) and the philosophy behind the current program aimed to encourage this.

External assets include caring adults and positive peer groups as well as other resources provided to the participants. The current program aimed to create quality relationships among the participants and with the program leader with the aim of reinforcing the goals and values of the program through trust, fun, and positive role modelling. Peer relationships were promoted

through small group cooperative tasks. Such activities included physical games which employed both individual and group goals. Other activities also aimed to promote the participants' perceived value to the group. *Recognitions* is an activity in which participants anonymously write down what they like most about each other member of the program. Each participant then receives a collated list of the things the group most like about them, and so more readily recognise their value to the other participants.

The relationships between the participant and the leader were primarily promoted by positive reinforcement, recognising participants' strengths and achievement and taking personal interest in the goals set and achieved by the individuals in the group. Together, the relationships with adults and peers aimed to promote a sense of relatedness and competence among the group.

An external resource provided to the participants in support of the sessions was called the "Playbook" (see appendices). The playbook was a learning and activity book that reinforced the information and strategies discussed in the sessions, set activities, and offered a space for reflection. In addition, the playbook also aimed to enhance group identity by creating a shared experience and encouraging group tasks outside of the sessions.

Internal assets are the targeted life skills that define the personal skills and competencies of the individual. An effective program is most likely one that creates opportunities to learn and practice life skills in multiple domains with support and encouragement. Throughout the program various life skills identified via the needs analysis are targeted (see table 5.3 for sessions; see appendices for details of session plans and materials). As noted earlier, this program aimed to help participants identify and build on their existing skills. To achieve this, sessions adopted a consistent structure; first reviewing the previous

session and its related tasks; an introduction and discussion of the current session's topic; an activity to identify and practice techniques and/or skills; reflection upon the activity; and goal setting for next session.

Providing a consistent session structure and routine allowed participants to feel comfortable and gain autonomy by taking responsibility for their own learning. This responsibility and routine allowed participants to gain a sense of autonomy as they could take control and experiment within the structure of the session. Having a stable routine also provided a baseline for participants to judge their own effort and achievement in a session and thus gain a sense of competence.

A positive environment is a psychologically safe context; one in which young people are motivated and challenged through meaningful activities. Throughout the program this type environment was created by providing individuals with valued roles within the group; offering group activities that were enjoyable and which they set clear rules, goals and incentives; and encouraging participants to take risks and learn from their mistakes. A games-based program is particularly well suited to achieve this type of context through its ability to provide a more task-involving motivational climate (Deci & Ryan, 2000; Standage, Duda & Ntoumanis, 2003).

Throughout the program participants were given increasing responsibility for the management of the sessions. For example, during activities the leader would ask participants if they would like, and had time, to repeat the game one more time. Additionally, participants were asked what they wanted to achieve from the session and what conduct of behaviour was expected from the group. Providing the group as a whole with a meaningful voice into what was to be achieved and how it was to be achieved was aimed to satisfy the needs for autonomy, relatedness and a sense of competence (particularly following a good session).

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Table 5.3. Life skills intervention sessions

Session No.	Session title and description
Session 1	Introduction. The program, leader, and group are introduced. A number of ice breakers are designed to start open communication and learn the individual's names and personal strengths.
Session 2	Goal Setting I. The importance of having a dream to strive for is discussed. Principles of SMART goals introduced and related to the student's aspirations in both their sport and school work.
Session 3	Goal Setting II. Participants learn to formulate and monitor goals that are specific and measureable in both sport and school. Goals are set for the week and are to be reviewed in the following session.
Session 4	Goal Setting III. Obstacles to goal attainment are recognised and action plans are introduced. A goal is set for both sport and school which is to be reviewed at the end of the life skills program.
Session 5	Support Seeking. Topic of Goal Setting is reflected upon and progressed into recognizing a 'Dream Team' of social support and how this team can be utilised.
Session 6	Time Management. Using principles of goal setting, and with the awareness of social support, participants learn principles of time management and organization.
Half-Term	
Session 7	Managing Emotions. Participants learn to recognise their emotions and apply strategies to manage their emotional state.
Session 8	Communication. Participants' understanding of effective communication is discussed. The importance of effective communication is highlighted and practiced.
Session 9	Recognizing Strengths and Maintaining Confidence. Drawing from the experiences during the program, personal strengths are revisited and expanded. The importance of self-belief is discussed and strategies for maintaining confidence are discussed in relation to what has been learned though the life skills program.
Session 10	Applying Life Skills For Life. Goals from session 4 are reviewed. The program is summarised and final questions answered/ topics discussed. The continued application of life skills in broader contexts are discussed

<center>**Results**</center>

Group Differences and Attrition

Preliminary analysis showed that there were no group differences at baseline between the experimental and control group on any demographic characteristic or psychological attribute. Throughout the development program three participants of the experimental group were lost due to illness and unknown reasons. Of the remaining 12 participants, a 94% attendance rate was achieved.

Life skills

Mental skills application for both sport and school were measured across the three time points. Means and standard deviations can be seen in Table 5.4. Two-way between-groups ANOVA (group x time) were conducted to compare the means of mental technique and skill use across the three data collections independently for each of the subscales for sport and school. Applying the Bonferroni adjustment to both school and sport meant a revised p value of .013. No significant interaction effects were found across the three time points. However, when conducting the same analysis with only the first two time points (i.e., pre and post programme), a number of significant interactions emerged between group and time, including school goal setting ($F = 4.78$, $p = .028$, $\eta^2 = .17$, power = .38), sport self-talk ($F = 5.79$, $p = .025$, $\eta^2 = .20$, power = .53), and sport attentional focus ($F = 3.50$, $p < .030$, $\eta^2 = .16$, power = .34).

Table 5.4. Means and standard deviations of the application of mental techniques and skills in sport and school.

Skill/Technique	Group	Pre Intervention Mean (SD)	Post Intervention Mean (SD)	Follow Up Mean (SD)
Sport goal setting	1	3.50 (.96)	4.11 (1.05)	3.71 (1.12)
	2	3.35 (1.07)	3.38 (.71)	3.41 (.79)
School goal setting	1	2.91 (.74)	3.80 (.62)	3.47 (.84)
	2	2.97 (.60)	2.63 (.81)	2.81 (.91)
Sport self-talk	1	2.70 (.70)	3.66 (.67)	2.91 (1.02)
	2	3.13 (.87)	2.79 (.76)	2.86 (.92)
School self-talk	1	2.73 (.60)	3.26 (.60)	2.94 (.84)
	2	2.93 (1.09)	2.53 (1.16)	2.65 (.95)
Sport attentional control	1	3.41 (.84)	3.94 (.67)	3.87 (.96)
	2	3.49 (.61)	2.79 (.76)	3.39 (.84)
School attentional control	1	2.73 (.81)	3.10 (.69)	3.01 (.51)
	2	2.99 (.75)	2.51 (.77)	2.56 (.81)
Sport emotional control	1	3.23 (.86)	3.91 (1.01)	3.81 (1.20)
	2	3.65 (1.64)	3.14 (1.05)	3.04 (1.00)
School emotional control	1	3.55 (1.03)	3.50 (1.35)	3.84 (1.12)
	2	3.68 (.58)	3.35 (.82)	3.74 (.98)

Note; group 1 = experimental, group 2 = control

Motivation

Means and standard deviations for behavioural regulations across the three data collections are presented in Table 5.5. Again, Bonferroni adjustment was applied resulting in a p values of .007 (sport) and .008 (school). As with the application of mental techniques and skills no significant interactions between-groups interaction across the three time points emerged in either sport or school. When employing just the first two time points still no significant interactions were found, however the effects on both introjected regulation ($F = 6.29$, $p = .022$, $\eta^2 = .23$, power = .49) and amotivation ($F = 8.79$, $p = .015$, $\eta^2 = .031$, power = .63) in school approached significance with the control group exhibiting greater introjected motivation and amotivation.

Table 5.5 Behavioural regulation in sport scores of the two groups for the three time points

Skill/Technique	Group	Pre Intervention Mean (SD)	Post Intervention Mean (SD)	Follow Up Mean (SD)
Intrinsic motivation	1	6.20 (.90)	6.78 (.59)	6.52 (.74)
	2	6.46 (1.08)	6.20 (1.04)	6.41 (.84)
Integrated regulation	1	5.45 (1.52)	5.32 (1.08)	5.48 (1.31)
	2	5.60 (1.59)	5.68 (1.44)	5.52 (1.11)
Identified regulation	1	5.43 (1.45)	5.18 (1.14)	5.30 (1.08)
	2	5.59 (1.47)	5.42 (1.26)	5.52 (1.18)
Introjected regulation	1	3.20 (1.26)	3.82 (1.31)	3.17 (1.22)
	2	3.21 (1.37)	3.75 (1.54)	3.31 (1.31)
Extrinsic regulation	1	2.07 (1.01)	2.80 (1.37)	2.15 (1.12)
	2	1.96 (.94)	2.68 (1.10)	2.21 (1.31)
Amotivation	1	2.20 (1.31)	1.96 (1.24)	2.01 (1.01)
	2	1.96 (1.09)	2.25 (1.10)	2.10 (.96)

Table 5.6 Behavioural regulation in school scores of the two groups for the three time points

Skill/Technique	Group	Pre Intervention Mean (SD)	Post Intervention Mean (SD)	Follow Up Mean (SD)
Intrinsic motivation	1	4.11 (.88)	4.58 (1.08)	4.17 (1.11)
	2	4.58 (.66)	4.43 (.98)	4.31 (.88)
Identified regulation	1	5.18 (1.15)	5.30 (1.23)	4.96 (1.17)
	2	5.22 (1.04)	5.00 (1.21)	5.04 (1.09)
Introjected regulation	1	5.02 (1.09)	4.13 (.78)	4.89 (1.10)
	2	5.55 (.89)	5.61 (1.11)	5.40 (1.26)
Extrinsic regulation	1	5.86 (.84)	5.68 (1.22)	5.65 (1.26)
	2	5.56 (1.02)	5.58 (1.11)	5.61 (1.17)
Amotivation	1	2.80 (.94)	2.01 (.88)	2.48 (1.09)
	2	2.36 (1.04)	2.66 (.90)	2.56 (.99)

Well-being

Table 5.7 shows the SDQ scores across the three time points for the two groups. Conducting a two-way between-groups ANOVA (group x time) employing both three and two time points revealed no significant interactions in well-being across the two groups.

Table 5.7. Well-being scores of the two groups for the three time points

	Group	Pre Intervention Mean (SD)	Post Intervention Mean (SD)	Follow Up Mean (SD)
SDQ General	1	4.52 (.75)	4.82 (.96)	4.56 (.84)
	2	4.69 (.85)	4.34 (.92)	4.91 (.79)

Discussion

The current study aimed to deliver and evaluate a life skills development program. More specifically, we examined whether participants of the life skills program applied mental skills and techniques in sport and school with greater frequency than those in the control group. Second, results investigated whether participants reported a higher quality motivation and well-being than those not in the program.

With respect to the application of mental skills in school and sport there is some evidence to support the benefits of the development program. Despite the lack of significant results, there was a trend towards greater application for school goal setting, sport self-talk and sport attentional control in the experimental and control groups over the period of the program. Goal setting was a central component of the development program so it may not be surprising that this technique, more than others, shows a greater trend in the results.

There was also a trend towards increased self-talk and attentional focus in sport across time in the experimental group compared to the control group suggests some growth in sports mental skills. Combined with the school goal setting, this may demonstrate life skill development is occurring through the increase of mental techniques and skills in the two domains. However, the lack in gains in school mental skills (although showing positive patterns) does suggest the program could do more to prepare participants to fit the mental skills within the academic behaviours. Although goal setting demonstrated positive trends, it may be that in the classroom environment the ability to self-regulate in the moment was not well developed. This may be the result of inadequate support during the program or the lack of opportunity to grow the application of mental skills into a habit in period up to the second data collection. The lack of significant results could also be due to the study being under-powered

The motivational processes evaluated in this program demonstrated some trends relating to enhancing the self-determination of the experimental participants. Although the behavioural regulations reported by the participants showed trends towards a more autonomous motivational style when contrasted to the control group (Deci & Ryan, 1989), significant results were not found. This is likely due to the salient role that the social climate plays in determining individual's motivational profile (Duda & Balaguer, 2007). The brief nature of this program, and the fact that it was not directly embedded within the participants' school or sporting activities, may have limited its ability to support the required developments that would produce significant results. However, the trend towards a decrease in school introjected regulation and amotivation seen in the experimental group compared to the control group does indicate a greater self-determined motivational style via the reduction of controlled behavioural regulations (Ryan & Deci, 2000).

A less controlled, or more autonomous, motivational profile has previously been associated with more positive outcomes in students (Ryan & Deci, 2000; Vallerand, 1997) such as achievement (Burton, Lydon, D'Alessandro, & Koestner, 2006), well-being (Levesque, Zuehlke, Stanek, & Ryan, 2004), and persistence (Vallerand & Bissonetter, 1992). As a result of these findings it may be argued that the current program went some way to enhance the motivational style of the participants in the school setting. Although it is clear further work is required, this may indicate that self-determined motivation has a role to play in the mechanisms that allow life skills to promote positive outcomes such as well-being. Future work involving larger sample sizes might examine the hypothesized meditational role of motivational processes in explicating the impact of the life skills program on participants' well being.

In a similar fashion to many of the constructs under investigation, well-being did not reveal significant results although it did show a trend in the expected direction. As with the motivational profiles it is likely that the brief nature of the program limited its influence among the participants' broader and more salient contexts in relation to well-being, such as relationships with teachers, coaches, and peers within the existing school and sport domains or even relationships within the family. Again, in interpreting the non-significant findings, we need to consider the small sample size.

The present findings also demonstrated a drop off in positive outcomes reported by the participants over a three month follow up period. Taken in their totality, the present results suggest that while this developmental program may have accrued some benefits in its participants it was not enough to achieve sustained gains. Furthermore, general self-worth is a global trait and therefore a relatively stable indicator of well-being such that a brief development program may not be able to have the broad impact in the time available. Previous

research (Bronfenbrenner, 1999; Catalano, Berglund, Ryan, Lonczak, & Hawkins, 1998; Danish et al., 2004) have noted the importance of imbedding young people in positive environments with the required resources (e.g., adult relationships) over a prolonged period of time. It is likely as well that the scope of the current program limited its effectiveness for these young people.

Despite the lack of significant results, this study has attempted to fill a number of gaps in the literature. First, the framework upon which the development of the applied program based was outlined with examples of how they were fulfilled. Second, the mechanisms by which life skills promote positive outcomes such as performance, engagement and well-being have been investigated. Although the results of the current study provide a limited account of this role, they do suggest that life skills may foster less controlled motivational regulations (Gagné & Blanchard, 2007; Ryan, & Deci, 2009). Third, the evaluation aimed to be more thorough by including the application of mental techniques and skills and a follow-up data collection. These assessments aimed to investigate the sustained impact on the practical use, rather than declarative knowledge, of participants' life skills as a result of the program. This form of evaluation is recommended among other applied life skills researchers in order to learn more about the development and role of life skills.

Nonetheless, this program could have gone further. A qualitative assessment of the program would have allowed greater insight into the perceptions and benefits, if any, gained by the participants. For example, on one occasion a participant stated to the leader of the program that the session was the only reason he attended school that day. Through an examination of diary notations made by the program leader and validation interviews following the program a broader evaluation may be achieved beyond the limitations of the psychometric measures. A

qualitative assessment of the study would have allowed investigation of which elements of the program participants found particularly helpful or unhelpful, participants' understanding of the targeted life skills, their perceived barriers to applying life skills outside of the program, and suggested future revisions to sessions and resources.

This study included a number of limitations. First, the limited sample size in this, what could be considered a pilot, study limited the capacity to achieve meaningful statistical analysis. With a number of the variables assessed showing trends, it maybe that significant differences between the intervention and control arms would have been reached with a larger sample. The number of participants in the current study was limited by the desire to achieve an appropriate leader-participant ratio and other practical and logistical considerations. Second, the current study included a control group that received no form of program. An active control group would allow for the contact the participants had with program leader and the influence of being chosen. Such a control group could receive contact from the program leader in the fashion of physical and cognitive group activities, however would not be introduced to life skills as was the case for the intervention arm.

The third limitation was the available measures of life skills for young participants, which could be employed when evaluating the intervention. The proposed definitions of life skills in the literature have been broad and varied leading to a lack of suitable measures for many applied programs. The use of a sports based mental skills measure for life skills is conceptually accurate. However, the skills that are developed through the current development program go beyond those skills assessed within existing sports based measures. Conversely, other existing 'life skills' measures, such as the YES 2 (Hansen & Larson, 2005), do not adequately assess the mental techniques and skills targeted with life skills programs in general

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and, in particular, the present program. The evidence in the current thesis provide some support for the use of subscales from the TOPS when appropriately adapted for sport and school, however more work is needed to further develop and validate such assessment tools.

The final limitation of this study was the restricted nature of the evaluative methodologies. Additional intended measures were not possible due to externally imposed constraints and have limited the capacity to draw more extensive conclusions regarding the efficacy of the program and possible future considerations. Studies incorporating the full range of intended measures discussed in this study would be able to contribute greater to the qualitative understanding of life skills programs. However, such constraints highlight the difficulty of conducting applied research programs in real world settings. A greater discussion of barriers experienced and methods to overcome them in order to comprehensively evaluate applied programs would be a step forward in the life skills and sport psychology literature.

Future research should continue to develop the evaluation methods of applied life skills programs specifically addressing the limitations noted above. Specifically, a measure of life skills which included numerous mental techniques and skills that could be applied to any life domain would provide a much more relevant and appropriate assessment of young peoples' competencies. The existence of a measure of diverse mental skills and techniques tapped via a battery of subscales such that would allow researchers to draw appropriate scales for their program would provide wide reaching benefits. In addition, as has been previously noted, the inclusion of a qualitative component would provide a much richer evaluation of future applied programs and the processes by which they impact young people.

From an applied perspective, the current study found that over time (i.e., at follow up) the benefits of the development program began to diminish. Notable extensions from the

current program could include a teacher and coach development program aimed to increase teachers' and coaches' ability to promote life skills in their students. This is likely to have two benefits. First, it will allow young people to be continually exposed to the adults and environments specifically targeting the promotion of life skills. Numerous authors have argued that for sustained benefits to emerge, programs must provide continual exposure from a young age (Bronfenbrenner, 1999; Catalano, Berglund, Ryan, Lonczak, & Hawkins, 1998; Danish et al., 2004). Second, through developing teachers and coaches ability to teach life skills, it is possible to expose many more young people to the required experiences than is possible with individual youth programs.

In summary, this program went some way to provide support for the current life skills development program. Research questions relating to the gains in life skills, motivational processes and well-being showed that some benefits can be seen but further highlighted the need for larger scale interventions with more robust data sources. This study also attempted to discuss the development of the program in an effort to explicitly show the rationale for its design. Moreover, drawing from the current work, future directions for research in relation to measurement development and the further development, delivery and evaluation of life skills programs were provided.

GENERAL DISCUSSION

Driven by the weaknesses in the current literature this thesis had the broad aims of contributing to our knowledge of life skills and progressing the field in relation to the planning and evaluation of applied developmental programs. In an attempt to clarify our understanding of what is meant by life skills a number of proposed definitions were reviewed (Danish, 1995; Gould & Carson, 2008; WHO, 1999). Rather than provide yet another definition, the current thesis drew from previous literature to identify the key criteria that describes 'life skills'. These criteria recognise that life skills must: 1) promote coping, engagement, well-being, and healthy development; 2) be a personal skill or ability that can be practiced; 3) be applied to multiple life domains; and 4) be transferred between those domains.

With a clear conception of life skills and drawing from the limitations evident in the existing life skills literature, the specific aims of this thesis were;

1. To conduct a comprehensive needs analysis of individual's psychological needs within a specific youth population.

2. To evaluate the degree to which the application of mental skills are transferred in youth sports participants.

3. To investigate the hypothesised role that life skills play in promoting positive development outcomes.

4. To validate the measures needed to explore the mechanisms through which life skills promote positive development in young people.

5. To design an applied program for young sports participants that can promote a range of life skills needed for positive youth development.

6. To outline and conduct a comprehensive evaluation of an applied program including the mechanisms by which life skills promote positive youth development.

Previous frameworks which have provided the foundation for the past life skills research (e.g., Lerner, 2004; Benson, 1997) have proposed a broad range of skills and characteristics that are assumed to promote positive development in young people. However, there are few recommendations which point to the importance of considering the specific needs of various youth populations. Furthermore, few guidelines are presented on the most effective means to identify such needs. The current thesis aimed to address this weakness by conducting a thorough needs analysis within a specific group of young people (Chapter 2).

Employing a qualitative methodology with a sample of current and past young elite athletes, the needs of this population were identified. This study, supported by subsequent work (Woodcock, Holland, Duda, & Cumming, 2011), highlighted the essential role that an adequate examination of needs plays. Furthermore, this chapter outlined suggested techniques for conducting such needs analysis with young participants. The findings revealed a range of skills deemed to be required by young athletes. In particular, our results drew attention to those skills relating to broader life contexts (i.e., life skills) that have been typically neglected within youth MST research. The implications of the results of this first study are that youth sports psychology needs to broaden its scope when considering the skills and techniques important for young athletes. In both the research and applied fields, the findings also suggest that the identification and evaluation of a broader set of outcome variables is warranted.

The broader set of outcomes, as well as a greater understanding of the existing techniques and competencies of youth participants is supported by the model proposed by Gould and Carson (2008). Their framework recognises the importance of young peoples' internal assets and the range of possible outcomes that sport participation may accrue. In addition, the model highlights the importance of understanding the mechanisms and processes through which life skills are developed and subsequent benefit young people. One important

consideration within the model is our understanding of how life skills are applied and the role they play.

While investigating the application of mental skills, the findings in both chapters 2 and 3 support previous research (e.g., Calmels, d'Arripe-Longueville, Fournier, & Soulard, 2003) that found some young sports participants do intuitively apply mental techniques. However, the degree to which this occurs varies across individuals. This was demonstrated in chapter 3 as participants were able to be clustered in to relatively high and low skill application groups. Extending these findings it was also revealed that there was a significant association between the application of skills in sport practice and school lessons. While this does suggest a degree of transference occurred, participants applied skills significantly less frequently in school than they did in sport. This finding supports previous research that also found a similar pattern (Larson, Hansen, & Moneta, 2006) and suggests that there is a portion of young people who may be disadvantaged due to the lack of life skills application. These results lend support to previous authors (e.g., Danish, Taylor, Hodge, & Heke, 2004; Gould & Jones, 2008; Jones, 2012; Martinek, Schilling, & Johnson, 2001) who have noted the requirement for deliberate and systematic development programs if young people are to apply life skills and accrue positive outcomes.

The importance of these mental skills and techniques, and thus programs to develop them, was reinforced through investigating the role that life skills play in promoting positive outcomes in young people. Life skills are considered a crucial component of development that allows young people to more effectively navigate the transitions and challenges of adolescence. The capacity to cope, succeed and grow depends on the skills that an individual can apply in a given context. In Chapter 3 mental skills in sport were found to partially mediate the relationship between participants' experiences and reported well-being. These findings provide

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evidence for the proposed role that life skills play and their importance to young people. Via the observed partial mediation, these results also supported frameworks of youth development (e.g., Gould, Collins, Laurer, & Chung, 2006b; Petitpas, Cornelius, Van Raalte, & Jones, 2005) that recognise the important contribution of both internal assets (i.e., life skills) and external assets (e.g., social support, resources) for optimal youth development.

Although the findings from these first two empirical chapters taken together support and extend our understanding of life skills in relation to their identification, their importance, and their role, the literature is still void of measures to effectively assess the impact of life skills programs and the processes by which they have such impact. Of particular interest to this thesis were measures allowing the investigation of the mechanisms through which life skills promote positive developmental outcomes. Specifically, the motivational processes central to determining engagement, performance, and well-being (Gagné & Blanchard, 2007) are yet to be investigated in changes in life skills. Gould and Carson (2008) recognised the importance of understanding possible explanations for life skills development and its associated outcomes and highlighted social environmental factors that relate to individual motivation. In addition, Beauchamp and colleagues (Beauchamp, Halliwell, Fournier, & Koestner, 1996) found mental skills in sport to promote more autonomous behavioural regulations and thus positive athlete development. Therefore, it can be hypothesised that life skills promote positive youth development via the increase in more autonomous motivational profiles. Unfortunately, in the existing literature, appropriate measures of self-determined motivation yet to be validated with youth populations.

In Chapter 4, this limitation was addressed by validating the relatively new Behavioural Regulations in Sport Questionnaire (BRSQ; Lonsdale, Hodge, &Rose, 2008) with a sample of youth sport athletes. Employing mixed methodologies, this study provided support for the use

of the BRSQ with young participants as well as promoting a more comprehensive validation process for such measures. A think aloud protocol allowed for the identification and investigation of problematic items that would otherwise not have been possible through psychometric analysis alone. For example, items were found to be problematic because issues relating to the language used, inaccurate interpretation, and a lack of awareness. The qualitative methodologies employed allowed for subsequent revisions to the measure that more accurately addressed the nature of the problem. The overall findings supported the use of the BRSQ with youth sport populations and thus set the stage for the use of this measure when examining the mechanisms through which life skills function.

The last two aims of the thesis related to the design and evaluation of an applied life skills training program. First, there is a lack of studies that design programs aimed towards developing of range of life skills and most of these do not outline the basis of their program structure. In this thesis (Chapter 5) the design of a life skills development program was explicitly described, identifying the key features drawn from a review of existing frameworks (notable Gould & Carson, 2008) and the findings of the current thesis. These features were: 1) the needs of the participants; 2) the philosophical approach of the program leader; 3) an appropriate context and motivational climate; 4) the provision of external assets; 5) and the development of internal assets. Such detailed description of an applied program allows researchers to more accurately compare studies and gain a greater understanding of the factors that contribute towards effective life skill development.

Second, throughout the current thesis and previous literature (e.g., Gould & Carson, 2008; Petitpas et al., 2005) it has been recognised that applied life skills programs have lacked the necessary evaluations to progress the field. In response to this limitation a comprehensive evaluation of the life skills development program was conducted. Specifically, this evaluation

included, assessing life skill development in multiple domains, measuring the application rather than declarative knowledge of life skills, conducting follow-up data collections to investigate the long term impact of the program, and investigating a possible mechanism through which life skills promote positive development. Furthermore, additional intended measures were discussed that are potential methods to strengthen current research practices. While external constraints may restrict the administration of all these measures, Chapter 5 highlights the potential best practises in program evaluation. A broader discussion within the literature recognising these and other barriers of real-world applied research programs would be welcome. Such discussions would benefit from recognising real world obstacles preventing comprehensive evaluations and further development of methods that successfully overcome such barriers.

The results in Chapter 5 provide some support for the effectiveness of the program in developing simultaneous life skills application in sport and school. Furthermore, results suggested that the program, through the development of life skills, promoted a more autonomous motivation in the school context. However, sustained benefits were not seen over a follow-up period of 3 months suggesting that programs require a greater degree of integration and duration if life-long benefits are to be accrued. Although this study reflected a progression in the evaluation of life skills programs, it is clear further efforts are still be made. Multi-method evaluations, specifically including qualitative elements, would further our understanding of the effective components of such programs, such as why such programs might work as well as what might improve program impact.

Practical Implications

Grounded within the positive youth development literature, this thesis aimed to further the research and practice relating to life skills development in young people. The findings of

Chapter 2 demonstrate a clear necessity for a greater understanding of the specific needs of youth populations. Generic life skills programs, while better than nothing, are likely not to provide the necessary support needed to optimise the development of life skills in its participants. Consequently, programs need to clearly identify their target skills so that they may develop the context, external assets and content appropriately.

The results of Chapter 3 also drew attention to a range in skill application among a relatively homogeneous youth sample. It makes sense therefore that program leaders identify the current strengths and weaknesses of the target group with whom they are working. We can not assume that sport participants, although exposed to numerous challenges, have the tools to succeed rather than simply cope. Ensuring that all young people are catered for must be central to any youth development program: thus, recognising the range in abilities, skills, and techniques is fundamental.

The final practical implication of the current thesis centres on the degree to which young people are exposed to planned and systematic programs. The findings from chapter 5 suggest youth need more continued exposure than is common within current programs. This therefore calls for the complete integration of life skills programs into the sport (as well as the academic) environment over a sustained period of time. Effective life skills are behaviours rather than knowledge; well-leaned habits rather than impulses. Such behavioural habits take sustained practice and reflection to develop if they are to be applied effectively over a life time. Therefore, programs need to provide sufficient opportunities and time for young people to learn these skills directly in the contexts they are to be used.

Limitations and Future Directions

A number of limitations and avenues for future research have come from the research presented in the current thesis. The primary limitation noted throughout this thesis is the lack of

measures related to the application and effectiveness of life skills. Discussed extensively throughout a number of chapters, it is clear that future research should aim to develop appropriate measures in this area of research and application. Specifically, such a measure should assess the application of life skills as conceived within this thesis. This would aim to assess the frequency with which young people engage in practices and behaviours that promote healthy development and well-being.

Therefore, such a measure must first distinguish between the techniques and skills young people can enact, and the outcomes that come as a result of those skills. This crucial distinction will allow a much greater examination of the role of life skills in the growth and well-being of young people. The second component of an effective measure would allow for the investigation of skill application and effectiveness in multiple salient domains (e.g., sport, school, family, work, etc). Following the mould of questionnaires such as the Self-Description Questionnaire (Marsh, 1992), a battery of scales assessing specific skills and techniques in different settings would allow researchers to create an appropriate measure for their study.

The second set of limitations in the current thesis relate to the applied development program. First, throughout the results a number of trends were apparent with little statistical significance. Replicating the program with larger comparable samples should provide a greater insight into its value. Second, the nature of the context (i.e., the school setting and constraints in students' schedule) prevented an in depth qualitative evaluation. The value of mixed methodologies has been discussed throughout this thesis and is never more relevant than when conducting applied research. Future studies should aim to include a process of social validation in order to fully understand the experiences and benefits for its young participants. In addition, the triangulation of data would also extend our evidence regarding the actual impact of

programs. For example, teacher ratings of engagement, achievement, discipline, social competencies, and many other constructs would provide a richer set of data by which to judge applied efforts.

The program structure was based upon previous life development interventions (Danish & Nellen, 1997) and needed to fit within the schedule of the participants' school day. As a result the 10 hour program aimed to maximise the time, environment and resources available to it. Although the program found encouraging trends and received positive informal feedback, it is apparent that any benefits accrued by the participants were not sustained. This supports the need for continual and immersive programs of development. An avenue of future research may be the development of adult (e.g., coach, teacher) life skills education programs. Such programs should focus on both the adult's personal life skills and their ability to develop these life skills in youth. This would allow a greater number of young people to be continually exposed to the positive experiences, relationship, and role models that are a common feature within all positive youth development frameworks.

Conclusion

Throughout this final chapter, the most pertinent findings from this thesis have been discussed. Collectively, these results highlight the importance of life skills and the need for quality research within this growing field. The personal competencies required by young people to cope, thrive, and determine their path through the turbulence of adolescence is broad and varied.

This thesis has provided evidence regarding the role that life skills play in allowing young people to succeed in their environment. Furthermore, it has recognised the varied degree

to which individuals develop these skills naturally. Considering the importance our society places on facilitating healthy growth in young people, it is clear that the assumption that participation in sport inherently builds positive character is not only naive but counterproductive. Deliberate, systematic, and immersive programs are required if young sports participants are to maximise their opportunities for growth. Furthermore, this thesis has shown the value of clearly identifying the needs of specific populations. Given the varied contexts, needs, strengths, and aspirations that make young people so unique, we can not assume a "one size fits all" approach to their development. Understanding what life skills are important for a particular population and how best to develop them is a crucial area of research not only in sport but in the many social spheres connected to young people.

The current thesis has also highlighted a number of shortcomings in the current research methodologies. The studies presented have aimed to provide a fuller picture of the life skills research process and guide the practices of future work. A more comprehensive evaluation of an applied program, including mechanisms of change, should result in a more thorough and compelling understanding of how to support our youth. The need for more appropriate and robust psychometric measures is central to our capacity to assess and understand the real world benefits of life skills. Finally, a greater emphasis on the qualitative experiences of young participants and their significant others will provide insight not yet achievable given the assessment tools currently available within the field.

It is plainly apparent that the adage "Sport builds character" is not a fair one. To be more accurate, sport has the potential to build character. When designed correctly the role that sport can play to promote healthy development and well-being is unquestionable. As young people are exposed to an ever increasing range of novel challenges, it is clear that the

development of life skills through sport is an area of research that will continue to grow. This thesis has aimed to contribute to that growth and help steer future efforts to more effectively meet the needs of our young people.

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APPENDICES

RESEARCH MATERIALS FOR CHAPTER 2

Information Sheet: Generic

Mental Skills Training for U16 rugby union players: A needs analysis

What is our study about?

The aim of the present study is to examine the necessary mental skills required to face the psychological, emotional, and physical demands of U16 rugby in Scotland. This is hoped to ensure the effective delivery of a tailored Mental Skills Training programme that addresses the needs of the athletes and integrates comfortably into their training and competitive activities.

Benefits of our study

It is hoped that the knowledge gained from the study will aid research scientists, sport psychologists, and coaches to identify and teach key mental skills required for peak performance in U16 rugby union.

What will your participation involve?

If you agree to volunteer for our study, you will be invited to a small group discussion with other <players/ex-players/coaches/administrators/parents/sport psychologists> of an U16 rugby programme, and will take approximately 1 hour of your time.

Confidentiality

The discussion will be digitally recorded and video-taped for data analysis before being transcribed and analysed. Information in the final report will be identified by codes (instead of personal names) to maintain your anonymity.

All data will be securely stored in a locked office at the University of Birmingham, and may only be accessed by select researchers. Raw data will be kept for six years before being destroyed.

You may refuse to participate, refuse to answer any questions, or withdraw from the study at any time. By participating in this study, you are also agreeing that your results may be used for scientific purposes, including publication in scientific and rugby specific journals, so long as your anonymity is maintained. There are no known risks associated with participation in this research.

If you would like to any more information concerning this study, please do not hesitate to contact us.

Thank you.

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0121 414 2737

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Mark Holland
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Charlotte Woodcock
Ph.D. student
██████████████████

THE UNIVERSITY
OF BIRMINGHAM

Consent Form for <Generic Parental Consent>

Mental Skills Training for U16 Rugby union players: A needs analysis

I _____ have read and understood the accompanying
information sheet. I agree to take part in a group discussion with the knowledge that I can
withdraw at any time without giving a reason and doing so will not affect my participation in
the U16 Edinburgh pathway program. All questions have been answered to my satisfaction.

Athlete Signature   ……………………………………………..

Date   ……………………………………………..

Witness Name   …………………………………………..

Witness Signature   …………………………………………..

THE UNIVERSITY OF BIRMINGHAM

Focus Group Topic Guide: Players

Section 1: Welcome (not recorded)

Welcome and thank you for volunteering to participate in our focus group. The purpose of this discussion is to gain an understanding of the mental skills used by rugby players and the psychological demands of the sport based on your experience. Do not worry if you are not sure what that really means at the moment, I will explain more in a few minutes. What you discuss here today will be very helpful for our research project in this area, and after today's session you are welcome to ask us questions about the research we are doing and about today's discussion.

The idea of a group discussion is to allow you to share your views in a relaxed and informal environment. There are no right or wrong answers, but rather people often hold different points of view. All points of view, both positive and negative comments, are important. Of course, what to say, how to say it, and how much you want to say is up to you. You should not worry about what you are expected to say, whether you are on the right track, or whether you should agree as a group.

So that we do not miss any of your comments, I would like to audio and video record our discussion. I have asked your permission to do this, as it will make our research work much easier. I should point out that your contribution will be anonymous and kept confidential, and that any published research will contain changed names. Mark is here to take notes and help us at the end but may not necessarily contribute during the discussion. The notes he is taking are to help us get a thorough understanding of the discussion and to make sure nothing is missed. Be assured Mark is not making any evaluation of any individuals.

Our discussion will last for approximately one hour. During this time, I would like to explore a number of issues on this topic and hear everyone's responses. It would be better if you kept your questions about this research project until the end, but please feel free to ask questions relating to the topic throughout the discussion.

Just before we start, I would just like to tell you a couple of simple rules. They are important so that we get the best possible discussion, the best possible recording, and so that we keep everybody happy.

- Please speak freely – your opinion is important!
- Please make sure that you allow others to speak, you do not talk at the same time, and do not interrupt others.
- Please turn off your mobile phone completely.

Section 2: Opening questions (recorder turned on)

So that we can distinguish who is who when we later transcribe the tape we would like you to introduce yourselves. In turn, please introduce yourself, state your position, and your favourite thing about playing rugby.

Section 3: Introductory Questions

This question is to be conducted in a performance profile procedure. Once attributes (mental skills) are identified they are to be sorted into an order of perceived importance for later discussion.

What do you think are the ideal characteristics for a rugby player?

>*Probe:* Can you describe the best player in your position?

>*Probe:* What are the physical characteristics?

>*Probe:* What are the mental characteristics?

>*Probe:* What are the general personal characteristics?

Section 4: Key Questions

Following the preceding question a small selection of attributes at within the importance scale will be discussed in terms of the mental methods used to.

Can you tell me what you mean by <attribute>?

>*Probe:* What does it mean to you to be <attribute>?

>*Probe:* What does it feel when you are <attribute>?

>*Probe:* How does it feel when you are not <attribute>?

>*Probe:* Do you feel that <attribute> always positive/negative to you?

>*Probe:* Can you describe a time you were very high/low in <attribute>?

In what situations do you experience <attribute>?

>*Alternative:* When do you feel <attribute>?

>*Alternative:* Are there times you feel <attribute> more than others?

>*Probe:* Are there particular circumstances when you feel particularly <attribute>?

>*Probe:* Is there anything that makes you feel positive about your <attribute>?

>*Probe:* Is there anything that makes you feel negative about your <attribute>?

>*Probe:* Is there anyone who particularly influences your <attribute>?

>*Probe:* Is your <attribute> the same in training as in competition?

>*Probe:* Can you describe a time you were particularly <attribute>?

Do you have any strategies to control your own <attribute>?

> *Alternative:* What sort of things might you do when you are <attribute>?

> *Alternative:* how might you improve you <attribute>?

> *Probe:* Can you describe a time when you worked on your <attribute>?

> *Probe:* What do you do before/during/after playing rugby?

> *Probe:* How does this influence your performance/experience rugby?

> *General probe*: Do you use these in only matches, only training, or both?

How did you learn these techniques?

> *Alternative:* When did you start doing these techniques?

> *Probe:* Did anyone teach you how to do these techniques?

> *Probe:* Do you practice these techniques in training/at home? If so/not, why?

What sort of things do you think might help you improve these techniques?

What would have helped you when you were learning these techniques?

> *Probe:* What would you like to help you improve your techniques?

Section 5: Ending Questions

The moderator then provides a summary of the points raised and then reflects on the discussions that emerged. The moderator also reiterates the aims of the focus group;

During this discussion we were aiming to find out what characteristics you think make up the ideal rugby player. We also wanted to explore the mental skills you use, the demands you face as a rugby player and how you cope with these demands.

and asks;

Is there anything we have missed?

Would you like to raise anything else at this point?

Section 6: Closing

I would like to again thank you for participating in today's discussion and remind you that any comments that you made here today will remain confidential and for research purposes only. I would also like to ask you help us out by keeping any thoughts and opinions expressed here today by the other participants as confidential.

Focus Group Topic Guide: Coaches

Section 1: Welcome (not recorded)

Welcome and thank you for volunteering to participate in our focus group. The purpose of this discussion is to gain an understanding of the mental skills used by rugby players and the psychological demands of the sport based on your experience. Do not worry if you are not sure what that really means at the moment, I will explain more in a few minutes. What you discuss here today will be very helpful for our research project in this area, and after today's session you are welcome to ask us questions about the research we are doing and about today's discussion.

The idea of a group discussion is to allow you to share your views in a relaxed and informal environment. There are no right or wrong answers, but rather people often hold different points of view. All points of view, both positive and negative comments, are important. Of course, what to say, how to say it, and how much you want to say is up to you. You should not worry about what you are expected to say, whether you are on the right track, or whether you should agree as a group.

So that we do not miss any of your comments, I would like to audio and video record our discussion. I have asked your permission to do this, as it will make our research work much easier. I should point out that your contribution will be anonymous and kept confidential, and that any published research will contain changed names. Mark is here to take notes and help us at the end but may not necessarily contribute during the discussion. The notes he is taking are to help us get a thorough understanding of the discussion and to make sure nothing is missed. Be assured Mark is not making any evaluation of any individuals.

Our discussion will last for approximately one hour. During this time, I would like to explore a number of issues on this topic and hear everyone's responses. It would be better if you kept your questions about this research project until the end, but please feel free to ask questions relating to the topic throughout the discussion.

Just before we start, I would just like to tell you a couple of simple rules. They are important so that we get the best possible discussion, the best possible recording, and so that we keep everybody happy.

- Please speak freely – your opinion is important!
- Please make sure that you allow others to speak, you do not talk at the same time, and do not interrupt others.
- Please turn off your mobile phone completely.

Section 2: Opening questions (recorder turned on)

So that we can distinguish who is who when we later transcribe the tape we would like you to introduce yourselves. In turn, please introduce yourself, state your coaching status, and the number of years of coaching experience you have.

Section 3: Introductory Questions

What do you think the ideal characteristics for a youth rugby player are?

> *Probe:* What are the physical characteristics?

> *Probe:* What are the mental characteristics?

> *Probe:* What are the general personal characteristics?

> *Probe:* Can you describe the ideal U16 player?

Section 4: Key Questions

What mental skills training do you conduct when you coach rugby?

> *Probe:* To what extent do you teach mental skills to your players?

> *Probe:* Do you teach any specific mental skills?

> *Probe:* Do you have strategies to assess a players' psychological state?

> *Probe:* Is there anything you do to increase the motivation in your players?

> *Probe:* Are there any ways in which you offer control/freedom to your players?

> *Probe:* Do you have techniques to build the confidence in your players?

> *Probe:* How do you prepare players for training/matches?

> *Probe:* How do reduce negative anxiety in your players?

> *Probe:* Do you set goals with/for your players?

> *Probe:* Do you have any strategies to help players monitor their own development?

> *Probe:* How do you help you players to enjoy their rugby?

How do the players respond to these techniques?

What are the barriers to implementing a successful mental skills training programme?

> *Probe:* Is mental skills training worthwhile?

> *Probe:* Is there adequate resources to do mental skills training if desired?

> *Probe:* Are players interested in mental skills training?

> *Probe:* Are coaches adequately trained?

> *Probe:* Are you aware of players' psychological states/needs?

> *Probe:* Are coaches confident teaching mental skills training?

How would you like to see a mental skills training programme implemented?

> *Probe:* What would you like included in a mental skills programme/session?

> *Probe:* How would you like a mental skills training programme to be implemented?

> *Probe:* What mental skills would you like to see in order to enhance your players' performance?

> *Probe:* What life skills would you like to see enhanced in your players?

> *Probe:* How would you like it structured with the physical training?

> *Probe:* When would you like to see mental skills sessions take place?

> *Probe:* What resources/personnel would you like available?

> *Probe:* Is there any specific training you feel might be valuable to you?

Section 5: Ending Questions

The moderator then provides a summary of the points raised and then reflects on the discussions that emerged. The moderator also reiterates the aims of the focus group;

During this discussion we were aiming to find out what characteristics you think make up the ideal youth rugby player. We also wanted to explore the mental skills you coach, the barriers to implementing a mental skills training programme, when a mental skills training programme should be implemented, and how you would like to see it implemented.

and asks;

Is there anything we have missed?

Would you like to raise anything else at this point?

Section 6: Closing

I would like to again thank you for participating in today's discussion and remind you that any comments that you made here today will remain confidential and for research purposes only. I would also like to ask you help us out by keeping any thoughts and opinions expressed here today by the other participants as confidential.

RESEARCH MATERIALS FOR CHAPTER 3

Information Sheet for Participants

Validation of Measures for Youth Life Skill Transference

It is a commonly held perception that participation in sport builds positive characteristics in youth. These characteristics are thought to be brought about by the unique demands of sport. More recently, the view that character development occurs unconditionally through sports participation has been contested by a number of scholars within the field of sport psychology. However, few measures have been developed to assess the transference of mental skills from sport to other life domains. The ability to evaluate sports participation and interventions designed to foster specific mental skills relies on the valid and reliable assessment of the programme's desired outcomes and the processes underlying such changes. Consequently, in order to assess the effectiveness of sport environments for youth athletes we must first be able to measure the constructs under investigation

What is our study about?

Our study aims to validate a number of questionnaires measures that will measure the transfer of mental skills from sport to other life domains. This study will allow us to accurately evaluate the benefits of sports based psychological interventions for youth athletes. These measures include a number of psychological and emotional outcomes such as motivation, well-being and enjoyment of the sporting participation.

What will your participation involve?

If you agree to volunteer for our study, you will be invited to complete a number of questionnaires relating to your sporting experience. These questionnaires should not take more than half an hour. You may refuse to participate and or withdraw yourself at any time with no penalty or effect on your future involvement in your sport. By participating in this study, you are also agreeing that your results may be used for scientific purposes, including publication in scientific and sport specific journals, so long as your anonymity is maintained. There are no known risks associated with participation in this research.

All data will be securely stored in a locked office at the University of Birmingham, and may only be accessed by this study's researchers. Raw data will be kept for six years before being destroyed. If you would like to any more information concerning this study, please do not hesitate to contact us.

Thank you. (This letter is yours to keep)

Mark Holland	Prof. Joan L. Duda	Dr. Jennifer Cumming
Ph.D. student	J.L.Duda@bham.ac.uk	J.Cumming@bham.ac.uk
██████████████	0121 414 2737	0121 414 2877
0121 414 2873		

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Informed Consent Form

Validation of Measures for Youth Life Skill Transference

To be completed by the athlete

I (please print name)_____ have read and understood the accompanying information sheet.   I agree to take part in the knowledge that I can withdraw at any time without giving a reason and doing so will not affect my future sports participation. All my questions have been answered to my satisfaction.

Athlete Signature   …………………………………………..

Date   …………………………………………..

Witnessed   …………………………………………..

To be complete by parent/guardian of athlete

I (please print name)_____ have read and understood the accompanying information sheet.   I agree for my child to take part in the knowledge that he/she can withdraw at any time without giving a reason and doing so will not affect his/her future sports participation. All questions have been answered to my satisfaction.

Parent Signature   …………………………………………..

Date   …………………………………………..

Witnessed   …………………………………………..

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Life skills for Young Athletes

***** **ID Number (VERY IMPORTANT):**

Enter your date of birth and how many brothers or sisters you have (e.g., 12/5/1988-1).

ANSWER HERE: _____/_____/_____-_____

                         D   M   Y   #

1	Age			
2	Gender (please circle)	Male		Female
3	Sport you play the most			
4	Sporting Standard (please circle)			
	Recreational	School	Club	National
5	Years of Experience in that sport (including this year)			
6	Ethnicity (please circle)			
	White	Black or Black-British	Asian or Asian-British	Chinese or Chinese-British
	Other (please specify)			

Instructions

This questionnaire is made of 5 parts. In each part you will be asked to read a number of sentences. You should respond to each sentence separately using the scale on the right hand side and circling the appropriate number. The scale changes in each part so please make sure you read it carefully. If you make a mistake cross it out and circle another number. **Please respond to all the sentences**. <u>**There are no right or wrong answers, so please answer honestly.**</u> Do not take too much time answering. Some sentences may appear similar but please respond to all statements separately by circling the appropriate number.

Part 1 – Your sport participation [TOPS 3 Sport]

Each of the following items describes a specific situation that you may encounter in your training and competition. Please rate how frequently these situations apply to you;

	Never	Rarely	Sometimes	Often	Always
I set realistic but challenging goals for practice.	1	2	3	4	5
I say things to myself to help my practice performance.	1	2	3	4	5
My attention wanders while I am training.	1	2	3	4	5
I practise using relaxation techniques at workouts.	1	2	3	4	5
During competition I set specific result goals for myself.	1	2	3	4	5
I use practice time to work on my relaxation technique.	1	2	3	4	5
I manage my self-talk effectively during practice.	1	2	3	4	5
I am able to control distracting thoughts when I am training.	1	2	3	4	5
I get frustrated and emotionally upset when practice does not go well.	1	2	3	4	5
I have specific cue words or phrases that I say to myself to help my performance during competition.	1	2	3	4	5
I evaluate whether I achieve my competition goals	1	2	3	4	5
I set very specific goals for competition.	1	2	3	4	5
I say things to myself to help my competitive performance.	1	2	3	4	5
I manage my self-talk effectively during competition.	1	2	3	4	5
I set goals to help me use practice time effectively.	1	2	3	4	5
During practice I focus my attention effectively.	1	2	3	4	5
I set personal performance goals for a competition.	1	2	3	4	5
I motivate myself to train through positive self-talk.	1	2	3	4	5
I have trouble maintaining my concentration during long practices.	1	2	3	4	5

I talk positively to myself to get the most out of practice.	1	2	3	4	5
I have very specific goals for practice.	1	2	3	4	5
I talk positively to myself to get the most out of competitions.	1	2	3	4	5
I don't set goals for practices, I just go out and do it.	1	2	3	4	5
I can control my emotions when things are not going well at practice.	1	2	3	4	5
My emotions keep me from performing my best at competitions.	1	2	3	4	5
My emotions get out of control under the pressure of competition.	1	2	3	4	5
I use relaxation techniques as a coping strategy at competitions.	1	2	3	4	5
I have difficulty with my emotions at competitions.	1	2	3	4	5
During training sessions I use relaxation techniques to improve my performance.	1	2	3	4	5
I have difficulty controlling my emotions if I make a mistake at competitions.	1	2	3	4	5
My attention wanders during competition.	1	2	3	4	5
My emotions keep me from performing my best during practice.	1	2	3	4	5
I am able to control distracting thoughts during competition.	1	2	3	4	5
I use relaxation techniques during competitions to improve my performance.	1	2	3	4	5
If I'm starting to "lose it" at a competition, I use a relaxation technique.	1	2	3	4	5
I relax myself before competition to get ready to perform.	1	2	3	4	5
I focus my attention effectively during competition.	1	2	3	4	5
My practice performance suffers when something upsets me at training	1	2	3	4	5
I use workouts to practise relaxing.	1	2	3	4	5
I have trouble maintaining concentration during competition.	1	2	3	4	5

Part 2 – Your energy for life [Subjective Vitality]

Please respond to each of the following statements by indicating the degree to which the statement is true for you in general in your life.

	Not At All True		Somewhat True		Very True		
I feel alive and vital.	1	2	3	4	5	6	7
Sometimes I feel so alive I just want to burst.	1	2	3	4	5	6	7
I have energy and spirit.	1	2	3	4	5	6	7
I look forward to each new day.	1	2	3	4	5	6	7
I nearly always feel alert and awake.	1	2	3	4	5	6	7
I feel energized.	1	2	3	4	5	6	7

Part 3. Your school participation [TOPS 3 school]

Each of the following items describes a specific situation that you may encounter in your school day. Please rate how frequently these situations apply to you from 1 (never at all) to 5 (always in all practices/lesson).

	Never	Sometimes		Always	
I set realistic but challenging goals for school activities	1	2	3	4	5
I say things to myself to help my performance in school activities	1	2	3	4	5
My attention wanders while I am in school activities	1	2	3	4	5
I manage my self-talk effectively during school activities	1	2	3	4	5
I am able to control distracting thoughts when I am in school activities	1	2	3	4	5
I get frustrated and emotionally upset when school activities do not go well	1	2	3	4	5
I set goals to help me use time in school activities effectively	1	2	3	4	5
My performance in school activities suffers when something upsets me	1	2	3	4	5
During school activities I focus my attention effectively	1	2	3	4	5
I motivate myself to work in school activities through positive self-talk	1	2	3	4	5
I have trouble maintaining my concentration during long activities	1	2	3	4	5
I talk positively to myself to get the most out of school activities	1	2	3	4	5
I have very specific goals for school activities	1	2	3	4	5
I don't set goals for school activities, I just go and do it	1	2	3	4	5
I have trouble controlling my emotions when things are not going well during school activities	1	2	3	4	5
My emotions keep me from performing my best in school activities	1	2	3	4	5

Part 5. Your development through sport [YES 2.0]

Based on your current or recent involvement in sport please rate whether you had the following experiences.

In my sport …	Yes, Definitely	Quite a Bit	A Little	Not At All
Identity Exploration				
I tried doing new things	1	2	3	4
I tried a new way of acting around people	1	2	3	4
I do things here I don't get to do anywhere else	1	2	3	4
Identity Reflection				
I started thinking more about my future because of this activity	1	2	3	4
This activity got me thinking about who I am	1	2	3	4
This activity has been a positive turning point in my life	1	2	3	4
Goal Setting				
I set goals for myself in this activity	1	2	3	4
I learned to find ways to achieve my goals	1	2	3	4
I learned to consider possible obstacles when making plans	1	2	3	4
Effort				
I put all my energy into this activity	1	2	3	4
I learned to push myself	1	2	3	4
I learned to focus my attention	1	2	3	4
Problem Solving				
I observed how others solved problems and learned from them	1	2	3	4
I learned about developing plans for solving a problem	1	2	3	4
I used my imagination to solve a problem	1	2	3	4
Time Management				
I learned about organizing time and not procrastinating (not	1	2	3	4

In my sport …	Yes, Definitely	Quite a Bit	A Little	Not At All
putting things off)				
I learned about setting priorities	1	2	3	4
I practiced self discipline	1	2	3	4
Emotional Regulation				
I learned about controlling my temper	1	2	3	4
I became better at dealing with fear and anxiety	1	2	3	4
I became better at handling stress	1	2	3	4
I learned that my emotions affect how I perform	1	2	3	4
COGNITIVE SKILLS				
In this activity I have improved:				
Academic skills (reading, writing, math, etc.)	1	2	3	4
Skills for finding information	1	2	3	4
Computer/internet skills	1	2	3	4
Artistic/creative skills	1	2	3	4
Communication skills	1	2	3	4
Physical Skills				
Athletic or physical skills	1	2	3	4
Diverse Peer Relationships				
I made friends with someone of the opposite gender	1	2	3	4
I learned I had a lot in common with people from different backgrounds	1	2	3	4
I got to know someone from a different ethnic group	1	2	3	4
I made friends with someone from a different social class (someone richer or poorer)	1	2	3	4
Prosocial Norms				
I learned about helping others	1	2	3	4
I was able to change my school or community for the better	1	2	3	4

In my sport …	Yes, Definitely	Quite a Bit	A Little	Not At All
I learned to stand up for something I believed was morally right	1	2	3	4
We discussed morals and values	1	2	3	4
Group Process Skills				
I learned that working together requires some compromising	1	2	3	4
I became better at sharing responsibility	1	2	3	4
I learned to be patient with other group members	1	2	3	4
I learned how my emotions and attitude affect others in the group	1	2	3	4
I learned that it is not necessary to like people in order to work with them	1	2	3	4
Feedback				
I became better at giving feedback	1	2	3	4
I became better at taking feedback	1	2	3	4
Leadership and Responsibility				
I learned about the challenges of being a leader	1	2	3	4
Others in this activity counted on me	1	2	3	4
I had an opportunity to be in charge of a group of peers	1	2	3	4
Integration with Family				
This activity improved my relationship with my parents/guardians	1	2	3	4
I had good conversations with my parents/guardians because of this activity	1	2	3	4
Linkages to Community				
I got to know people in the community	1	2	3	4
I came to feel more supported by the community	1	2	3	4
Linkages to Work and College				
This activity opened up job or career opportunities for me	1	2	3	4
This activity helped prepare me for college	1	2	3	4

In my sport …	Yes, Definitely	Quite a Bit	A Little	Not At All
This activity increased my desire to stay in school	1	2	3	4

Stress				
Demands were so great that I didn't get homework done (skip this item if your Target Activity is a class)	1	2	3	4
This activity interfered with doing things with family	1	2	3	4
This activity has stressed me out	1	2	3	4

Thank you for taking part

RESEARCH MATERIALS FOR CHAPTER 4

Information Sheet for Players
Validation of Measures for Youth Mental Skills Training

The effective use of mental skills has been found to be a common characteristic of elite athletes. Mental skills training programmes have been used to increase athletes' sporting performance and experience. The development and testing of mental skills training (MST) programmes relies on the valid and reliable assessment of the programme's desired outcomes and the processes underlying such changes. Consequently, in order to ensure the effectiveness of an MST programme for youth athletes we must first be able to measure what it is we want to develop.

What is our study about?
Our study aims to validate a number of questionnaires and performance measures that will assess the effectiveness of an MST programme. This study will allow us to accurately evaluate the benefits of an MST programme specifically for youth sport participants. These measures include a number of psychological and emotional outcomes.

What will your participation involve?
If you agree to volunteer for our study, you will be asked to participate in a 'think-aloud' assessment of one questionnaire. This involves completing a questionnaire while saying aloud everything you are thinking as you go through it. This aims to assess the ease at which individuals are able to complete the questionnaire. Your dialogue, while completing the questionnaire, will be tape recorded. This is not to evaluate any individual, but is to test the appropriateness of the questionnaires for you as the target population.

This questionnaire should not take more than 20 minutes. You may refuse to participate and or withdraw yourself at any time with no penalty or effect on your future involvement in sport. By participating in this study, you are also agreeing that your results may be used for scientific purposes, including publication in scientific and sport specific journals, so long as your anonymity is maintained. There are no known risks associated with participation in this research.

All data will be securely stored in a locked office at the University of Birmingham, and may only be accessed by this study's researchers. Raw data will be kept for six years before being destroyed. If you would like to any more information concerning this study, please do not hesitate to contact us.
Thank you. (This letter is yours to keep)

Mark Holland   Prof. Joan L. Duda   Dr. Jennifer Cumming
Ph.D. student   J.L.Duda@bham.ac.uk   J.Cumming@bham.ac.uk
                      0121 414 2737   0121 414 2877

THE UNIVERSITY OF BIRMINGHAM

Informed Consent Form

Validation of Measures for Youth Mental Skills Training

To be completed by the athlete

I (Please print name)_____ have read and understood the accompanying information sheet. I agree to take part in the knowledge that I can withdraw at any time without giving a reason and doing so will not affect my future participation in rugby. All my questions have been answered to my satisfaction.

Signature   …………………………………………..

Age   …………………………………………..

School   …………………………………………..

Sport   …………………………………………..

Standard   …………………………………………..

Date   …………………………………………..

Witnessed   …………………………………………..

Think Aloud Instructions

In this investigation we are interested in what you think about when you are completing the questionnaire I am about to give you. In order to do this, I am going to ask you to **think aloud** as you work through the questionnaire.

What I mean by 'think aloud' is that I want you to tell me **everything** you are thinking from the time you first see the questionnaire until you have completed all the items. I would like you to talk aloud **constantly** for the whole duration of time it takes to complete the questionnaire.

I don't want you to plan out what you say or to try to explain to me what you are saying. Just act as if you are alone in the room talking to yourself. There is no right or wrong way to think. What is important is that you honestly indicate what goes on your mind as you read through the questionnaires instructions and particular items. For example, what is the questionnaire trying to capture about you? What do you understand by each item? In terms of your sporting experience, what are the words (or item content) referring to?

It is important that you keep talking. If you are silent for any long period of time, I will ask you to talk. Please try to speak as clearly as possible, as I shall be recording you as you speak.

Do you understand what I want you to do?

Here is a practice so that you can have a go.

UNIVERSITY OF BIRMINGHAM

Measure Validation with Young Athletes

Age:_____

Gender: Male ☐   female ☐

Sport:_____

School:_____

Standard:

Recreational ☐   Club/school ☐   County ☐   National ☐

Years participating in sport (including this year):_____

Instructions

In this questionnaire you will be asked to read a number of sentences. You should respond to each sentence separately using the scale on the right hand side and circling the appropriate number. If you make a mistake cross it out and circle another number. Please respond to all the sentences. **There are no right or wrong answers, so please answer honestly.** Do not take too much time answering. Some sentences may appear similar but please respond to all statements by circling the appropriate number.

Below are some reasons why people play sport. Please indicate how true each of the following statements is for you using the scale of 1 (Not at all true) to 7 (Very true). When deciding if this is one of the reasons why you participate, please **think about all the reasons why you participate**.

I participate in my sport…	Not at all true		Somewhat true			Very True	
because I enjoy it.	1	2	3	4	5	6	7
because it's a part of who I am.	1	2	3	4	5	6	7
because its an opportunity to just be who I am.	1	2	3	4	5	6	7
because I would feel ashamed if I quit.	1	2	3	4	5	6	7
but the reasons why are not clear to me anymore.	1	2	3	4	5	6	7
because I would feel like a failure if I quit.	1	2	3	4	5	6	7
but I wonder what's the point.	1	2	3	4	5	6	7
because what I do in sport is an expression of who I am.	1	2	3	4	5	6	7
because the benefits of sport are important to me.	1	2	3	4	5	6	7
because if I don't other people will not be pleased with me.	1	2	3	4	5	6	7
because I like it.	1	2	3	4	5	6	7
because I feel obligated [or that you are required] to continue.	1	2	3	4	5	6	7
but I question why I continue.	1	2	3	4	5	6	7
because I feel pressure from other people to play sport.	1	2	3	4	5	6	7
because people push me to play sport.	1	2	3	4	5	6	7
because it's fun.	1	2	3	4	5	6	7
because it teaches me self-discipline.	1	2	3	4	5	6	7
because I would feel guilty if I quit.	1	2	3	4	5	6	7
because I find it pleasurable.	1	2	3	4	5	6	7
because I value the benefits of sport.	1	2	3	4	5	6	7
but I question why I am putting myself through this.	1	2	3	4	5	6	7
because it is a good way to learn things which could be useful to me in my life.	1	2	3	4	5	6	7
in order to satisfy people who want me to play sport.	1	2	3	4	5	6	7
because it allows me to live in a way that is true to my values [i.e., a way that reflects what you feel is important].	1	2	3	4	5	6	7

RESEARCH MATERIALS FOR CHAPTER 5

Information Sheet for Players

Life Skills training for youth athletes

Life skills are those that enable us to succeed in the different life settings that are central to who we are and what we do (e.g., Sport, school, family, etc) and can be transferred between life domains. Many of the mental skills young people possess (goal setting, time management, emotional control) are able to benefit them in many different life domains. However, it is the optimal development of these skills and ability to transfer these skills between domains that may be a limiting factor in the development of young people.

What is our study about?

Our study aims to deliver and evaluate a youth development programme specifically concentrating on the enhancement of life skills through sport. Such a programme aims to recognise and develop the mental skills young people display in sport and facilitate the practise of these skills in other life domains. For example, many young people may be able to effectively handle the pressure of a sporting competition but less effectively cope with the pressure of an academic exam.

What will your participation involve?

If you agree to volunteer and participate in our programme, you will be invited to attend regular sessions at your school. These sessions each last approximately 35 minutes and will occur weekly for the duration of the school term. During the programme mental techniques and strategies used by many elite athletes will be taught and practised.

How is the programme evaluated?

In order to determine the efficacy of the programme several questionnaires will be administered before, during, and after the intervention. At any assessment period these questionnaires will take no more than 25 minutes and will measure constructs such as motivation, and self-perceptions. All data will be securely stored in a locked office at the University of Birmingham, and may only be accessed by this study's researchers. Raw data will be kept for six years before being destroyed.

Can I withdraw once the programme has started?

You may refuse to participate and/or withdraw yourself at any time with no penalty or effect on your future involvement in sport. There are no known risks associated with participation in this research.

By participating in this study, you are also agreeing that your results may be used for scientific purposes, including publication in scientific and sport specific journals, so long as your anonymity is maintained. If you would like to any more information concerning this study, please do not hesitate to contact us.

Thank you for your considered participation in our project.

Mark Holland	Dr Jennifer Cumming	Prof. Joan Duda
████████████	J.Cumming@bham.ac.uk	J.L.Duda@bham.ac.uk
01214142873	01214142877	01214142737

THE UNIVERSITY OF BIRMINGHAM

Informed Consent Form

Life Skills training for youth athletes

To be completed by the athlete

I (Please print name)＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿ have read and understood the accompanying information sheet. I agree to take part in the study with the knowledge that I can withdraw at any time without giving a reason and doing so will not affect my future participation in sport. All my questions have been answered to my satisfaction. (Please sign dotted line)

Signature   …………………………………………..

Date   …………………………………………..

Witnessed   …………………………………………..

To be complete by parent/guardian of athlete

I (Please print name)＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿ have read and understood the accompanying information sheet. I am willing for my child to participate in the study with the knowledge that he/she can withdraw at any time without giving a reason and doing so will not affect his/her future participation in sport. All questions have been answered to my satisfaction. (Please sign dotted line)

Signature   …………………………………………..

Date   …………………………………………..

Witnessed   …………………………………………..

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Life skills for Young Athletes

***** **ID Number (VERY IMPORTANT):**

Enter your date of birth and how many brothers or sisters you have (e.g., 12/5/1988-1).

ANSWER HERE: _____/_____/_____-_____

D   M   Y   #

1	Name	
2	Age	
3	Gender (please circle)	Male Female
4	Years spent at current school	
5	Sport you play the most	
6	Sporting Standard (please circle)	
	Recreational School Club National	
7	Years of Experience in that sport (including this year)	
8	Ethnicity (please circle)	
	White Black or Black-British Asian or Asian-British Chinese or Chinese-British	
	Other (please specify)	

Instructions

This questionnaire is made of 3 parts; 1) your sporting experiences, 2) your school experiences, and 3) you in general. In each part you will be asked to read a number of sentences. You should respond to each sentence separately using the scale on the right hand side and circling the appropriate number. The scale changes in each part so please make sure you read it carefully. If you make a mistake cross it out and circle another number. Please respond to all the sentences. **There are no right or wrong answers, so please answer honestly.** Do not take too much time answering. Some sentences may appear similar but please respond to all statements separately by circling the appropriate number.

Part 1.1 – your sport participation [BRSQ]

Below are some reasons why people play sport. Please indicate how true each of the following statements is for you using the scale of 1 (Not at all true) to 7 (Very true). When deciding if this is one of the reasons why you participate, please **think about all the reasons why you participate**.

I participate in my sport...	Not at all true		Somewhat true			Very True	
because I enjoy it.	1	2	3	4	5	6	7
because it's a part of who I am.	1	2	3	4	5	6	7
because its an opportunity to just be who I am.	1	2	3	4	5	6	7
because I would feel ashamed if I quit.	1	2	3	4	5	6	7
but the reasons why are not clear to me anymore.	1	2	3	4	5	6	7
because I would feel like a failure if I quit.	1	2	3	4	5	6	7
but I wonder what's the point.	1	2	3	4	5	6	7
because what I do in sport is an expression of who I am.	1	2	3	4	5	6	7
because the benefits of sport are important to me.	1	2	3	4	5	6	7
because if I don't other people will not be pleased with me.	1	2	3	4	5	6	7
because I like it.	1	2	3	4	5	6	7
because I feel obligated [or that you are required] to continue.	1	2	3	4	5	6	7

but I question why I continue.	1	2	3	4	5	6	7
because I feel pressure from other people to play sport.	1	2	3	4	5	6	7
because people push me to play sport.	1	2	3	4	5	6	7
because it's fun.	1	2	3	4	5	6	7
because it teaches me self-discipline.	1	2	3	4	5	6	7
because I would feel guilty if I quit.	1	2	3	4	5	6	7
because I find it pleasurable.	1	2	3	4	5	6	7
because I value the benefits of sport.	1	2	3	4	5	6	7
but I question why I am putting myself through this.	1	2	3	4	5	6	7
because it is a good way to learn things which could be useful to me in my life.	1	2	3	4	5	6	7
in order to satisfy people who want me to play sport.	1	2	3	4	5	6	7
because it allows me to live in a way that is true to my values [i.e., a way that reflects what you feel is important].	1	2	3	4	5	6	7

Part 1.2 – experiences in sport [TOPS SPORT]

Each of the following items describes a specific situation that you may encounter in your sports. Please rate how frequently these situations apply to you from 1 (never at all) to 5 (always in all practices).

	Never	Sometimes		Always	
I set realistic but challenging goals for sports practice	1	2	3	4	5
I say things to myself to help my sports practice performance	1	2	3	4	5
My attention wanders during sports practice	1	2	3	4	5
I manage my self-talk effectively during sports practice	1	2	3	4	5
In sports I am able to control distracting thoughts when I am training	1	2	3	4	5
I get frustrated and emotionally upset when sports practice does not go well	1	2	3	4	5
I set goals to help me use sports practice time effectively	1	2	3	4	5
My performance in sport practice suffers when something upsets me	1	2	3	4	5
During sports practice I focus my attention effectively	1	2	3	4	5
I motivate myself to train in sports through positive self-talk	1	2	3	4	5
I have trouble maintaining my concentration during long sports practices	1	2	3	4	5
I talk positively to myself to get the most out of sports practice	1	2	3	4	5
I have very specific goals for sports practice	1	2	3	4	5
I don't set goals for sports practices, I just go out and do it	1	2	3	4	5
I have trouble controlling my emotions when things are not going well during sports practice	1	2	3	4	5
My emotions keep me from performing my best in sports practice	1	2	3	4	5

Part 2.1 – your school participation [AMS]

Below are some reasons why people go to school. Please indicate how true each of the following statements is for you using the scale of 1 (Not at all true) to 7 (Very true). When deciding if this is one of the reasons why you participate, please **think about all the reasons why you participate**.

	Not at all true		Somewhat true		Very True		
Because I need at least A-levels in order to find a high-paying job later on.	1	2	3	4	5	6	7
Because I experience pleasure and satisfaction while learning new things.	1	2	3	4	5	6	7
Because I think that a school education will help me better prepare for the career I have chosen.	1	2	3	4	5	6	7
Because I really like going to school.	1	2	3	4	5	6	7
Honestly, I don't know; I really feel that I am wasting my time in school.	1	2	3	4	5	6	7
For the pleasure I experience while surpassing myself in my studies.	1	2	3	4	5	6	7
To prove to myself that I am capable of completing my A-Levels	1	2	3	4	5	6	7
In order to obtain a more prestigious job later on.	1	2	3	4	5	6	7
For the pleasure I experience when I discover new things never seen before.	1	2	3	4	5	6	7
Because eventually it will enable me to enter the job market in a field that I like.	1	2	3	4	5	6	7
Because for me, school is fun.	1	2	3	4	5	6	7
I once had good reasons for going to school, however, now I wonder whether I should continue.	1	2	3	4	5	6	7
For the pleasure that I experience while I am surpassing myself in one of my personal accomplishments.	1	2	3	4	5	6	7
Because of the fact that when I succeed in school I feel important.	1	2	3	4	5	6	7

	Not at all true	Somewhat true			Very True		
Because I want to have "the good life" later on.	1	2	3	4	5	6	7
For the pleasure that I experience in broadening my knowledge about subjects which appeal to me.	1	2	3	4	5	6	7
Because this will help me make a better choice regarding my career orientation.	1	2	3	4	5	6	7
For the pleasure that I experience when I am taken by discussions with interesting teachers.	1	2	3	4	5	6	7
I can't see why I go to school and frankly, I couldn't care less.	1	2	3	4	5	6	7
For the satisfaction I feel when I am in the process of accomplishing difficult academic activities.	1	2	3	4	5	6	7
To show myself that I am an intelligent person.	1	2	3	4	5	6	7
In order to have a better salary later on.	1	2	3	4	5	6	7
Because my studies allow me to continue to learn about many things that interest me.	1	2	3	4	5	6	7
Because I believe that my school education will improve my competence as a worker.	1	2	3	4	5	6	7
For the positive feelings that I experience while reading about various interesting subjects.	1	2	3	4	5	6	7
I don't know; I can't understand what I am doing in school.	1	2	3	4	5	6	7
Because school allows me to experience a personal satisfaction in my quest for excellence in my studies.	1	2	3	4	5	6	7
Because I want to show myself that I can succeed in my studies.	1	2	3	4	5	6	7

Part 2.3 - experiences in school [TOPS SCHOOL]

Each of the following items describes a specific situation that you may encounter in your sports and at school. Please rate how frequently these situations apply to you from 1 (never at all) to 5 (always in all practices/lesson).

	Never		Sometimes		Always
I set realistic but challenging goals for school lessons	1	2	3	4	5
I say things to myself to help my performance in lessons	1	2	3	4	5
My attention wanders while I am in school lessons	1	2	3	4	5
I manage my self-talk effectively during school tests	1	2	3	4	5
I am able to control distracting thoughts when I am in school lessons	1	2	3	4	5
I get frustrated and emotionally upset when school lessons do not go well	1	2	3	4	5
I set goals to help me use school lesson time effectively	1	2	3	4	5
My performance in school lessons suffers when something upsets me	1	2	3	4	5
During school lessons I focus my attention effectively	1	2	3	4	5
I motivate myself to work in lessons through positive self-talk	1	2	3	4	5
I have trouble maintaining my concentration during long lessons	1	2	3	4	5
I talk positively to myself to get the most out of school lessons	1	2	3	4	5
I have very specific goals for school lessons	1	2	3	4	5
I don't set goals for school lessons, I just go and do it	1	2	3	4	5
I have trouble controlling my emotions when things are not going well during school lessons	1	2	3	4	5
My emotions keep me from performing my best in school lessons	1	2	3	4	5

Part 3.1 – You in General [SDQ GENERAL]

Below are a number of statements that refer to your sport, your lessons, and you in general life. Please rate how true each statement is for you.

	False		More False than true		More true Than False		True
Overall, I have a lot to be proud of	1	2	3	4	5		6
Overall, I am no good.	1	2	3	4	5		6
Most things I do, I do well	1	2	3	4	5		6
Nothing I do ever seems to turn out right	1	2	3	4	5		6
Overall, most things I do turn out well	1	2	3	4	5		6
I don't have much to be proud of	1	2	3	4	5		6
I can do things as well as most people	1	2	3	4	5		6
I feel that my life is not very useful	1	2	3	4	5		6
If I really try I can do almost anything I want to do	1	2	3	4	5		6
Overall, I am a failure.	1	2	3	4	5		6

Teacher Observation Form

Teacher Observation of _____

Please consider the students participation in your physical education class/lessons **over the past week** and rate each statement from 1 (completely disagree with that statement) – 5 (completely agree with that statement)

The student...	Disagree		Neutral		Agree
Comes to class prepared to participate and work	1	2	3	4	5
Is able to set appropriate goals for class	1	2	3	4	5
Gives up easily on tasks that are difficult or challenging	1	2	3	4	5
Plans strategies to achieve classroom goals	1	2	3	4	5
Makes an effort to plan how to complete tasks	1	2	3	4	5
Prefers easy tasks to more difficult tasks	1	2	3	4	5
Will try a new task again even if she/he was not successful the first time	1	2	3	4	5
Is not discouraged easily even after failures.	1	2	3	4	5
Works independently	1	2	3	4	5
Completes assignments	1	2	3	4	5
Makes good use of time	1	2	3	4	5
Participates in class discussions	1	2	3	4	5
Tries to think and act promptly, effectively and independently	1	2	3	4	5
Is able to maintain a positive approach even when unsuccessful at a task	1	2	3	4	5
Works well as part of a team/group	1	2	3	4	5
Requires external rewards to maintain effort	1	2	3	4	5

Please note any disciplinary action involving this pupil over the past week

Please note any academic or behavioural commendations received by this pupil over the past week

Please note any other comments you have regarding the behaviour of this pupil (and any changes in behaviour) over the past week.

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Life Skills Focus Group

Section 1: Welcome (not recorded)

Welcome and thank you for volunteering to participate in our focus group. The purpose of this discussion is to gain an understanding of what you thought about the life skills programme. What you discuss here today will be very helpful for our research project in this area, and after today's session you are welcome to ask us questions about the research we are doing and about today's discussion.

The idea of a group discussion is to allow you to share your views in a relaxed and informal environment. There are no right or wrong answers, but rather people often hold different points of view. All points of view, both positive and negative comments, are important. Of course, what to say, how to say it, and how much you want to say is up to you. You should not worry about what you are expected to say, whether you are on the right track, or whether you should agree as a group.

So that we do not miss any of your comments, I would like to audio record our discussion. I have asked your permission to do this, as it will make our research work much easier. I should point out that your contribution will be anonymous and kept confidential, and that any published research will contain changed names.

Our discussion will last for the lunch break. During this time, I would like to explore a number of issues on this topic and hear everyone's responses. It would be better if you kept your questions about this research project until the end, but please feel free to ask questions relating to the topic throughout the discussion.

Just before we start, I would just like to tell you a couple of simple rules. They are important so that we get the best possible discussion, the best possible recording, and so that we keep everybody happy.

1) Please speak freely – your opinion is important!
2) Please make sure that you allow others to speak, you do not talk at the same time, and do not interrupt others.
3) Please turn off your mobile phone completely.

Section 2: Opening questions (recorder turned on)

1. So that we can distinguish who is who when we later transcribe the tape we would like you to introduce yourselves, in turn.

Section3: Introductory questions

- I would like to you to think back to the start the program. At that time, what did you think was meant by the term life skills?

    o How has this definition changed since your participation in the program?

- What did you hope to gain from participating in the Life Skills program?

- During the program, what if any barriers did you face in attending Life Skills sessions?

- What would have helped you overcome these barriers?

Section 4: Application and use of Life Skills program tools

- Do you feel confident applying skills that were covered in the program?

    o In sport/school.

    o Do you set goals, try to manage you time/emotions?

- What influence has participating in the Life Skills program had on how you participate in sport?

    o Examples?

    o Beyond performance do you believe the life skills program has influenced your enjoyment, happiness, reasons for participation, behaviour

- What influence has participating in the Life Skills program had on how you participate in school?

    o Examples?

    o Do you believe it has influenced your enjoyment, happiness, reasons for participation, behaviour, etc

- Do you intend to continue applying any skills that you have learnt?

    o Where?

    o What if any barriers do you think you will face in continuing to use Life Skills tools in the future? Examples?

    o How might you overcome them?

- What if anything have you learnt/taken away from the Life Skills program?

    o What was the most important or helpful thing you learnt and why?

    o In what aspects of your life have you been able to use what you learnt from the program?

- Is there anything you would change about the life skills program?

    o Content, delivery, leadership, timing.

- Do you feel you have learnt anything else in addition to the Life Skills tools during Life Skills sessions and program? Examples?

Section 5: Contributions to the Life Skills program
- How helpful do you think the leader of the Life skills program was helpful?

- What if anything did he do that you found to be helpful?

- Is there anything you would change about the delivery of the Life Skills program?

Section 6: Contributions to the Life Skills program
- What did the Life Skills leader expect you to contribute to the Life skills sessions?

- Is there anything you would change or do differently about your contribution to the Life Skills program?

Section 7: Advice
- What advice would you give anyone taking part in a future life skills program to ensure they get the most from the Life Skills program?

Section 7: Ending Questions
The moderator then provides a summary of the points raised and then reflects on the discussions that emerged. The moderator also reiterates the aims of the focus group and asks;

2. Is there anything we have missed?
    - Would you like to raise anything else at this point?

Section 9: Closing
- I would like to again thank you for participating in today's discussion and remind you that any comments that you made here today will remain confidential and for research purposes only. I would also like to ask you help us out by keeping any thoughts and opinions expressed here today by the other participants as confidential.

INTERVENTION MATERIALS FOR CHAPTER 5

Summary of Life Skills Program 2009

Session 1   Introduction. The program, leader, and group are introduced. A number of ice breakers are designed to start open communication and learn the individual's names and personal strengths.

Session 2   Goal Setting I. The importance of having a dream to strive for is discussed. Principles of SMART goals introduced and related to the student's aspirations in both their sport and school work.

Session 3   Goal Setting II. Participants learn to formulate and monitor goals that are specific and measureable in both sport and school. Goals are set for the week and are to be reviewed in the following session.

Session 4   Goal Setting III. Obstacles to goal attainment are recognized and action plans are introduced. A goal is set for both sport and school which is to be reviewed at the end of the life skills program.

Session 5   Support Seeking. Topic of Goal Setting is reflected upon and progressed into recognizing a 'Dream Team' of social support and how this team can be utilized.

Session 6   Time Management. Using principles of goal setting, and with the awareness of social support, participants learn principles of time management and organization.

Half-Term

Session 7   Managing Emotions. Participants learn to recognize their emotions and apply strategies to manage their negative emotional states.

Session 8   Communication. Participants' understanding of effective communication is discussed. The importance of effective communication is highlighted and practiced.

Session 9   Recognizing Strengths and Maintaining Confidence. Drawing from the experiences during the program, personal strengths are revisited and expanded. The importance of self-belief is discussed and strategies for maintaining confidence are discussed in relation to what has been learned though the life skills program.

Session 10   Applying Life Skills For Life. Goals from session 4 are reviewed. The program is summarized and final questions answered/ topics discussed. The continued application of life skills in broader contexts are discussed

Life Skills Session 1: Introductions

Aims: The program, leader, and group are introduced. A number of ice breakers are designed to start open communication and learn the individual's names and personal strengths.

Learning Outcomes:

By the end of the session students should;

Have an understanding of the meaning of life skills

Understand the aims and structure of the life skills program and feel confident in their ability to participate and learn.

Take Home Message:

Life skills are fundamental to human achievement and well-being. The development of life skills can be easy, fun, and worthwhile.

Equipment:

Projector	Flipchart	
Laptop	Pens	
Playbooks + Pages		

Introduction of Leader:

The leader of the program introduces themselves. This should be very brief and include professional, academic, and personal items. The students need to be able to build a relationship with the leader quickly so need to appreciate the person as well as the certificates.

Activity 1a: Introduction of Students

Ice breaker to try and learn all the students' names and build open and friendly communications.

With everyone standing in a circle the students say their own name clearly in turn, going around the circle as quickly as possible. Names are given around the circle approximately 8 times and then the leader is tested to recall all the names.

Activity 1b: Introduction of Students

In the same circle students must give their names prefixed with an adjective starting with the same letter as their first name. These adjectives must be positive and reflect their personality and can be used throughout the program.

Brainstorm activity 1

Group seating – Instructions, the group must stand in a circle and sit down so the circle of students supports itself. Each student must be sat on the knees of the student behind them and have a student sat on their knees.

The task requires, among other things, communication, decision making and planning, leadership, teamwork.

Task reflection

Reflect upon the skills mentioned and how they relate to different areas of their lives. Can they think of any more skills that relate to a broad range of life domains?

What skills are you currently good at? Fill in the playbook.

Introduction to Program:

Introduce the aims, strategies and desired outcomes of the program. Highlight the fact that students will be positively challenged, and supported throughout that challenge.

Define life skills.

Recognize that just as we 'perform' in sport, we also perform in school, facing many of the same barriers, using many of the same personal strengths and employing many of the same psychological skills.

The activities are designed to require a number of life skills which can be highlighted by the activity and reflected upon after completing it. Each activity progresses in difficulty and skills required.

Brainstorm activity 2

Line Placing – Instructions, the group stands in a line positioned randomly. From this starting position they must re-order themselves into various orders in a given time, e.g., age, alphabetical, height, shoe size. Repeat game a number of times making the ordering aspect harder and limit the means of communication.

Task reflection

Reflect upon the skills mentioned and how they relate to different areas of their lives. Can they think of any more skills that relate to a broad range of life domains?

What skills are you currently good at? Fill in the playbook.

Introduce the Program schedule and ground rules

Show them when the sessions are and allow them to write it down.

Discuss ground rules. I introduce some and then they add their own. Leave obvious ones so they can contribute.

Playbook:

Hand out playbook journals. First entries are their names, three positive attributes relating to their sport, academics and general personality, and a prompt to consider what they want out of the school year (again sporting, academic, and personally).

Post session task 2: Dream Big

What is your dream within school and sport? What would you like to achieve in the years between now and 3 years after leaving school? Providing a scope of 3 years post school is preferred to saying 10 years because it may appear much more tangible and relevant.

Introductions
Mark Holland

Life Skills

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Game – Circle Seat

Aim
- The whole group to be seated and supporting each other
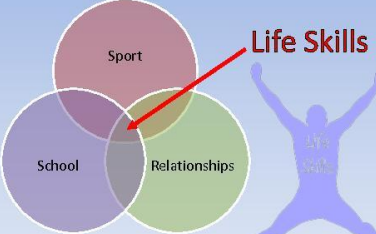
Rules
- Everyone must be included
- Everyone must be seated for 15 seconds with hands in the air

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Aims of Life Skills Program

Life Skills

Sport

School   Relationships

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Game – Line Placing

Aim
- While in a line order yourselves as instructed

Rules
- No talking
- Hands in your pockets
- No sound at all

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Outline of Program

Date	Session	When
24th September	1	1.30pm
1st October	2	1.30pm
8th October	3	1.30pm
15th October	4	1.30pm
HALF TERM		
5th November	5	1.30pm
12th November	6	1.30pm
19th November	7	1.30pm
26th November	8	1.30pm
3rd December	9	1.30pm
10th December	10	1.30pm

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Ground Rules

1. Please do not be late
2. Everyone shall be heard
3. Have fun
4. Bring your *PlayBook*
5. …
6. …

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1

PlayBook

- Information and activities from the meetings
- Mark's contact details
- Updated every week
- **IT'S YOURS**

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Your Best Life Skills?

What are your best 3 life skills?

(Page 7 in PlayBook)

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For Next Thursday

Dream BIG

- What is your dream?
- Where do you want to be in 10 years?
- Where do you want to be in 1 year?

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2

LIFE SKILLS

SPORT   SCHOOL

Life Skills

WORK   FRIENDS

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Life skills

Welcome to the Waseley Hills life skills program with the University of Birmingham

This program aims to help you develop a range of skills that will help you to enjoy and achieve in you sport and school.

What are life skills?

Life skills are a set of abilities that allow you to set goals, achieve your dreams, and enjoy yourself along the way. These skills work in a range of areas of your life, such as school, sport, home, and in relationships.

What is this life skills program about?

This program will help you recognize your personal goals and the skills you that will help you to achieve them.

Many of the skills that we will discuss during the program you will already have. We aim to help you refine your skills to make you better at what you do well already.

2

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Who is leading the life skills program?

Mark Holland
mjh767@bham.ac.uk
01214142873

When are we meeting?

We are going to meet every Thursday lunch time for 30 minutes.

1	24th September	1.20pm
2	1st October	1.20pm
3	8th October	1.20pm
4	15th October	1.20pm
Half Term		
5	5th November	1.20pm
6	12th November	1.20pm
7	19th November	1.20pm
8	26th November	1.20pm
9	3rd December	1.20pm
10	10th December	1.20pm

3

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Your Life Skills

In sport there are a number of important skills and characteristics of great performers.

These might be physical, technical, tactical or mental.

Mental characteristics might include...

- Determination
- Confidence
- Organization
- Leadership and team skills
- Emotional control
- Communication
- Composure under pressure
- Social skills
- Concentration

4

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Remember

All these skills are trainable. During this program we want to learn and develop your skills that will help you achieve your goals.

What life skills are my strengths?

From the previous list or your own experience list 3 life skills which you are best at.

Skill 1_____

_____

Skill 2_____

_____

Skill 3_____

_____

Consider

What makes you good at these skills?

When are these skills important to you?

Are there any other skills which you would like to improve?

Dream Big

What is it that you would like to achieve before you leave school in you academics, your sport, and your personal life?

School

_____

Sport

_____

Personal

_____

Session 2: Goal Setting I

Goal Setting I. The importance of having a dream to strive for is discussed. Principles of SMART goals introduced and related to the student's dreams.

Learning outcomes:

By the end of the session students should;

Have a awareness of the benefits of goal setting in sports and academics

Have the knowledge and confidence to apply SMART goal setting to their own sport and school work.

Take Home Message:

Setting and pursuing effective goals can increase your enjoyment, confidence, and performance during a task. Goals should be SMART and meaningful to YOU.

Equipment:

| Playbook Pages | Bean Bags | Line Markers |

Review of Introductions:

Prompt students to review session, including; what are life skills?

Ask students if they can remember their 3 best characteristics and to keep these in mind throughout the session.

Activity 1: Targets

A brief target throwing game is used to demonstrate the principles of goal setting.

Students are put into groups of 3 or 4. Each group of students is given 3 bean bags. Horizontal lines of varying distance are marked in front of the students. Each line has a differing value. Students throw the bean bags and attempt to score the highest possible score.
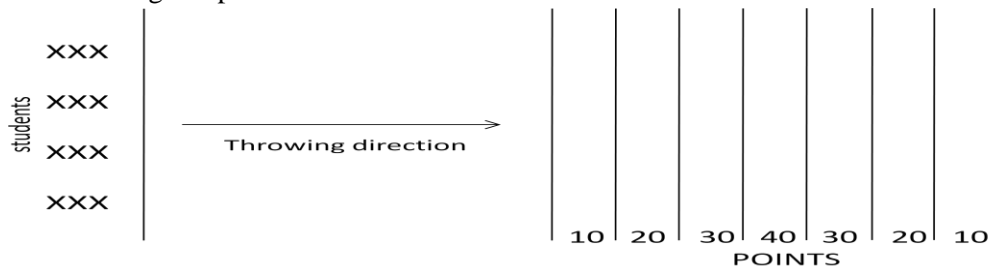
Goal Setting Introduction

Has anyone used goals before or know anything about goal setting?

Define Goals and Goal Setting as task behaviours/processes not outcomes.

Introduce principles of goal setting through SMART principles

Activity 2:

Repeat activity 1 now employing and discussing the SMART principles of goal setting.

Progression - the individual or team must score a particular score rather than the highest possible.

Reviewed by asking how these principles also apply to academic settings using concrete examples of students and leader if this is not easy for students.

Post-Session Task:

Relating the previous week's thoughts regarding the desired outcomes of the school year, students are to formulate one goal for each of their sport, academic and personal lives to be achieved by the end of the school term and another for the next week. Aim to encourage performance goals that are very specific. Example goals are to be provided.

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SMART Goal Setting

Life Skills

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Aims of Session

AIMS
OUTLINE OF SESSION
GAME
DISCUSSION ON GOALS
GAME
REFLECTION ON GAMES
SET GOALS

1. Understand what goals are?
2. Understand why we set goals?
3. Be confident to set SMART goals

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What is a goal?

AIMS
OUTLINE OF SESSION
GAME
DISCUSSION ON GOALS
GAME
REFLECTION ON GAMES
SET GOALS

- A goal is something you want to achieve, a target for you to aim for.

A goal should direct your behaviour and be something that really excites you

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Why do we set goals?

AIMS
OUTLINE OF SESSION
GAME
DISCUSSION ON GOALS
GAME
REFLECTION ON GAMES
SET GOALS

Motivation
Confidence
Effective Goals
Concentration
Performance

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SMART Goals

SMART Goals

SMART Goals

Aims of Session

1. Understand what goals are?

2. Understand why we set goals?

3. Be confident to set SMART goals

SMART Goals

Goal Setting I:

(Getting SMART with Goals!)

"Goal setting definitely works. I've found that if you write down your goals and what you've done, see what you've achieved, you feel your goals are more attainable."

(Zinzan Brooke, All Blacks '87-'97)

Goal Setting

Goal setting is a fundamental mental technique used by top athletes to organise their aspirations, hopes and dreams.

A goal is something you want to achieve, a target for you to aim for.

Goal setting is a method for you to plan how you can achieve your dreams.

Q: What is your dream?
(What would you like to achieve in sport in the next year?)

A:...

Setting and achieving goals can increase your enjoyment, confidence, and performance in sport and school.

TOP TIP Goals should direct your actions rather than simply state desired results.

Goal setting is one tool to help you <u>train your brain</u>!

Why set goals?

Setting and achieving goals can...

Fun and Satisfaction

Confidence

Performance

How Do We Set Goals?

The process of setting goals has 5 steps

1. **Set appropriate goals**
   - Goals should be effective (i.e., SMART) and appropriate for you

2. **Develop commitment to achieving our goals**
   - We should value these goals and commit ourselves to them

3. **Recognize barriers**
   - What might stop us achieving our goals?

4. **Develop action plans**
   - How can we overcome these barriers and strive towards our goals?

5. **Obtain feedback**
   - How can we measure our goal achievement and learn from the goal striving?

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Effective Goals

Setting goals is one way to make your dreams formal and provide you with a path to achieve these dreams. However, goals must be SMART if they are to be effective.

SPECIFIC
- Goals should provide specific targets about what you want to achieve

MEASURABLE
- Being able to measure goals allows us to recognize our achievements

ADJUSTABLE
- Goals should flexible so you fit goals around your situation

REALISTIC
- Goals should be challenging but achievable

TIMED
- Goals should have a deadline for when you should achieve them

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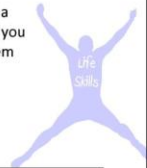
Your Sporting Goals

What would you like to achieve in your sport by next Thursday? (Be SMART!)

_____

Why is this goal important to you?

_____

_____

How are you going to work towards your goal today?

_____

How are you going to work towards your goal tomorrow?

_____

Goal reflection (To be completed next Thursday)

To what extent did you achieve your goal?

Not at all   Completely

1   2   3   4   5

What 2 things went really well today?

_____

_____

What can I do next time to improve my goal striving?

_____

_____

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Your Academic Goals

What would you like to achieve in your academics by next Thursday? (Be SMART!)

_____

Why is this goal important to you?

_____

_____

How are you going to work towards your goal today?

_____

How are you going to work towards your goal tomorrow?

_____

Goal reflection (To be completed next Thursday)

To what extent did you achieve your goal?

Not at all   Completely

1   2   3   4   5

What 2 things went really well today?

_____

_____

What can I do next time to improve my goal striving?

_____

_____

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Session 3: Goal Setting II

Goal Setting II. Participants learn different types of goals and how to make them specific and measureable in both sport and school. Goals are set for the end of term and are to be reviewed in the following session.

Learning outcomes:

By the end of the session students should;

Understand the difference between outcome, performance, and process goals.

Be able to form performance and process goals

Have an ability to monitor and record their goal attainment in a meaningful way

Take Home Message:

In order to accrue the benefits of goal setting it is important to monitor, record, and reflect upon the goals we set and the goal striving we engage in. Making different types of goals specific and measureable makes it much easier to know what to strive for and what to monitor.

Equipment:

Laptop	Attendance record	Sporting Kit
Playbook Pages		

Review of Goal Setting I:

Review the previous session by asking questions such as, why do we set goals? What were the important features of an effective goal (i.e., SMART and behaviour oriented)? Reviewing the previous week's activity and the goals that were set for this week.

Different Types of Goals:

In the previous session it was emphasized that goals should direct behaviour. This is progressed into the different types of goals and what benefits they can foster.

Discussion about their use of these types of goals and how they can be combined in the future to benefit the students.

Activity:

A progressed version of the previous week's activity encourages them to be more specific with the performance and process goals they set.

Setting specific and measurable goals

Centred around the previous week's goals, we aim to make sure that the goals they set this week are very specific and measureable.

These long terms goals are likely to need refinement later.

The meaningfulness of these goals is also reestablished by asking what these goals mean to the student.

If there is time the concept of action plans are proposed to help achieve these goals. The process through which we achieve our goals is crucial. To form action plans we need to evaluate our strengths and likely obstacles to our progress.

Task:

Relating the previous week's thoughts regarding the desired outcomes of the school year, students are to refine their previous week's long term goal and to formulate a new goal for next week in each of their sport, academic and personal lives. The focus here is on being as specific and measureable as possible in terms of the goals generated for the two life domains.

For this task the group is split into group of 3 and example goals are provided.

Slide 1

Life Skills

SMART
Goal Setting II

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Slide 2

Aims of Session

AIMS
OUTLINE OF SESSION
REVIEW
TYPES OF GOALS
GAME
REFLECTION ON GAMES
SET GOALS

- Understand different types of goals
- Be able to form SMART goals
- Be able to pursue your goals

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Slide 3

Aims of Session

AIMS
OUTLINE OF SESSION
REVIEW
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REFLECTION ON GAMES
SET GOALS

- Understand different types of goals
- Be able to form SMART goals
- Be able to pursue your goals

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Slide 4

SMART Goals

AIMS
OUTLINE OF SESSION
REVIEW
TYPES OF GOALS
GAME
REFLECTION ON GAMES
SET GOALS

SPECIFIC
MEASUREABLE
ADJUSTABLE
REALISTIC
TIMED

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Slide 5

What type of goal?

AIMS
OUTLINE OF SESSION
REVIEW
TYPES OF GOALS
GAME
REFLECTION ON GAMES
SET GOALS

A GOAL SHOULD DIRECT YOUR BEHAVIOUR AND BE SOMETHING THAT REALLY EXCITES YOU

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Slide 6

What type of goal?

AIMS
OUTLINE OF SESSION
REVIEW
TYPES OF GOALS
GAME
REFLECTION ON GAMES
SET GOALS

OUTCOME

PERFORMANCE

PROCESS

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Goal Setting II:

(Getting Specific with our Goals!)
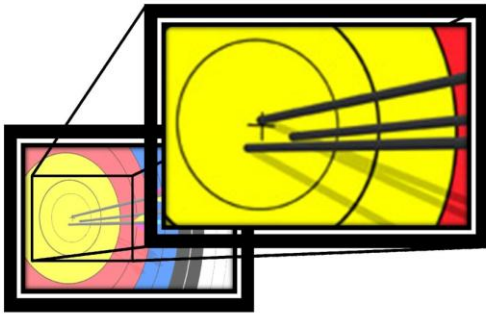
"Setting goals is an art. The trick is setting them at the right level – neither too low nor too high. A good goal should be lofty enough to inspire hard work, yet realistic enough to provide solid hope of attainment."

(Greg Norman, 2002)

Goal Setting

We remember from last week that….

A goal is something you want to achieve, a target for you work towards.

Goal setting is a method for you to plan how you can achieve your dreams.

Your goals should direct your actions rather than simply state your desired outcomes.

Without looking, can you fill in what each letter stands for?

S
....
M
....
A
....
R
....
T
....
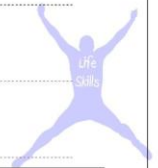
What sort of Goals do we set?

Outcome

	What is it?	focus on competitive results
	Examples	Sprinter winning a particular race ~ Coming top of the class in an exam
	So What?	Good for long term motivation. Not very good for focus during performance

Performance

	What is it?	focus on personal performance
	Examples	Sprinter getting a personal best at a specific race ~ Achieving 70% in an exam
	So What?	Good for recognizing improvement and "controlling the controllables"

Process

	What is it?	focus on the process of producing great performance
	Examples	Sprinter keeping low out the blocks ~ Revising 2hrs a day for a month for an exam
	So What?	Good for focus during performance.

What sort of Goals do we set?

Outcome Goals

Outcome goals focus on competitive outcomes
Eg, A sprinter winning the race,
or, coming top in the class on an exam
➤ Outcome goals can provide long term motivation but are less effective during performance because you have little control on others performance.

Performance Goals

Performance goals focus on your individual performance regardless of the competitive outcome
Eg, A sprinter running 13.0 seconds for the 100m,
or, achieving 70% in an exam
➤ Performance are beneficial as they goals provide targets that you are to control

Process Goals

Process goals focus on the behaviours that will bring about greater performance.
Eg, A sprinter keeping low out of the blocks at the start of a race,
or, revising 2 hours per day for the month before an exam.
➤ Process goals are the most effective during performance because they focus you attention on the behaviours that you can control and enhance your performance

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Specific Goals

By making our goals very specific and explicit we know exactly what it is we are aiming for.

This might include a score to be achieved or standard to be reached.

TOP TIP "Do your best" or "get better" is not a specific or effective goal!

For example;

✔ My goal is to run under 13.5 seconds for the 100 meters before December 31st.

✘ My goal is to get faster by next year.

On which target would it be easier to hit the centre?

A clear and specific target   vs   an unclear and vague target

---

Measurable Goals

One way we can make our goals specific is considering how we are going to measure our goal achievement. What exactly is it you want to achieve?

Some examples,

Sprinting 13.5 seconds for the 100m

Scoring 70% in an exam

TOP TIP Where no definitive score exists, why not make your own scale of 1-100.

83/100 Having an enjoyment score of 90 out of 100.

You coach scoring your technique 70 out of hundred

Your teacher scoring your attention 85 out of 100

Your Sporting Goals

My sporting goal for the end of term is…

_____

Target date

_____

I am going to measure this goal by…

_____

It is important to me because…

_____

Today I am going to work towards my goal by…

_____

Goal reflection

To what extent did I achieve your goal today?

Not at all   Completely

1   2   3   4   5

What 2 things went really well today?

_____

_____

What can I do next time to improve my goal striving?

_____

Your Academic Goals

My goal in school for the end of term is…

_____

Target date

_____

I am going to measure this goal by…

_____

It is important to me because…

_____

Today I am going to work towards my goal by…

_____

Goal reflection

To what extent did I achieve your goal today?

Not at all   Completely

1   2   3   4   5

What 2 things went really well today?

_____

_____

What can I do next time to improve my goal striving?

_____

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Session 4: Goal setting III

Goal Setting III. Obstacles to goal attainment are recognized and action plans are introduced. A goal is set for both sport and school which is to be reviewed at the end of the life skills program.
Learning outcomes:
By the end of the session students should;
Have an understanding of the benefit of forming action plans to structure goal striving.
Have the ability to recognize, and plan to overcome, obstacles to goal attainment.
Take Home Message:
Setting effective goals can benefit us only if it leads to more effective behaviour. Planning those behaviours can greatly help us achieve our goals and overcome any obstacles along the way.

Equipment:

Laptop	Positive Friends Slips	
Playbook Pages		

Pre-session activity
This activity is entered into the session because in the previous sessions the group has struggled to maintain concentration. This activity is aimed to build provide an experience that will raise their self-awareness regarding their own attentional focus.
As students arrive each is given a small berry (or a pine needle, etc) and told to study it. They must get very familiar with their berry. While all berries are similar, non are identical and the students must discover what is unique about this berry.
When a large number of students are present and have a berry they place them into a pile. They are mixed up and then each student must find their berry. Only the students who were able to focus on their berry will be able to find theirs.

Review of Goal Setting II:
The types of goal we set and why is reinforced. Asking what what the different types of goals are and why it is important that goals are specific and measurable? We review the previous week's goal to see if it was achieved. Any strengths and weaknesses in students' goal striving are addressed.

Goal Ladder
Relating to their current goal striving the concept of action plans is introduced. The process is made up of
Evaluating the strengths of the students that can help them achieve their goals
Identifying potential obstacles that may need to overcome while achieving their goals
Setting a number of short term process goal within a goal ladder

Goal ladder sheets are provided and action plans are formulated.
The focus is on process goals as the *how* to achieve the long term goals.
Set 4 short term goals towards reaching the end of term (long term) goal.

Reserve activity:
The cliff hanger game from the first session with progressions to represent obstacles. Obstacles include
No speaking
No hands
Change of rules half way through
One person cannot move

End of Session Task: Positive Friends
If there is time, each participant is to anonymously write down one positive characteristic about each person in the group (In a large group they are to be split into smaller subgroups. If this is the case, subgroups are not to be formed of strong friendship groups). These are to be collected by the leader and arranged so that in the next session each student has a collection of positive statements about them from other students.

Post Session Task 1
A specific goal is set that is to be achieved by the next week's session and fit within their goal ladder.

Post Session Task 2
In addition, to prepare for the next session, students are to consider who supports and helps them within their academic and sporting endeavours (their supporters club). They are also to consider how these people support them (i.e., what is it that that these people provide).

**SMART
Goal Setting III**

Mark Holland

*Life
Skills*

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Aims of Session

AIMS
OUTLINE OF SESSION
REVIEW
OBSTACLES
ACTION PLANS
SET GOALS

- Recognise what obstacles might prevent us from achieving our goals
- Understand why planning for obstacles is important
- Be able to form action plans to overcome obstacles

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Aims of Session

AIMS
OUTLINE OF SESSION
REVIEW
OBSTACLES
ACTION PLANS
SET GOALS

- Recognise what obstacles might prevent us from achieving our goals
- Understand why planning for obstacles is important
- Be able to form action plans to overcome obstacles

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Types of Goals

AIMS
OUTLINE OF SESSION
REVIEW
OBSTACLES
ACTION PLANS
SET GOALS

OUTCOME

PERFORMANCE

PROCESS

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Obstacles to Goal Achievement

AIMS
OUTLINE OF SESSION
REVIEW
OBSTACLES
ACTION PLANS
SET GOALS

What might stop you achieving your goals?

Sport	School
Injury	Not understanding
Weather	Missing lesson
Homework	Sport
Being lazy	Being lazy

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Action Plans

AIMS
OUTLINE OF SESSION
REVIEW
OBSTACLES
ACTION PLANS
SET GOALS

When thinking about achieving your goal,

1. What are your strengths that will help you?
2. What is your obstacle?
3. How can you set process goals that maximise use your strengths to can overcome your obstacles?

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1

Action Plans

AIMS

OUTLINE OF SESSION

REVIEW

OBSTACLES

ACTION PLANS

SET GOALS

When thinking about achieving your goal,

1. What are your strengths that will help you?

2. What is your obstacle?

3. How can you set process goals that maximise use your strengths to can overcome your obstacles?

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Goal Ladder

AIMS

OUTLINE OF SESSION

REVIEW

OBSTACLES

ACTION PLANS

SET GOALS

Next week's performance goals are...

To run 10Km in 45 mins

My short term goals are...   To be achieved by...

4 Buy new running vest   Monday

3 Run 4 light runs this week   Tuesday

2 Eat a pasta meal each night

1 Be asleep by 10pm each night

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Aims of Session

AIMS

OUTLINE OF SESSION

REVIEW

OBSTACLES

ACTION PLANS

SET GOALS

- Recognise what obstacles might prevent us achieving our goals
- Understand why planning for obstacles is important
- Be able to form action plans to overcome obstacles

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2

Goal Setting III

Overcoming Roadblocks and Setbacks
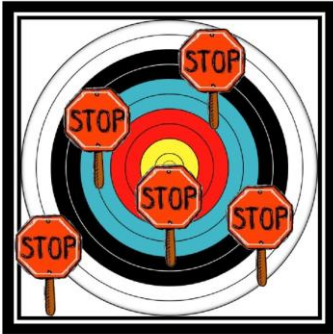
"Problems do not go away. They must be worked through or else they remain, forever a barrier to our growth and development."

(Vince Lombardi, American Football Hall of Fame Coach)

Goal Setting

We remember from last week that…

Effective goals are SMART goals that direct our action rather than simply state desired outcomes.

We can set 3 types of goals, can you remember what they are?

Outcome goals are…

_____

_____

_____

Performance goals are…

_____

_____

_____

Process goals are…

_____

_____

_____

Obstacles and Actions Plans

Obstacles are anything that might prevent us achieving our goal

For example;

Sporting Obstacles

➢ Injury
➢ Weather preventing training
➢ Homework
➢ Not giving 100 %

School Obstacles

➢ Not understanding homework
➢ Missing a lesson
➢ Sporting commitments
➢ Not giving 100%

Recognizing what obstacles we might encounter can help us prepare for them in advance.

Planning how to overcome obstacles can ensure that we stay on track to achieve our goals!

TOP TIP When planning to overcome obstacles we can set *process goals* to make sure we know *how* to overcome them.

Your Sporting Goals I

My sporting *performance* goal for next week is…

_____

Target date

_____

How is this goal to be measured?

_____

What obstacles might I face?

_____

_____

_____

_____

My strategies for overcoming these obstacles are…

_____

_____

_____

_____

_____

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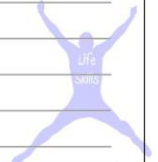
Your Sporting Goals II

Next week's *performance* goal

My short term goals are…   to be achieved by…

4

3

2

1
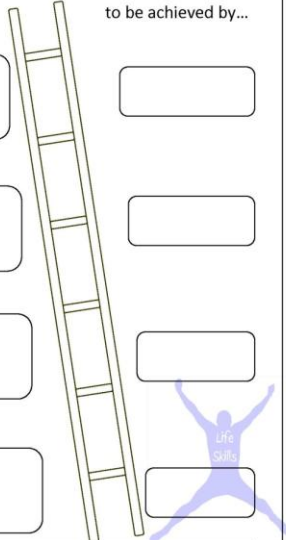
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Your School Goal I

My academic goal for next week is…

Target date

How is this goal to be measured??

What obstacles might I face?

My strategies for overcoming these obstacles are…

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Your School Goal Ladder

Next week's *performance* goal

My short term goals are…   to be achieved by…

4

3

2

1
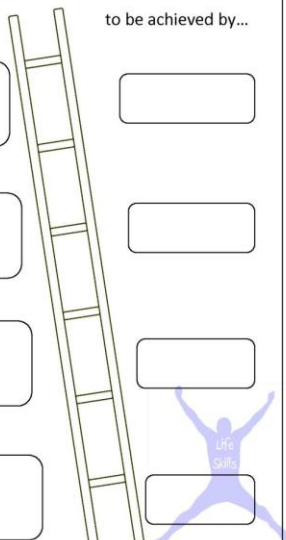
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Session 5: Support Seeking

Support Seeking. Topic of Goal Setting is reflected upon and progressed into recognizing a 'Dream Team' of social support and how they can be utilized.

Learning outcomes:

By the end of the session students should;

Have an appreciation of the different types of support that they may need

Have the confidence in their ability to effectively seek out appropriate support for various issues

Take Home Message:

All high achieving sports people have a wide social support network that they rely on. To get the most from this support we must recognize what support we need, who can provide it, and how we can approach that person to help them help us.

Equipment:

Flip chart and pens		
Playbook Pages		

Review of Goal Setting III

The use of short term process goals to reach a longer term performance goal.

Introduction of the 'Dream Team'

The concept of the students' individual dream team of social support is introduced. Although students are capable, others can provide numerous resources and support that can aid their own endeavors.

Pose the questions

In your sport, what pressures are you under – these are the roadblocks we face and are marked on the pitch (see handout)

In your sport who helps you? How do they help you? (e.g., peers, family, coaches, teachers, etc)

Name the eleven (if football) people/networks that support you. Positions relate types of support they provide (see below)

Is there any way in which you could benefit from additional support either in sport?

Who could you go to?

Then the same for academics.

Activity – Support Course

An course is set up with a number of different activities around it. These activities may include (for example)

Throwing balls into a target

Doing a mental puzzle (soduko, attention grid, stroop test)

Blindfolded minefield (one student is blindfolded and the other has to lead them throw a course of cones)

Group is split into pairs; one student proceeds through the course while the other is to provide support for them thoughout. What sort of support do they need at various points? (e.gthrowing balls they need the balls back – hands on, blindfolded they need instructional)

Activity – Dream Team

Students are to select their own dream team for both their sporting and academic endeavors. Selecting a team for each sport and academic is important to highlight the number and breadth of support available to them.

Positions of the dream team relate to the four types of support they provide (must have at least 2 of each).

Hands on (Tangible)   assisting you in a task, e.g., driving, providing facilities
Goal Keeper + Centre backs
Emotional   shares and support when in need of comfort or joyous
Strikers + up front
Confidence (Esteem)   helps make you feel confident and worth
Fullbacks + wingers
Instructional   provides instruction and information to help you improve (e.g., feedback on goal
achievement)
Midfielders
Students need to understand the process of
Recognizing their needs
Understanding that specific problems/needs require differing types of support
Recognize and seek out appropriate sources of support
How is the best way to go about seeking support?

<u>Post Session Task 1</u>
White knights – Each student is to be randomly assigned another group member (drawn from a hat). Each student must then do 3 kind, supportive things for that person throughout the week. These are to be anonymous acts of support that they shall receive no credit for but will help the recipient. Random assignment means that they may have to make more of an effort to help someone outside of their usual friendship group.

Support Seeking

Mark Holland

Life Skills

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Aims of Session

- AIMS
- OUTLINE OF SESSION
- REVIEW
- SUPPORT SEEKING
- DREAM TEAM
- SET GOALS

- Recognise that we all need support
- Understand the different types of support we may seek
- Have the confidence to seek out support

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Aims of Session

- AIMS
- **OUTLINE OF SESSION**
- REVIEW
- SUPPORT SEEKING
- DREAM TEAM
- SET GOALS

- Recognise that we all need support
- Understand the different types of support we may seek
- Have the confidence to seek out support

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Obstacles to Goals

- AIMS
- OUTLINE OF SESSION
- **REVIEW**
- SUPPORT SEEKING
- DREAM TEAM
- SET GOALS

What might stop you achieving your goals?

Sport	*School*
Injury	Not understanding
Weather	Missing lesson
Homework	Sport
Not giving 100%	Not giving 100%

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Types of Support

- AIMS
- OUTLINE OF SESSION
- REVIEW
- **SUPPORT SEEKING**
- DREAM TEAM
- SET GOALS

The support we receive may be

- *Hands on*
- *Instructional*
- *Emotional*
- *Confidence*

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Dream Team

- AIMS
- OUTLINE OF SESSION
- REVIEW
- SUPPORT SEEKING
- **DREAM TEAM**
- SET GOALS

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5. Your *'Dream Team'*

"My father was my best friend, my mentor and perhaps my greatest support system. Without that support I would not be who I am today."

(Tiger Woods, 2007)

Selecting My Dream Team

Every great athlete needs many great attributes and skills. However, they also need supportive people around them to help them in a number of ways. This help can make the difference when you are working towards achieving your goals.

The people who can help and support you are your

Dream Team

There are different types of help people can provide;

Hands on Help

Providing you resources, and help in achieving a task

Instructional Help

Provides instruction, coaching, and feedback to help you progress and improve

Emotional Support

Sharing in your joy and supporting you in difficult times

Confidence Support

Helping you feel confident and support you ability to achieve

---

Your Support

In order to improve your support you can get help from many people and sources.

It helps to consider

1. What am I trying to achieve?
2. What sort of support would I like?
3. Who can best provide that support for me?
4. How can I help them help me?

TOP TIP — Remember, you don't have to have a problem before you look for support!!

Use the following pages to consider,

1. In your sport and school work, what pressures are you under?

(e.g., the time commitment of training, confidence problems)

2. In your sport and school work, when would you like support from others?

(e.g., just before matches, between training sessions)

3. How can you approach them to gain their support?

(e.g., meeting when they have time to spend with you)
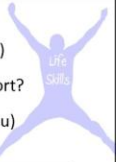
Your Sporting Dream Team

What are the challenges you face in achieving your sporting goals?
Who is in your dream team to overcome these challenges?
(Match the number of the obstacle to the supporter)
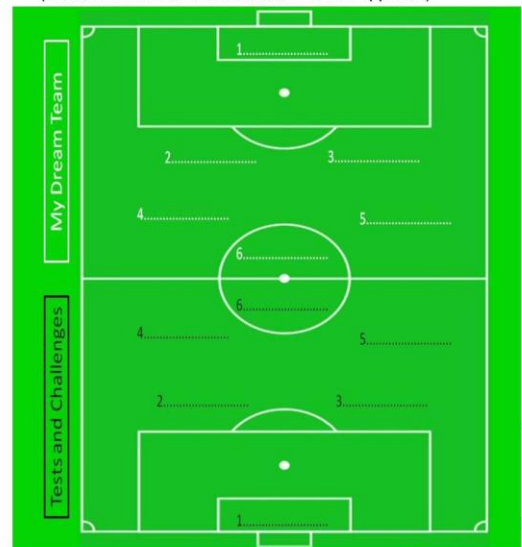
Your Classroom Dream Team

What are the challenges you face in achieving your academic goals?

Who is in your dream team to overcome these challenges?
(Match the number of the obstacle to the supporter)

Dream Team

| 1. | 2. | 3. |
| 4. | 5. | 6. |

Tests and Challenges

| 1. | 2. | 3. |
| 4. | 5. | 6. |

Your Academic Goal

My sporting *performance* goal for next week is…

_____

Target date

_____

How is this goal to be measured?

_____

What obstacles might I face?

_____
_____
_____
_____

Who can support me in overcoming these obstacles?

_____
_____

How can I ask them to support me so that they are able to?

_____
_____
_____

Your Sporting Goal

My sporting *performance* goal for next week is…

_____

Target date

_____

How is this goal to be measured?

_____

What obstacles might I face?

_____
_____
_____
_____

Who can support me in overcoming these obstacles?

_____
_____

How can I ask them to support me so that they are able to?

_____
_____
_____

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Time Management. Using principles of goal setting, and with the awareness of social support, participants learn principles of time management and organization.

Learning outcomes:

By the end of the session students should;

Have an understanding of the benefits and principles of good time management

Have the ability to managed their time effectively

Take Home Message:

Effective time management involves identifying, prioritizing, and organizing our activities within a given period of time. Effective time management can increase working efficiency and reduce stress.

Equipment:

Corn, chicken Fox	Double naughts and crosses	
Playbook Pages		

Review of Support Seeking

Review the dream team and how they relate to overcoming roadblocks to our goals.

How easy was the white knight task? How did it feel to help others anonymously?

Introduction to Time Management

Current time management habits are discussed.

Time management centers around the goal setting skills already discussed

Fundamentals of time management are discussed.

Recognize the tasks that you have to achieve and how much time you have

Prioritize tasks

Organize your time according to the tasks priority

Recognize what you can and can't do

Create environments where you can focus solely on your current task

Schedule time to relax

A table with each day of the week is presented in which tasks are noted, prioritized and organized. These are to be formulated with long term goals in mind.

Activity – Time Management

In groups of 3-4 participants are to complete a complex task involving multiple elements and decisions within a given time frame. The team must recognize the actions required to complete the task, prioritize, and plan them as a team in order to be successful.

Task 1 – Corn, Chicken and Fox river task.

Task 2 – Double naughts and crosses

Task/Post-Session Task

A goal is set for the participants to list the things they are to achieve throughout each day of the following week, prioritize them, and organize how they are to be achieved. As this week is proceeded by half term they have more scope to employ these techniques.

What sporting and academic goals do they have for the half term? The SMART principles are to be continually reinforce.

Time Management

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Aims of Session

AIMS
OUTLINE OF SESSION
REVIEW
TIME MANAGEMENT
YOUR TIME
SET GOALS

- Understand how we can benefit from managing our time
- Be able to manage your time effectively

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Aims of Session

AIMS
OUTLINE OF SESSION
REVIEW
TIME MANAGEMENT
YOUR TIME
SET GOALS

- Understand how we can benefit from managing our time
- Be able to manage your time effectively

Your Dream Team

AIMS
OUTLINE OF SESSION
REVIEW
TIME MANAGEMENT
YOUR TIME
SET GOALS

There are different types of support

- Hands on
- Instructional
- Emotional
- Confidence

Time Management

AIMS
OUTLINE OF SESSION
REVIEW
TIME MANAGEMENT
YOUR TIME
SET GOALS

1. What tasks do you have to achieve?

2. How much time do I have?

3. Which task(s) are my priorities?

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Time Management

AIMS
OUTLINE OF SESSION
REVIEW
TIME MANAGEMENT
YOUR TIME
SET GOALS

4. What do I need to focus on a task?

5. When shall I relax?

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Managing Time

"It's not enough to be busy, so are the ants. The question is, what are we busy about?"
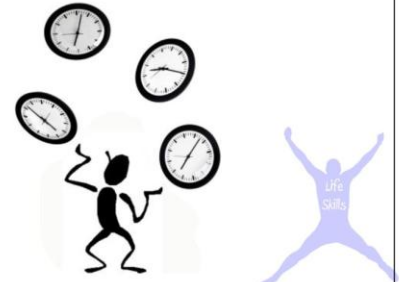

Time Management

How do you organize all the activities that you participate in?

How do you make sure that you can do everything you need to this week?

What is Time Management?

Time management is the ability to organize all the time demands of the activities that we participate in.

This allows us spend our time more efficiently and achieve more with our time.

Managing our time well and using our time more efficiently can also help us achieve more and reduce stress.

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Time Management

Managing our time can be helped by a number of steps

1. **Specify your tasks**

2. **Realize how much time you have and how long each task will take**

3. **Prioritize your tasks**

4. **Organize your time according to task prioritize (Recognize what you can and can't do)**

5. **Create environments in which you can focus solely on the current task**

TOP TIP When recognizing our time commitments it is important to include time to relax or socialize.

We can use our knowledge of goal setting to organize our time and achieve our tasks. Tasks can be broken down into smaller chunks and made into manageable performance goals.

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This Week's Time Commitments

Sports To Do List	Time Required	Date	Priority
1.			
2.			
3.			
School To Do List	Time Required	Date	Priority
1.			
2.			
3.			
Social To Do List	Time Required	Date	Priority
1.			
2.			
3.			

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Planning Your Time Commitments

	Monday	Tuesday	Wednesday	Thursday	Friday
4pm					
5pm					
6pm					
7pm					

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<u>**Session 7: Managing Emotions**</u>

<u>Managing Emotions.</u> Participants learn to recognize their emotional state and strategies to employ self-talk to manage their emotional state.

<u>Learning outcomes:</u>

By the end of the session students should;

Have an understanding of the importance and meaning of managing emotions in all performance situations

Be able to apply self-talk to help them monitor and regulate their emotions during sporting and academic performances

<u>Take Home Message:</u>

All athletes have an optimal level of emotions that will help them perform to their best. Top athletes are more able to recognize and maintain their emotional levels during performances.

<u>Equipment:</u>

Laptop		
Towel (brought by students, noted in previous playbook page)		
Playbook Pages		

<u>Review of Time Management</u>

The principles of Time Management are to be reviewed.

Did any of the participants employ the techniques during the last week, what positive and weaknesses did they find with the strategies.

<u>Introducing Emotions</u>

Students are asked about their sporting experiences and how they have experienced emotions in sport.

During specific periods of a match, eg, pre-match, half time, after conceding

What are emotions?

How do emotions influence your sport/school performance?

Probes

Think of an example when your emotions were perfect for that performance…

How did your body feel?

What were you thinking?

Arousal includes physical body sensations as well as our thoughts and feelings.

Therefore, when controlling emotions students should recognize symptoms of suboptimal emotional states and employ physical and mental techniques to manage optimal emotions.

<u>Activity 1</u>

An activity is presented to them that is likely to provoke and emotional response or recognizable self-talk. For example, a competitive physical task, a boring tedious task, or a very difficult cognitive task.

After presentation the students are stopped and asked how they were feeling or what self-talk they were experiencing.

<u>Controlling Emotions</u>

Using the inverted-U graph emotions are discussed in terms of how helpful they are. Symptoms of optimal emotions, at their optimal level are discussed.

Controlling emotion involves a number of factors
Knowing the emotional state we want to be in
Being able to recognize our current emotional state
Control our current emotional state

<u>Self-talk</u>
Techniques to manage optimal emotional states are discussed. Using the graphic illustration, self-talk is noted as one means of raising (as well as lowering) arousal levels.
What do you know you say to yourself when you are very high/low in arousal?
What might a coach say to you to raise/lower your arousal levels?
What would you like to say to yourself to raise/lower your arousal levels?

<u>Activity - 2</u>
Students are split into pairs and given the stroop test.
It is explained that the focus of the task is not to finish first but to maintain focus on the task and to control negative/unhelpful self-talk.

<u>Spare Activity - Centring</u>
Before attempting to centre, a physical activity is used to raise the students' heart rate and activation. This is to be a short fun sporting activity and it is not necessary to increase anxiety.
Students' are then to find a comfortable space on the floor away from other students.
A sports based centring script is then read out allowed by leader for students to follow.
Reflection on the centring is focus on the ease with which students could sense their centre, control their breathing and relax their body and minds.
It is important to be able to control your centring during performance to achieve a desired arousal level

<u>Post-Session Task 1</u>
The positive thinking task in reintroduced and students are asked to monitor their ability to control their self-talk through the week.
The note pages at the back of the playbook can be space to write their common self-talk.

Controlling Our Emotions

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Aims of Session

AIMS
OUTLINE OF SESSION
REVIEW
EMOTIONS
CONTROLLING EMOTIONS
SUMMARY

- Understand the influence emotions have on performance
- Recognise that emotions can be controlled
- Understand techniques that can help control our emotions

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Aims of Session

AIMS
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CONTROLLING EMOTIONS
SUMMARY

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- Recognise that emotions can be controlled
- Understand techniques that can help control our emotions

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Time Management

AIMS
OUTLINE OF SESSION
REVIEW
EMOTIONS
CONTROLLING EMOTIONS
SUMMARY

1. What tasks do you have to achieve?
2. How much time do I have?
3. Which task(s) are my priorities?
4. What do I need to focus on a task?
5. When shall I relax?

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Emotions

AIMS
OUTLINE OF SESSION
REVIEW
EMOTIONS
CONTROLLING EMOTIONS
SUMMARY

What are Emotions?

How do emotions effect our sports performance?
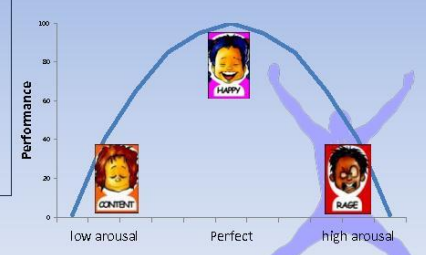
How do emotions effect our school performance?

ANGRY

ANXIOUS

HAPPY

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Emotions

AIMS
OUTLINE OF SESSION
REVIEW
EMOTIONS
CONTROLLING EMOTIONS
SUMMARY

Performance

HAPPY

CONTENT

RAGE

low arousal   Perfect   high arousal

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Controlling Our Emotions

"You live during the match, and you have strong emotions, but you don't want to get too overexcited."

(Roger Federer)

Emotions

How do you feel before and during performances?

Are you ever too excited or too relaxed?

How do you control your emotional state?

Emotions in sport and school

How we feel during any activity can have a huge influence on our experience and performance.

How do you think performances in sport or exams would differ if you were feeling...?

Being in control of your emotions during a performance is vital if you want to control your performance.
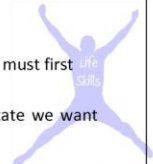
If we want to control our emotions we must first
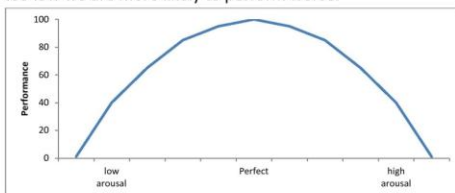➢ Be aware of our emotions
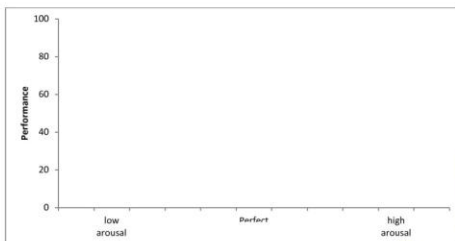➢ Now what we want emotional state we want to achieve

---

Recognising Emotions

When we are perfectly aroused for an activity we have more chance of performing perfectly. If our arousal is too high or too low we are more likely to perform worse.

On the graph below draw a curve for your perfect arousal a) before a match, b) before an exam.

Managing Emotions

Remember that all techniques require practice just like physical skills!

Self-Talk
This refers to the conversations you whave with yourself. Effective Self-Talk can help you feel confident, increase motivation and control your emotions.

What you say to yourself should be _meaningful_ to you and...

E.g.,

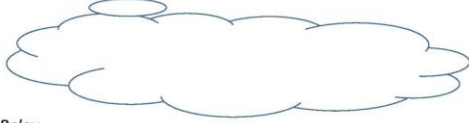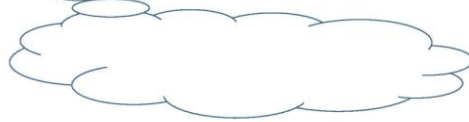_This is Exciting!_   _Well Done! Go Again!_

I know I can do this!

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During your sport what can words/phrases can we use to…?

Energize

Relax

During your school what can words/phrases can we use to…?

Energize

Relax

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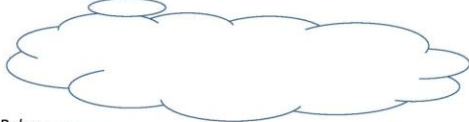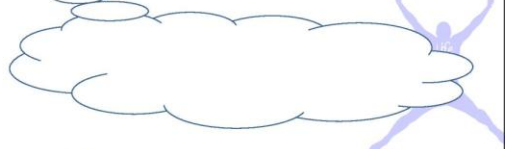
Session 8: Communication

Communication. Participants' understanding of effective communication is discussed. The importance of effective communication is highlighted and practiced.

Learning outcomes:

By the end of the session students should;

Understand the importance of effective communication within those people involved in their goal striving

Understand and begin to apply principles of effective communication

Take Home Message:

Effective communication is crucial for greater performance and experience. Based on trust and respect open and clear communication should be warm and non-judgmental.

Equipment:

Playbook Pages		

Review of Managing Emotions

Review the use of self-talk and their awareness of their emotional states. Discuss the students' experience of recognizing their emotional states during the previous week and whether or not they were able to control them.

Activity 1

Cosmic balls

The group forms a circle with everyone facing inwards.

A coloured sponge ball is introduced and is passed randomly around between the members of the circle ensuring that receives the ball before anyone else receives it for a second time. When the ball returns to the first person the ball must continually trace the same path between group members.

When the ball 1 is moving and the group knows the order of participants through which it must travel a second coloured ball is introduced. Ball 2 is a different coloured ball to ball 1 and can be passed to anyone in the circle and requires no order of recipients. Both must continue without being dropped. Throughout the game, no one can ever hold more than one ball.

Once comfortable with 2 balls a third is introduced. This is a third colour and must travel around circumference of the circle being passed to each participant.

Depending on the size and ability of the group, a fourth ball can be entered to travel in the opposite direction. When the two circumference balls meet one must leap frog the other.

The concept of this game is that participants must communicate and work as a team in order to keep the balls moving and not drop them.

Question posed – what makes effective communication in this game?

Introduction to Communication

Communication is crucial for task performance and team relationship (both social and task cohesion).
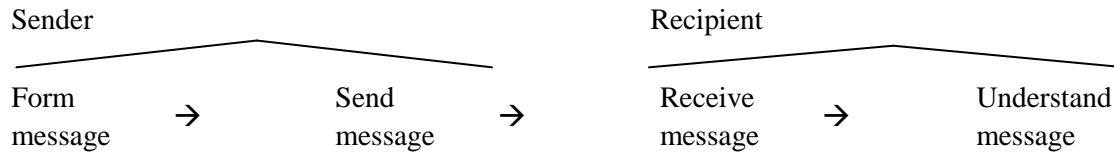
Effective communication can

Increase trust and respect among those you interact with

Increase both personal and team performance

Increase team relationships and therefore the sporting experience

Decrease conflict between those you interact with

Display and discuss the process of communication

Sender				Recipient		
Form message	→	Send message	→	Receive message	→	Understand message

Principles of effective communication include

Provides a clear and direct message, often needing repetition for reinforcement (forming and sending message).

Active listening to gain understanding of message and checks understanding (receiving, interpreting

Effective communication in non-judgmental, ie, we aim to share information not decide whether that information is correct/worthy/etc.

Activity 2

This activity aims to demonstrate the power and range of different types of communication, specifically body language.

Students are split into groups of three.

Each student is given a playing (picture cards removed).

Within the groups, each student takes it in turns to try and convey the number they have (ace being low and depressed mood, 10 being high and elation) without speaking.

To advance this, students can also be given a mental quality which they must convey (eg, confidence, ace is low confidence, 10 is high confidence).

Activity reflection is based around how well you were able to convey and understand messages.

What were the key features you were recognized as an observer?

How did you convey the messages through body language?

Are you able to consider how you might communicate with coaches, teachers, and peers?

Activity 3 (Time Permitting)

This activity is aimed to encourage open disclosure, expression and non-judgmental active listening

Students are to split into groups of 2 or 3. Within the groups each student has 3 minutes (if pairs) to discuss one experience in sport in which they made a mistake and were able to learn from it.

Aspects to be emphasized include

Speaker

What is it you are trying to convey?

How can you help the other person understand

Listener

Are you focusing on what the speaker is saying?

What are the critical elements of what they are saying?

What is the speaker's body language telling you?

How can you check your understanding?

Activity reflection is based around how well you were able to convey and understand messages.

What may stop you from being able to communicate effectively?

In what situations may it be harder to communicate effectively?

What do you have to do to overcome these barriers?

Consider the people who you see in leadership positions (teachers, coaches, parents, team captains, community group leaders, etc). Who is your favourite/most effective communicator? What do they do that makes them a good communicator?

Communication

Life Skills

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Aims of Session

Aims
Outline of Session
Review
Communication
Your communication
Summary

- Understand the benefits of effective communication

- Develop the effectiveness of your communication

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Aims of Session

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Emotions

Aims
Outline of Session
Review
Communication
Your communication
Summary

Performance

HAPPY

CONTENT

RAGE

low arousal   Perfect   high arousal

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Controlling Our Emotions

Aims
Outline of Session
Review
Communication
Your communication
Summary

Self-Talk

What sort of coach are you?

- Short
- Positive
- Specific
- Meaningful

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Communication

Aims
Outline of Session
Review
Communication
Your communication
Summary

Effective communication =

↑ *Trust and Respect*

↑ *Performance*

↑ *Team relationships*

↓ *Conflict*

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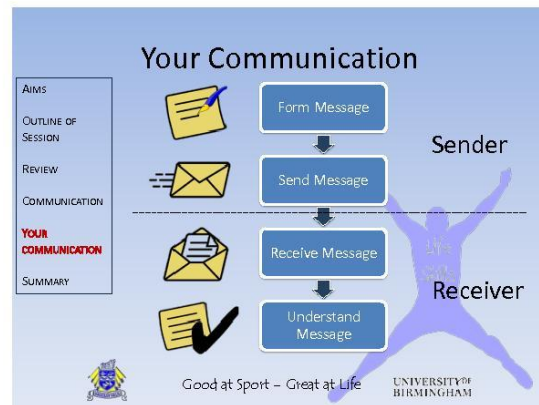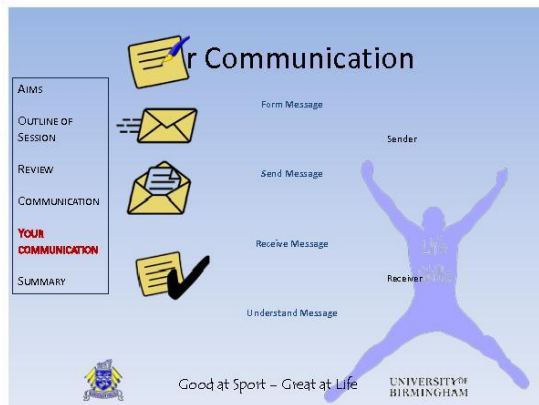
Communication

"Communication - the human connection - is the key to personal and sporting success"

Communication

How often do you think you communicate with people in you sport or in school?

What is Communication?

Many people think of communication is talking.

However, communication is the transfer of information, emotions, and values to others.

Effective communication is the accurate and efficient transfer of intended messages to others.

How we communicate with people may depend on

TOP TIP

➢ The message being communicated
➢ The person we are communicating with
➢ How we communicate (talking, writing, etc)
➢ The place and timing (loud sports pitch, during a lesson, etc)

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The process of communication

Form Message ⎱ Sender
Send Message ⎰

Receive Message ⎱ Receiver
Understand Message ⎰
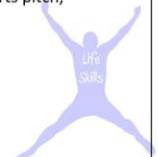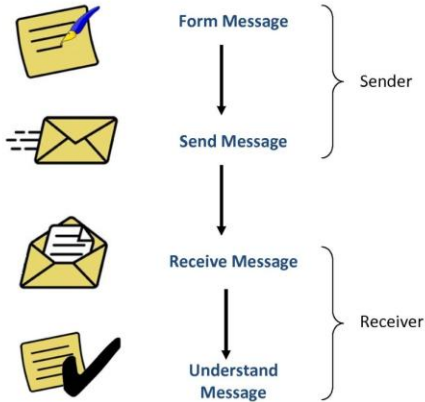
Effective communication involves;

1. Providing a clear and direct message that the other person can understand
2. Careful and active listening by the other person
3. Non-judging by the other person

(which means that we do not decide whether messages are right or wrong, we accept them and the person sending the mess)

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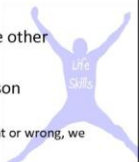
How do you communicate?

In your sporting experience, who do you consider to be a really good communicator?

_____

Why?

_____
_____

In your school experience, who do you consider to be a really good communicator?

_____

Why?

_____
_____

What are your strengths as a communicator in your sport?

_____

How could you improve your communication in sport?

_____

What are your strengths as a communicator in school?

_____

How could you improve your communication in school?

_____

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Recognitions – [Student Name]

This page is a culmination of a group activity. Each group member anonymously writes something nice about every other group member. The comments are collated by the Mark so that each group member has a number of nice comments about themselves.

This aims to raise the awareness of each individual as to the positive views the group has about them. They may never have been told nice things about themselves.

Examples of such statements are;

"X is kind and does not argue or fight"

"X is sporty, active, and a good best mate"

"X is funny"

"X is pretty and I like her hair"

"X is a good best friend"

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Recognitions - Jacob

"Makes me laugh"

"He's got cool hair"

"When Jacob concentrates he works very well"

"Jacob is a really nice guy when he is calm"

"I think Jacob is much brighter than he thinks he is"

"He can be a really nice guy"

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Recognitions - Katie

"Lovely, kind and funny"

"Katie is easy to talk to and makes me laugh"

"She's funny"

"She's lovely"

"I like that she's happy all the time"

"Funny and crazy"

"She's crazy"

"Even though she can act tough and mean, I think she is really just a nice girl"

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Session 9: Recognizing Strengths and Maintaining Confidence

Recognizing Strengths and Maintaining Confidence. Drawing from the experiences of the school term, personal strengths are revisited and expanded. The importance of self-belief is discussed and strategies for maintaining confidence are discussed in relation to what has been learned though the life skills program.

Learning outcomes:
By the end of the session students should;
Have an understanding of the power of a robust self-belief
Be able to apply techniques to ensure a robust self-belief

Take Home Message:
Self-belief is crucial if we are to fully engage in, excel at, and enjoy tasks. Having a momentary feeling of self-belief is not enough; we can work to ensure a constant and robust self-belief.

Equipment:

Playbook Pages		
Introduction to confidence	Adapted goal sheets	Blind folds

Review of communication
Review of the communication sessions and participant engagement in them. Also, review the techniques discussed throughout the program and those that the students have found most useful.

Activity 1
Game activities that have been previously introduced to the group are progressed. This allows introduction of the game to be faster and also facilitate the application of mental techniques due to familiarity.
Game one is a concentration game in which all participants are put into three and asked to come up with a sound. Participants are then blindfolded, spread out and must find their group only by making their group sound. They are not allowed to be too loud and must only make their group noise.
This allows a reflection on the techniques used to plan as a group, focus, and achieve their goal.

Introduction to Confidence
What is confidence?
How does it feel?
How does it help our performance in a task?
When do students find that they are very/not very confident?

How can we increase our self-confidence?
What have students found effective?
With many of the skills we have discussed so far
Goal setting (process oriented)
Self-talk
Preparation (set goals for preparation)

How can we protect our self-belief after failure?

Review and reflect upon performances
What caused you to underperform?
How can you learn and gain from that knowledge?
How can we help others do the same?

<u>Activity 2</u>
The same task as before is repeated. This time applying the techniques that were discussed.
How can you improve your chances of being confident?

Past performance   -review you previous attempt and consider your strengths and what you learnt
Watching others   -how did others do the task, can you learn from them
Others telling us   - can we support and encourage each other to help perform well
Physically and mentally prep- how can you focus on the sounds and avoid distracting thoughts/others
Preparation   -how can you prepare and have a strategy to perform well

<u>Post Session Task</u>
To review their goal ladder and revise any short term goals that will contribute to their long term goals

Confidence

"Having confidence in your own ability is vital; it's the difference between good form and bad form"

(Gary Lineker)

Confidence

What do you know about the term confidence?

Can you think of a time when you were very high or low in confidence?

How does it feel when you are more or less confident?

What do you do to make sure you are confident when performing in your sport or school?

What is Confidence?

Confidence is the belief that you are able to perform and achieve you desired outcomes.

Confidence is a common trait among all great athletes. Those who *believe they can do it*, are much more likely *to actually do it*.

Confident athletes never give up! They know they are able to achieve even if they come up against obstacles.

Confident athletes have positive thoughts, see themselves achieving their goals and say positive things to themselves.

TOP TIP

Confidence is not controlled by others or feedback or even the result of a match.

Our confidence is determined by how we think about these events!

Gaining Confidence

Confidence is not something you either have or don't have.

We can take control of our confidence!

So what makes us Confident?

Past Performances

Watching others performing

Others telling you that you can do it

Being physically and mentally ready to perform

Being prepared

Goal Setting for Sporting Confidence?

My performance goal for my next training session is...

_____

I am going to measure this goal by...

_____

My process goal for my next training session is...

_____

I am going to measure this goal by...

_____

Goal reflection

To what extent did I achieve your goal today?

Not at all				Completely
1	2	3	4	5

When working towards your performance and process goals, what 2 things went really well today?

_____

_____

What can I do next time to improve my goal striving?

_____

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Goal Setting for School Confidence?

My performance goal for my next school day is…

_____

I am going to measure this goal by…

_____

My process goal for my next school is…

_____

I am going to measure this goal by…

_____

Goal reflection

To what extent did I achieve your goal today?

Not at all   Completely

1   2   3   4   5

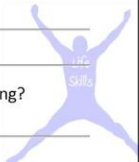When working towards your performance and process goals, what 2 things went really well today?

_____

_____

What can I do next time to improve my goal striving?

_____
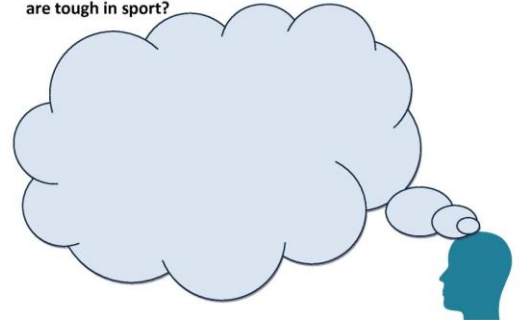
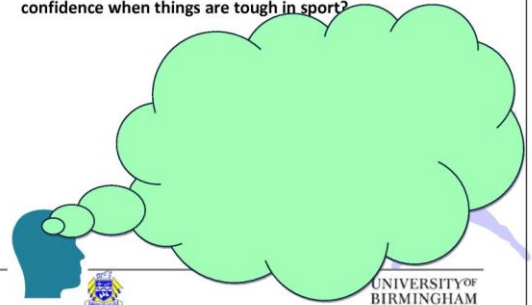47 | UNIVERSITY OF BIRMINGHAM

Self-Talk for Confidence?

What do I say to myself to boost my confidence when things are tough in sport?

What would I like to say to myself to boost my confidence when things are tough in sport?
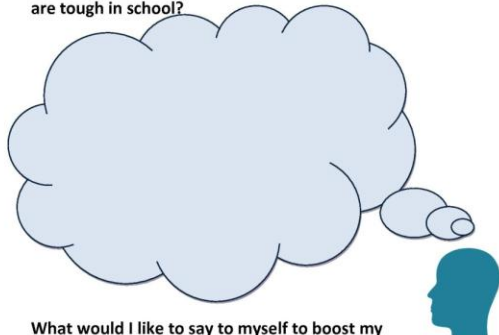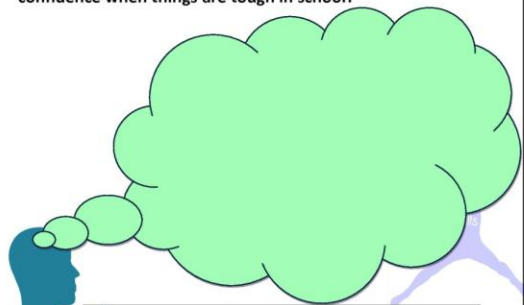
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What do I say to myself to boost my confidence when things are tough in school?

What would I like to say to myself to boost my confidence when things are tough in school?

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Session 13: Applying Life Skills For Life

Applying Life Skills For Life. Goals from session 4 are reviewed. The program is summarized and final questions answered/ topics discussed. The continued application of life skills in broader contexts are discussed

Learning outcomes:

By the end of the session students should;

Feel confident that they understand the application of various life skills

Have an understanding of how they may continue their life skill development

Have had any questions they may have answered

Take Home Message:

Life skills are skills that can give you the resources and power to achieve your goals. Life skills require practice and are a life-long skills to enhance performance and enjoyment of your own endeavors..

Equipment:

balls	hoops	Bean bags
Playbook Pages		
Applying life skills for life	Final goal reflection sheet	New goal sheet and goal ladder
White knights		

Pre-session task

As with previous sessions the students are to discuss how they would like to be/engage in the session.

Review of long term goals

Did students achieve their long term goals?

If so, what really helped them?

If not, what could be done in order to help them? Did they apply their goal setting?

How did they find their goal striving? Was it fun, hard, etc

Activity 1

Some of the activities that the students were keen on are to be repeated. This time the reflection centres on how they approach the task now compared with the previous attempt.

Reflecting on the program

Discussion about the skills they have learnt and how they may take them forward

Which part of the program did they enjoy?

What techniques/skills have you found to be helpful? Why?

What techniques/skills have you found not to be helpful? What might you need to help you apply these techniques? Do you think you might try to apply them again?

How are you going to apply life skills in the next term or end of the season?

What goals are you going to set for next term or end of the season?

Are there any other skills you feel you would like to develop/extend?

<u>Next term goal setting</u>
Setting goals for the school holiday that will benefit their school, sport and personal lives in preparation for the next school term.

<u>Thank you</u>
Leader is to say thank you and well done to the students for being engaged, positive and participating in the program.
The final playbook provides another white knights page for each of the students.

Applying Life Skills
For Life

"Players need to have interests outside of the sport to provide the necessary balance and perspective... Rugby players are not machines. The balance between work and life is key"   (Lawrence Dallaglio)

Life skills

What do you now think about the life skills?

Do you believe that the skills you use in sport can help you elsewhere?

What are Life Skills?

Do you remember ...

Life skills are a set of abilities that allow you to set goals, achieve your dreams, and enjoy yourself along the way.

Which life skills do you think help you in your sport?

_____
_____
_____

Which life skills do you think help you in your school?

_____
_____
_____

Life skills for Life

Life skills need to be practiced just like physical skills.

TOP TIP In order for these techniques and skills to help us achieve success and well-being we must apply and practice them.

My life Skills

Looking back over the program and your school term; what are your 3 best life skills?

*Skill 1*_____

_____

*Skill 2*_____

_____

*Skill 3*_____

_____

Remember to consider

What makes you good at these skills?

When are these skills important to you?

Your Sporting Goals I

My sporting *performance* goal for next term is…

_____

Target date

_____

How is this goal to be measured?

_____

What obstacles might I face?

_____

_____

_____

_____

_____

My strategies for overcoming these obstacles are…

_____

_____

_____

_____

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Your Sporting Goals II

Next term's *performance* goal

[ ]

My short term goals are… by…   to be achieved

[4]   [ ]

[3]   [ ]

[2]   [ ]

[1]   [ ]

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Your School Goal I

My academic goal for next term is…

_____

Target date

_____

How is this goal to be measured??

_____

What obstacles might I face?

_____

_____

_____

_____

My strategies for overcoming these obstacles are…

_____

_____

_____

_____

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Your School Goal Ladder

Next term's *performance* goal

[ ]

My short term goals are… by…   to be achieved

[4]   [ ]

[3]   [ ]

[2]   [ ]

[1]   [ ]

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