

**Developing, Delivering, and Assessing the ‘Performance  
and Personal Excellence Programme’: A Multiphase,  
Mixed-Methods Research Project**

Adam James Miles

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## Abstract

The purpose of this research project was to develop, deliver, and assess the effectiveness of a life skills (LS) programme for promoting performance excellence and personal excellence in elite athletes. Multiple types of programme evaluation, underpinned by a multiphase, mixed-methods design that spanned three studies, were used to address the purpose of this research project. A needs-analysis evaluation was conducted to explore the specific needs of the target population in Study One. The participants for Study One were 12 experienced, male professional cricketers ( $M^{age} = 28.83\text{yrs}$ ;  $SD^{age} = 3.04\text{yrs}$ ). A semi-structured interview technique was used to interview these cricketers regarding their perceptions of the LS development during their professional cricket careers. Narrative thematic analysis revealed four main themes associated with communication, self-regulation, motivation, and problem-solving; skills that could be integrated into a strength-based LS programme for professional cricketers. The findings from Study One informed the development of a LS programme for professional cricketers (*The Performance and Personal Excellence Programme; PPEP*). The purpose of Study Two was to examine the instrumental and conceptual processes associated with delivering the PPEP using a process-improvement evaluation. A process-improvement evaluation was conducted with three groups of cricketers during two pilots and the delivery of the PPEP. The first two evaluations were conducted during pilot deliveries of the PPEP with four professional cricketers ( $M^{age} = 22.62\text{yrs}$ ;  $SD^{age} = 2.09\text{yrs}$ ) and 13 male amateur cricketers ( $M^{age} = 17.12\text{yrs}$ ;  $SD^{age} = 0.86\text{yrs}$ ), and the third evaluation was conducted during the delivery of the PPEP to six male professional cricketers ( $M^{age} = 22.00\text{yrs}$ ;  $SD^{age} = 1.83\text{yrs}$ ). Anderson's (1999) reflective practice model was employed to better understand critical events that occurred during the delivery of the PPEP in Pilot One, Pilot Two, and Programme Delivery. Content analysis of the reflection data revealed three main themes (internal assets, context, and external assets). These findings can be used to understand the ongoing development of the PPEP and to guide neophyte practitioners during programme design,

delivery, and development. The purpose of Study Three was to assess the processes and outcomes of the PPEP using multiple types of programme evaluation. The PPEP was delivered to six male professional cricketers ( $M^{age} = 22.00\text{yrs}$ ;  $SD^{age} = 1.83\text{yrs}$ ). These cricketers participated in six group workshops and completed nine online take-home tasks over a 12-week period. An outcome-assessment evaluation, using series of A<sup>1</sup>BA<sup>2</sup> single-case designs and follow-up interviews, was conducted to evaluate the PPEP effects on LS acquisition, athletic identity commitment, and psychological need satisfaction. Effect sizes indicated moderate support for LS acquisition during the PPEP, whilst athletic identity commitment increased, and psychological need satisfaction decreased. Narrative thematic analysis of the qualitative data highlighted multiple experiences that occurred during the intervention and post-intervention phases that likely influenced the participants' ability to display both performance and personal excellence. An outcome-improvement evaluation was conducted using extended social validation procedures (i.e., one questionnaire and two interviews). Content analysis of the data revealed that the PPEP was an enjoyable and valuable experience, with the taught LS being utilised in both sport and non-sport contexts. The main knowledge contributions from this research project include: (i) the value of understanding the unique needs of the athletic population under investigation, adopting a systematic process to assist with the development of the PPEP, and the use of multiple evaluation procedures to assess various processes and outcomes of LS programmes; (ii) The content and structure of the PPEP was effective for developing LS in a group of professional cricketers and the skills taught were perceived as beneficial for promoting competence in current and future life domains; (iii) to better support athletes' throughout and beyond their athletic careers, future researchers might extend upon the findings from this research project by examining the mediating processes that influence LS acquisition, identity development, and need-satisfaction.

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## List of Abbreviations

5-SCPS	5-step career planning strategy
A <sup>1</sup> BA <sup>2</sup>	Baseline, intervention, and post-intervention single case design
AI	Athletic identity
AIMS	Athletic Identity Measurement Scale
BLSEX	Basic life skills experiences
BMPN	The Balanced Measure of Psychological Needs scale
BSc	Bachelor of Science
CAPs	Career assistance programmes
CFI	Comparative fit index
ELITE	Enhancement of Leadership Intercommunication Teamwork and Excellence
GOAL	Going for Goal
IDEX	Identity experiences
INEX	Initiative experiences
LCQ	Learning Climate Questionnaire
LDI	Life Development Intervention
LDI/BNT LS	Life Development Intervention/Basic Needs Theory Life Skills
LDIs	Life development interventions
LS	Life skills
<i>M</i>	Mean
<i>M<sup>age</sup></i>	Mean age of the participants
<i>M<sup>professionalexperience</sup></i>	Mean for the participants' professional cricket experience
<i>M<sup>recreationalexperience</sup></i>	Mean for the participants' recreational cricket experience
MCA	Major cricket association
MCC	Marylebone Cricket Club

MSc	Master of Science
MST	Mental skills trainer
N-S	Need-satisfaction
NZ	New Zealand
NZC	New Zealand Cricket
NZCHPU	New Zealand Cricket High Performance Unit
NZCPA	New Zealand Cricket Players Association
NZCWTS	New Zealand Cricket Winter Training Squad
p.	Page number
Part.	Participant
PDM	Personal development manager
PhD	Doctor of Philosophy
pp.	Page range
RMSEA	Root mean square error approximation
SCDs	Single-case research designs
<i>SD</i>	Standard deviation
<i>SD<sup>age</sup></i>	Standard deviation of the participants' age
<i>SD<sup>professionalexperience</sup></i>	Standard deviation of the participants' professional cricket experience
<i>SD<sup>recreationalexperience</sup></i>	Standard deviation of the participants' recreational cricket experience
SRMR	Standardised root mean square residual
SUPER	Sports United to Promote Education and Recreation
$\chi^2/df$	Chi square significance/degrees of freedom
YES	Youth Experiences Survey
Yrs	Years

## Glossary of Key Terms

Athletic career development	A series of stages and transitions individuals progress through as they are recruited and socialised into different sporting roles
Athletic identity	The degree to which an individual identifies with the athlete role
Athletic identity foreclosure	Commitment to the athlete role in the absence of exploration of occupational or ideological alternatives
Behavioural change	Modification in behaviours, usually associated with positive health-related outcomes
Basic psychological needs	Cognitive requirements for optimal functioning and psychological well-being (autonomy, competence, and relatedness)
Career assistance programmes	Programmes to help athletes manage their personal lives and professional lives during their athletic careers and to prepare athletes for their secondary career after sport
Cognitive behavioural technique	An information processing (cognition) and behaviour modification technique that promotes positive psychological development and positive behaviours for goal attainment
Conceptual framework	A logical sequence of concepts that provide a context for proposed relationships and help explain empirical observations

Coping resources	Intrapersonal and interpersonal factors that facilitate the process of managing stress (e.g., self-regulation, social support)
Counselling intervention methodology	A therapeutic procedure that facilitates discussion of cognitions and emotions in relation to specific contexts
Developmental factors	Factors that contribute to health-related outcomes (e.g., education, parenting, social status); also referred to as developmental opportunities, developmental experiences, developmentally-appropriate tasks
Enhancement approach	Future-focused approach that prepares individuals for events by: (a) helping them to anticipate future events; (b) recognise how their skills can be used across multiple life domains; and (c) teaching skills to enhance individuals' ability to successfully progress through future events
Explicit approach	A direct method to teaching that includes instructional delivery procedures
Holistic, lifespan approach	An approach that considers all aspects of an individuals' development in multiple life domains (e.g., as a student, as an athlete)

Humanistic counselling approach	An approach provides individuals with a deeper understanding of who they are and their behaviours, and allows them to explore the possibility of creating personal choices.
Identity development	The process by which individuals commit to aspects of self that pervade their social roles (also referred to as identity formation)
Identity exploration	The process by which athletes explore different roles to gain an understanding of who they are and who they want to be
Implicit approach	Teaching a certain topic in a suggestive or implied manner (i.e., the learning objective is not directly expressed)
Interpersonal skills	Verbal and non-verbal communication skills used to interact in social situations
Intervention methodology	The procedures and processes of a programme designed to produce behavior changes or improve health status among individuals
Intrapersonal skills	Cognitive processes that influence behaviour
Life domains	An area of an individual's life in which they live and interact (e.g., personal, education, career, recreation)
Life skills	Life skills refer to a range of <i>interpersonal</i> skills and <i>intrapersonal</i> skills that can be developed in sport and applied in non-sport settings

Life skills acquisition	The process whereby individuals acquire skills that can be used in multiple life domains
Life skills programmes	A programme to help individuals develop skills that can be used in multiple life domains
Outcome-assessment evaluation	Procedures that provide an overall judgement of a programme
Outcome-improvement evaluation	Procedures that provide information on which components influenced programme outcomes and should be used in future iterations of a programme
Performance excellence	Performance excellence refers to observable, measurable athletic outcomes
Personal excellence	the achievement of developmentally appropriate tasks across the length of one's life and the acquisition of personal qualities that contribute to optimal health and well-being
Positive psychological development	The development of human beings' cognitive and, intellectual capabilities that influence behaviour
Process-assessment evaluation	Procedures that provide information on the implementation of programmes
Process-improvement evaluation	Procedures that provide information on whether programmes should be further developed, continued, and/or established in alternative locations.

Programme fidelity	The extent to which the critical components of an intended programme are present when that programme is enacted
Psychoeducation model	A therapeutic approach that uses goal setting and skill teaching to promote client satisfaction and goal achievement
Psychological factors	External (e.g., environmental demands) and internal (e.g., psychological skills) factors that influence individuals' psychological state
Psychological mechanisms	The mediating cognitive processes that influence behavioural change (e.g., perceptions of autonomy, competence, and relatedness)
Psychological need satisfaction	Individuals' perceptions of autonomy, competence, and relatedness are indicative of their level of need-satisfaction
Psychological need support	The extent to which external factors support individuals' perceptions of autonomy, competence, and relatedness
Psychological skills	Psychological skills are considered psychological processes that improve human functioning (concentration/attention, self-regulation, motivation, self-efficacy/self-confidence)

Psychological strategies

Psychological strategies are the methods that practitioners use to develop psychological skills (e.g., goal setting, imagery, relaxation/centring, self-talk, and pre-performance routines)

Psychological well-being

Evaluations and judgments individuals make about the quality of their lives both in terms of the number of positive emotions experienced and perceptions of personal growth

Socio-cultural norms

Rules that a group or society uses to determine appropriate behaviour

Transition

an event or non-event [*which*] results in a change in assumptions about oneself and the world, and thus requires a corresponding change in one's behaviour and relationships



# CHAPTER ONE

## INTRODUCTION

Sport psychology researchers have typically employed interventions to enhance individuals' athletic performance (i.e., promote *performance excellence*) (Brown & Fletcher, 2017). More recently, some researchers have adopted an holistic, lifespan approach that focuses on developing the person as well as the athlete (e.g., Miller & Kerr, 2002; Friesen & Orlick, 2010). This shift in focus has coincided with evidence that athletes who acquire skills that can be utilised in both sport and non-sport domains are more likely to experience psychological well-being throughout their lifespan (Alfermann, Stambulova, & Zemaityte, 2004; Rice et al., 2016; Stambulova & Wylleman, 2014). Despite knowledge indicating that an holistic, lifespan approach to sport psychology practice can enhance athletes' psychological well-being, athletes have continued to experience decreased psychological well-being during and after their athletic careers (Rice et al., 2016). Subsequently, there has been a call for researchers to develop, deliver, and assess interventions that promote skills associated with positive psychological development in athletes and help these athletes display *personal excellence* in multiple life domains (e.g., in sport, in a secondary career, at home).

To help athletes thrive in multiple life domains, researchers might draw on knowledge from several separate, yet interrelated areas of sport psychology. These areas include: (i) athletic career development; (ii) psychological interventions for performance excellence; (iii) programmes and interventions for personal excellence, (iv) and life skills programmes for performance excellence and personal excellence. This chapter presents a brief overview of the extant literature in these areas of sport psychology, introduces concepts associated with holistic athlete development, and provides a rationale for this research project prior to outlining the subsequent chapters of this thesis.

## **Athletic Career Development**

The psychological development of athletes as they progress through their careers in sport has received considerable interest from athletic career development researchers (e.g., Côté, 1999; Gould, Dieffenbach, & Moffett, 2002; Orlick & Partington, 1988; Stambulova, 2010; Wylleman & Lavallee, 2004). Several athletic career development models have been forwarded to explain how athletes progress from youth sport to elite competition (e.g., Bloom, 1985; Côté, 1999, Wylleman & Lavallee, 2004). Bruner, Erickson, Wilson, and Côté (2010) categorised these models into stage-based models of athletic career development (e.g., Bloom, 1985; Côté, 1999; Durand-Bush & Salmela, 2002) and transition models of athletic career development (e.g., Stambulova, 1994; 2000; Wylleman & Lavallee, 2004).

Stage-based models reflect a shift away from the innate aspects of talent development (i.e., genetics) and, instead, focus on the physical, psychological, and social aspects of talent development (Bloom, 1985; Côté, 1999; Durand-Bush & Salmela, 2002). These models emphasise a number of stages (e.g., initiation, specialisation, mastery) associated with adolescent athletes' progression from deliberate play (i.e., unorganised sport) to deliberate practice (i.e., structured sport). Moreover, these models highlight that various psychological attributes are necessary to initiate an elite athletic career. For example, athletes who develop a variety of sport-specific psychological skills (e.g., self-awareness, self-regulation) are more likely to develop and maintain psychological attributes (e.g., resilience, mental toughness) associated with successful athletic performance and, subsequently, to establish an elite athletic career (Durand-Bush & Salmela, 2002).

Transition models of athletic career development retain several stages included in the stage-based models but focus on the importance of athletes overcoming transitions within their athletic careers (e.g., injury) and in their lives outside sport (e.g., the transition from high school to university). A transition is defined as “an event or non-event [*which*] results in a change in assumptions about oneself and the world, and thus requires a corresponding change

in one's behaviour and relationships" (Schlossberg, 1981, p. 5). Athletes who develop psychological skills that can be deployed in various developmental domains (e.g., athletic, academic) are better equipped to adapt their behaviours during periods of transition and are more likely to experience psychological well-being across their lifespan (Wylleman & Lavallee, 2004).

### **Psychological Interventions for Performance Excellence**

Researchers have traditionally focused on developing psychological skills that can accelerate talent development and assist athletes to overcome a number of transitions associated with the athletic domain (e.g., the transition from junior to senior sport, from high school to college competition, from domestic to international tournaments). Psychological interventions have typically been employed to promote skills associated with positive psychological development and facilitate behavioural change that subsequently enhance components of athletic performance (e.g., fitness, competitive sport performance, technical tasks) (Cumming & Hall, 2002; Evans & Hardy, 2002; Perkos, Theodorakis, & Chroni, 2002). These psychological interventions have been developed using a number of conceptual frameworks (e.g., sport confidence; Vealey, Hayashi, Garner-Holman, & Giacobbi, 1998) and intervention methodologies (e.g., psychoeducation; Authier, Gustafson, Guerney, & Kasdorf, 1975). Conceptual frameworks and intervention methodologies have typically been utilised to guide the implementation of psychological strategies to enhance psychological skills. Researchers have used psychological strategies such as goal setting, imagery, relaxation/centring, self-talk, and pre-performance routines to develop a number of psychological skills in athletes (e.g., motivation, confidence, self-regulation, concentration) and evaluated these interventions using a variety of scientific research designs (see Brown & Fletcher, 2017 for a recent review).

Psychological interventions have helped athletes from various sports, age groups, and levels of competitions to acquire skills that promote positive psychological development and *performance excellence* (Brown & Fletcher, 2017; Vealey, 2007; Williams & Krane, 2015). Performance excellence refers to observable, measurable athletic outcomes and encompasses accomplishments ranging from completing a community five-kilometre run to hitting a winning serve at a major tennis championship (Miller & Kerr, 2002). Athletes who develop psychological skills are more likely to demonstrate performance excellence on a consistent basis (Gould, 2002), overcome multiple within-career transitions, and sustain an elite athletic career (Stambulova & Wylleman, 2014).

### **Personal Excellence**

Enhancing psychological skills that promote performance excellence remains an important role for researchers. However, an increasing number of anecdotal (e.g., Burnes, 2015; Knowler, 2014; Napier, 2015) and empirical literatures (e.g., Baron, Reardon, & Baron, 2013; Glick et al., 2009; McDuff, 2012) highlight that some athletes do not possess the necessary psychological skills to successfully progress through transitions in non-sport domains and, as a result, experience decreased psychological well-being. Recent research has shown that elite athletes might be at an elevated risk of diminished psychological well-being during the transition from high school to university, during their retirement from their athletic career, and during the transition into a secondary occupation (see Rice et al., 2016 for a review). Subsequently, there is growing recognition that athletes should develop psychological skills that benefit them as people rather than just as athletes (e.g., Andersen, Van Raalte, & Brewer, 2001; Friesen & Orlick, 2010, 2011).

Researchers have previously acknowledged that striving for performance excellence often comes at the expense of developmental opportunities associated with promoting *personal excellence* (Andersen et al., 2001; Friesen & Orlick, 2010, 2011; Miller & Kerr, 2002). Personal excellence has been defined as “the achievement of developmentally

appropriate tasks across the length of one's life and the acquisition of personal qualities that contribute to optimal health and well-being" (Miller & Kerr, 2002, p. 141). Miller and Kerr argued that elite athletes who engage in developmentally appropriate tasks (e.g., identity exploration, psychological skill development) are more likely to experience greater psychological well-being during and after their athletic careers. Subsequently, researchers have been encouraged to adopt an holistic, lifespan approach towards the practise of sport psychology, to develop psychological skills in athletes that are applicable across multiple life domains, and to evaluate their practice in line with their ability to foster personal excellence, as well as performance excellence, in athletes (Danish, Petitpas, & Hale, 1993).

**Retirement from an elite athletic career.** Athletes who possess transferable psychological skills are more likely to experience successful transitions in multiple life domains (Wylleman & Lavallee, 2004). One of the most challenging transitions elite athletes experience is retirement from their athletic careers (Wylleman & Lavallee, 2004; Stambulova, 2000). The quality of athletes' transitions out of various sports (e.g., team and individual) and levels of competition (e.g., university, Olympic) has received substantial attention in the sport psychology literature. The quality of an athlete's transition out of sport is determined by developmental factors, socio-cultural norms, and the availability of psychological skills (e.g., Debois, Ledon, & Wylleman, 2015; Douglas & Carless, 2009; Lally 2007). Despite attempts from researchers and practitioners to prepare elite athletes for their retirement from sport, many athletes fail to gain the relevant developmental experiences or to develop the necessary psychological skills to successfully transition out of their athletic careers (e.g., Brewer, Van Raalte, & Petitpas, 2000; Roberts, Mullen, Evans, & Hall, 2015; Schwenk, Gorenflo, Dopp, & Hipple, 2007; Stephan, Torregrosa, & Sanchez, 2007).

Various developmental factors (e.g., identity exploration and identity commitment, voluntariness of transition) and psychological skills (e.g., self-awareness, self-regulation) can influence the quality of athletes transition out of sport (see Park, Lavalley, & Tod, 2013 for a review). Athletic identity is one of the most salient factors affecting elite athletes' experiences during their retirement from sport (Brewer et al., 2000; Cosh, Crabb & Tully, 2015; Kerr & Dacyshyn, 2000; Sparkes, 1998). Athletic identity is defined as “the degree to which an individual identifies with the athlete role” (Brewer, Van Raalte, & Linder, 1993, p. 237). A strong athletic identity can be a positive source of meaning and self-esteem during athletic careers, but can also cause decreased psychological well-being during periods of decreased performance or when transitioning out of sport (Kerr & Dacyshyn, 2000; Lavalley & Robinson, 2007).

Athletes who engage in identity exploration during their athletic careers are less likely to experience identity foreclosure to the athlete role and decreased psychological well-being during their transition out of sport (Brewer et al., 2000; Cabrita, Rosado, Leite, Serpa, & Sousa, 2014). The process of identity exploration is likely to enhance athletes' self-awareness and sense of self in non-sporting roles. Individuals who explore different roles are more likely to understand the utility of their psychological skills in multiple life domains (Danish & Nellen, 1997; Petitpas, Champagne, Chartrand, Danish, & Murphy, 1997). Athletes who can utilise their psychological skills in a variety of domains enhance the probability of achieving personal excellence in multiple domains (Kerr & Dacyshyn, 2000; Lavalley & Robinson, 2007). Elite athletes who explore multiple non-sport related roles and who use their psychological skills to display competence in a variety of domains are less likely to rely on their athletic identity during their retirement from sport and, subsequently, are more likely to experience psychological well-being across their lifespan (e.g., Cabrita, Rosado, Leite, Serpa, & Sousa, 2014; Danish & Nellen, 1997).

**Programmes for personal excellence.** Practitioners employed by sporting organisations have designed a number of programmes to help elite athletes manage their personal and professional lives during and after their sporting careers (e.g., National Basketball Players Association, 2018; New Zealand Cricket Players Association, 2018; New Zealand Rugby Players Association, 2018; Professional Footballers Association, 2018). These programmes have generally focused on preparing athletes for a secondary career after their retirement from sport and have been broadly labelled ‘career assistance programmes’ (CAPs) (Albion & Fogarty, 2005; Lavalley, 2000; Stambulova & Wylleman, 2014). The most commonly cited CAPs include the Career Assistance Programme for Athletes, the Challenging Athletic Minds for Personal Success Programme, and variations of the Athlete Career and Education (ACE) Programme (Anderson & Morris, 2000; Reints, 2011; Ryan & Thorpe, 2013). Common services available in these CAPs included: (a) education (e.g., distance learning); (b) career management (e.g., job application skills); (c) life skills training (e.g., goal setting, communication skills); (d) financial support (e.g., investment advice); and (e) health education (e.g., nutrition advice, medical support) (Reints, 2011).

As with any support service that requires substantial funding, the effectiveness of CAPs requires evaluation. To date, few reports discussing the effectiveness of CAPs have been made available to the public (see Australian Sports Commission, 2010; UK Sport, 2001 for exceptions). Existing reports have provided equivocal support for the effectiveness of CAPs for promoting personal excellence in athletes (e.g., Australian Sports Commission, 2010; Gilmore, 2012; Roberts et al., 2015; Ryan, 2013; UK Sport, 2001). These reports published on the content and effectiveness of CAPs highlight that existing CAPs are largely atheoretical (i.e., have not been developed using a conceptual framework) and have not been evaluated using scientific research designs (Albion & Fogarty, 2005). Furthermore, many athletes favour services that promote performance excellence (e.g., strength and conditioning, nutrition advice) and, subsequently, do not engage with programmes that promote personal

excellence (e.g., Roberts et al., 2015; Ryan & Thorpe, 2013). Based on these findings, researchers might consider developing programmes to effect both performance and personal excellence that are underpinned by a conceptual framework and evaluate these programmes using scientific research designs.

**Psychological interventions for personal excellence.** Several psychological interventions have been developed to promote personal excellence in athletes and to help athletes progress through various transitions during and after their athletic careers (e.g., Lavalley, 2005; Stambulova, 2010). For example, Lavalley (2005) developed a life development intervention to help the career transition adjustments of retired professional athletes. Life developmental interventions are underpinned by the life development intervention (LDI) conceptual framework that emphasises self-directed and goal-directed change to reach one's best possible future and an intervention methodology based on a psychoeducational approach (Baltes, Reece, & Lipsitt, 1980). The LDI methodology can be used to integrate different types of psychological strategies (e.g., goal setting, self-talk) that foster various psychological skills (e.g., motivation, self-regulation) as part of multifaceted programmes for both performance excellence and personal excellence (Stambulova & Wylleman, 2014).

Life development interventions focus on teaching transferable psychological skills, labelled life skills (LS), that enable individuals to display competence across multiple life domains. Athletes who engage in these interventions, commonly called LS programmes, generate an awareness of the skills that underpin performance excellence in the sporting domain and learn how to apply these skills to multiple life domains. Athletes who attempt to apply the skills learned in the sporting domain to other life domains are more likely to engage in identity exploration (Danish et al., 1993). Both LS acquisition and identity exploration have been advocated to promote personal excellence in athletes, which, in turn, will increase the likelihood of athletes overcoming various transitions inside and outside their athletic career



and, subsequently, experiencing psychological well-being (Danish et al., 1993; Miller & Kerr, 2002; Wylleman & Lavallee, 2004). Life skills programmes, underpinned by the LDI conceptual framework and the LDI methodology, offer athletes the opportunity to develop psychological skills that will benefit both performance excellence and personal excellence and have been evaluated using scientific research designs (e.g., Jones, Lavallee, & Tod, 2011; O’Hearn & Gatz, 2002).

### **Life Skills Programmes for Performance Excellence and Personal Excellence**

Life skills refer to a range of *interpersonal* skills (e.g., communication) and *intrapersonal* skills (e.g., self-regulation) that can be developed in the sport context and transferred to non-sport domains through experience or from deliberately structured programmes (Danish et al., 1993; Gould & Carson, 2008). Whilst numerous LS are associated with sport participation, there is a lack of consensus regarding how skills learned in the sport domain become LS (i.e., transferable to other life domains) (Turnnidge, Côté, & Hancock, 2014). Researchers have tended to agree that LS acquisition through sport is reliant on a combination of factors (e.g., programme structure, coaches’ philosophies, social and cultural norms attached to each sport). Turnnidge and his colleagues (2014) provided some clarity concerning LS acquisition when they introduced the concepts of implicit LS learning and explicit LS learning to explain how athletes can develop skills that benefit them in both sport and non-sport domains. Implicit LS learning is reliant on the athletes intuitively understanding that sport-specific skills can be applied to other areas of their lives. In contrast, LS can be explicitly taught by programme leaders or coaches who deliberately teach that skills in sport can be applied in other life domains (Turnnidge et al., 2014).

The implicit approach to LS acquisition has received some support in the sport psychology literature (e.g., Chinkov & Holt, 2016; Jones & Lavallee, 2009), yet the majority of researchers have focused on explicit LS acquisition through purposefully developed LS programmes (e.g., Goudas & Giannoudis, 2006; O’Hearn & Gatz, 1999, 2002; Bean,

Forneris, & Halsall, 2014). Many of these LS programmes have been developed using the LDI conceptual framework and the LDI methodology (e.g., Goudas, Dermitzaki, Leondari, & Danish, 2006; Jones et al., 2011; Kolovelonis, Dimitriou, Goudas, & Gerodimos, 2006; Papacharisis, Goudas, Danish, & Theodorakis, 2005). These programmes have been employed in a variety of physical activity, physical education, and sport settings and been evaluated using a variety of experimental designs (e.g., cluster randomised controlled trials) and quasi-experimental designs (e.g., single-case). The majority of these LS programmes have been shown as effective for developing knowledge and beliefs about LS in adolescent sporting populations (e.g., Goudas et al., 2006; Kolovelonis et al., 2006)

Life skills programmes developed using the LDI conceptual framework and the LDI methodology provide athletes with the opportunity to foster psychological skills that can benefit both performance excellence and personal excellence. Such programmes, focusing on both performance excellence and personal excellence, are more likely to engage athletes who prefer to utilise performance-enhancement services and, therefore, increase overall participant engagement (Ryan & Thorpe, 2013). Furthermore, evaluation procedures employed in the LS programme literature provide guidelines for researchers to better explain the effectiveness of their programmes.

Whilst it is evident that the LS programme literature provides knowledge that extends beyond existing reports of career assistance programmes, there are several limitations associated with the extant LS programme literature that should be considered. These limitations can be divided into three categories associated with the development, delivery, and assessment of LS programmes (Hodge, Danish, & Martin, 2012). First, LS programmes have generally been developed for adolescent athletes and few researchers have developed LS programmes for elite athletes (see Hardcastle et al., 2015 and Lavallee, 2005 for exceptions). Given the lack of research conducted with other sporting populations, researchers might infer that positive psychological development is confined to adolescent athletes. It is evident,

however, that LS can be developed throughout individuals' lifespan and elite athletes would likely benefit from LS programmes that promote performance excellence as well as personal excellence (Danish et al., 1993; Stambulova & Wylleman, 2014; Wylleman & Lavallee, 2004). Furthermore, LS programme researchers have failed to justify the content (i.e., LS and LS acquisition strategies) of their LS programmes in relation to the target athletic population (see Jones et al., 2011 for an exception). Needs-analyses conducted on the targeted athletic population would likely generate knowledge to inform the content of purposefully designed LS programmes and subsequently enhance the potential effectiveness of these LS programmes (Jones & Lavallee, 2009).

Another limitation concerns the scarcity of literature discussing the delivery of LS programmes. Much of the research has focused on evaluating the outcomes of LS programmes rather than assessing the process of LS programme delivery. Several research groups have discussed pilots of LS programmes (e.g., Cox, Neil, Oliver, & Hanton, 2016; Holt et al., 2013; Weiss, Stuntz, Bhalla, Bolter, & Price, 2013) and offered frameworks for developing and delivering LS programmes (e.g., Hodge et al., 2012; Petitpas, Cornelius, Van Raalte, & Jones, 2005), but few researchers have provided empirical data from the early stages of LS programmes delivery (see Holt et al., 2013 and Weiss et al., 2013 for exceptions). Detailed reports on the delivery of LS programmes would provide a more comprehensive understanding of 'what works' and 'what does not'. Knowledge concerning programme delivery and associated improvements to the programme would likely facilitate the development of LS programmes for targeted populations and enhance the potential effectiveness of these programmes (Hodge et al., 2012).

The majority of outcome evaluations have generated results that show the benefits of participating in LS programmes. However, there are some common limitations associated with existing outcome evaluations of LS programmes (Hodge et al., 2012; Pierce, Gould, & Camiré, 2017). The majority of LS programmes have been evaluated using superficial or

indirect measures of LS outcomes rather than measuring the psychological mechanisms that affect LS acquisition. Examining psychological mechanisms that affect LS acquisition will provide important information to help practitioners adapt, modify, and improve aspects of their LS programmes (Hodge et al., 2012). Furthermore, participants' long-term application of LS knowledge and beliefs to sport and non-sport domains has seldom been explored (Pierce et al., 2017). Longitudinal research designs measuring psychological development and behavioural change would extend beyond existing LS research that has only collected data during programme delivery.

Moreover, few researchers have provided information concerning the process of implementation during evaluation studies (e.g., Bean, Forneris, & Burnet, 2016; O'Hearn & Gatz, 2002). The process of implementation is linked with issues of *programme fidelity*. Programme fidelity concerns the extent to which the critical components of an intended programme are present when that programme is delivered (Century, Rudnick, & Freeman, 2010). Hodge and his colleagues (2012) recommended measuring the motivational climate during the delivery of LS programmes and detailing the LS addressed, programme content, and setting of the LS programme to provide information concerning the programme fidelity. This information can then be compared against the desired programme implementation and outcome evaluation measures.

To address some of the issues associated with outcome evaluations of LS programmes, Hodge et al. (2012) posited the Life Development Intervention/Basic Needs Theory Life Skills (LDI/BNT LS) model. The LDI/BNT LS model extended the LDI conceptual framework that previously demonstrated the process of psychological development and behavioural change. The aim of LS programmes that are developed using the LDI/BNT LS model is to support and satisfy the participants' basic psychological needs (i.e., autonomy, competence, and relatedness) through LS teaching (Ryan & Deci, 2017). Participants whose psychological needs are supported and satisfied are more likely to generalise LS to a number

of different life contexts (i.e., achieve personal excellence) (Hodge et al., 2012). Furthermore, a LS programme that enables athletes to generalise LS to multiple contexts can promote both performance excellence and personal excellence; a process which should help athletes overcome various transitions in multiple life domains (Wylleman & Lavallee, 2004). Assessing the provision of psychological need support (need-support) during LS programme delivery and the participants' psychological need satisfaction (need-satisfaction) directly measures the effect of the programme on psychological mechanisms that affect psychological development and behavioural change, whilst also assessing programme fidelity.

### **Summary**

Athletes require a number of psychological skills to overcome various transitions in sport and non-sport domains (Gould, 2002; Stambulova & Wylleman, 2014). Psychological interventions have typically been developed to help athletes from various sports, age groups, and levels of competition to develop performance excellence (Brown & Fletcher, 2017; Vealey, 2007; Williams & Krane, 2015). However, there is growing recognition that athletes should develop psychological skills that benefit them as people (i.e., psychological skills for personal excellence) rather than just as athletes (e.g., Andersen et al., 2001; Friesen & Orlick, 2011). Athletes who develop psychological skills associated with performance excellence and personal excellence are more likely to establish and maintain an elite athletic career and to demonstrate competence in life domains outside sport. Athletes equipped with transferable psychological skills (i.e., LS) that can be deployed in multiple contexts are more likely to engage in identity exploration, and subsequently are less likely to rely on their athletic identity during their careers in elite sport; a process that has been associated with increased psychological well-being (e.g., Cabrita et al., 2014; Danish & Nellen, 1997).

Sporting organisations have tended to provide career assistance programmes that indirectly promote personal excellence by focusing on secondary career development. However, many of these programmes were atheoretical (Lavalley, 2000), were rarely evaluated using scientific research designs (Albion & Fogarty, 2005), and were often overlooked by athletes (Ryan, 2013). The sport psychology literature provides examples of interventions for personal excellence that have been underpinned by conceptual frameworks and evaluated using scientific research designs (e.g., Jones et al., 2011; Lavalley, 2005). The LDI conceptual framework and the LDI methodology can be used to integrate different types of psychological strategies (e.g., goal setting, self-talk) and, subsequently, foster various psychological skills (e.g., motivation, self-regulation) for both performance excellence and personal excellence (Stambulova & Wylleman, 2014).

Numerous LS programmes have been developed using the LDI conceptual framework and the LDI methodology to provide athletes with the opportunity to foster psychological skills that can benefit both performance excellence and personal excellence. Life skills programmes that focus on both performance excellence and personal excellence are more likely to engage athletes who prefer to utilise performance-enhancement services and, therefore, increase overall participant engagement (Ryan & Thorpe, 2013). Furthermore, evaluation procedures reported in the LS programme literature provides guidelines for researchers to better explain the effectiveness of their programmes.

Whilst LS programmes that promote both performance excellence and personal excellence are more likely to promote psychological development and behavioural change in athletes, there are several limitations associated with the extant LS programme literature that should be considered. Hodge and colleagues (2012) introduced the LDI/BNT LS model to extend the LDI conceptual framework and to provide several recommendations for LS programme researchers. These recommendations included: (i) developing LS programmes to cater for the specific needs of targeted athletic population; (ii) generating knowledge

concerning the delivery of LS programmes; and (iii) assessing the psychological mechanisms that underpin behavioural change using longitudinal research designs. Based on these recommendations, the purpose of this research project was to develop, deliver, and assess a LS programme for promoting performance excellence and personal excellence in elite athletes.

### **Overview of this Thesis**

This thesis consists of seven chapters that document the research process. Following the introductory chapter, a comprehensive literature review is provided in Chapter Two. A critique of the extant literature concerning athletic career development, psychological interventions for performance excellence, and programmes and interventions for personal excellence is presented in this review. Based on this critique, a rationale is given for the development, delivery, and assessment of a LS programme for promoting performance excellence and personal excellence in elite athletes.

Chapter Three documents the research context and research design for the research project detailed in this thesis (referred to as '*this research project*' from this point on). This chapter opens with an overview of the research context to provide insight into selecting and gaining access to the targeted athletic population. The researcher's background is then discussed to highlight his suitability for conducting this research project. This is followed by an overview of the research design that includes a detailed discussion of the types of evaluation used during the development, delivery, and assessment of the LS programme. A multiphase, mixed-methods design is then introduced as an overarching framework for this three-study research project.

Study One of this research project is presented in Chapter Four of this thesis. This chapter opens with a brief introduction to the literature pertaining to LS programme development. Specifically, the introduction provides a rationale for a needs-analysis study to illuminate the LS needs of the athletic population studied in this research project. A narrative

methodology to explore elite athletes' perceptions of LS acquisition is then forwarded. The elite athletes' perceptions are then presented as a number of main themes and sub-themes that are accompanied by a series of narratives and quotes. These findings are then discussed in relation to existing literature and the subsequent studies in this research project.

Chapter Five opens with a detailed overview of the LS programme for promoting performance excellence and personal excellence in elite athletes. This overview includes a rationale for the conceptual framework and the intervention methodology underpinning the LS programme. A rationale is then provided for the use of a process-improvement evaluation to examine the instrumental and conceptual processes associated with delivering the LS programme (Study Two). This is followed by an overview of an action research methodology that enabled a process-improvement evaluation to be conducted. The findings are then provided and discussed in line with the extant LS programme literature.

Study Three is presented in Chapter Six of this thesis. This chapter opens with a brief discussion of the relevant literature on LS programme evaluation research and provides a rationale for conducting multiple types of outcome and process evaluation. This is followed by a detailed discussion of the various data collection and analysis methods used for each type of evaluation. The findings are then presented before discussing the findings in relation to existing literature.

This thesis concludes with a general discussion of this three-study research project. Chapter Seven offers several knowledge contributions to both the athletic career development and LS literature. Following this, the strengths and weaknesses are documented prior to some suggestions for future research direction are forwarded. Chapter Seven concludes with a number of practical implications for practitioners and coaches working with elite and aspiring elite athletes.



# CHAPTER TWO

## LITERATURE REVIEW

Researchers and practitioners have recognised the developmental costs associated with pursuing performance excellence (e.g., burnout, eating disorders, substance abuse) and have designed numerous programmes to promote positive psychological development associated with personal excellence (Anderson & Morris, 2000; Australian Sports Commission, 2010; United Kingdom Sport, 2001). However, literature published on the content and effectiveness of these programmes highlight that existing programmes have typically been atheoretical (Lavalley, 2000), rarely been evaluated using scientific research designs (Albion & Fogarty, 2005), and often been overlooked by athletes (Ryan, 2013). Subsequently, researchers and practitioners have been encouraged to develop conceptually-grounded psychological interventions that promote performance excellence and personal excellence, to evaluate these programmes using longitudinal research designs, and to measure psychological variables associated with psychological development and behavioural change (Hodge et al., 2012).

The purpose of this chapter is to review the literature relevant to developing skills associated with performance excellence and personal excellence in elite athletes. To give a background for this research project, literature will be reviewed concerning the following topics: (1) athletic career development; (2) psychological interventions for performance excellence; (3) programmes for personal excellence; and (4) life skills programmes for performance excellence and personal excellence. This chapter concludes with the rationale and overall purpose for this research project.

## **Athletic Career Development**

A career in sport has been labelled as an “athletic career” (Stambulova, Alfermann, Statlet, & Côté, 2009, p. 397). An athletic career is comprised of a multi-year sporting activity that has been voluntarily chosen by a person. Athletic careers are open to participants at all levels of competitive sport and range from local to international competition. During their athletic careers, individuals’ aim to achieve a peak in athletic performance in one or several sporting events (Alfermann & Stambulova, 2007).

There has been considerable research interest in the development of individuals as they progress towards and through an elite athletic career (e.g., Gould et al., 2002; Mahoney & Avenier, 1977; Orlick & Partington, 1988). Moreover, researchers have studied elite athletes from a multitude of sports at various stages in their athletic careers (see Swann, Moran, & Piggott, 2015 for a review). These elite athletes have ranged from those who have achieved international honours, yet were considered amateur athletes, to professional athletes who competed in domestic competitions and whose main source of income was from sport (Stambulova et al., 2009).

To reach elite status, athletes typically progress through a period of general and then specific training as they are recruited and socialised into different sporting roles (Hodge, Pierce, Taylor, & Button, 2012; Wylleman & Reints, 2010). The length of an athletic career is considerably shorter than careers in many other professions and the timing of an athletic career within the lifespan differs depending on the socio-cultural norms associated with each sport (McPherson, 1978; Witnauer, Rogers, & Saint Onge, 2007). The type of sport often dictates when athletes begin to specialise, achieve performance excellence, and then retire from sports participation (Stambulova et al., 2009). For example, athletes typically start to specialise between five and seven years old in sports that require complex coordination to capture the most favourable periods in their motor development (e.g., gymnastics). Early specialisation often results in athletes retiring from elite competition in their early twenties

(Côté, Baker, & Abernethy, 2007; Côté, Lidor, & Hackfort, 2009). By comparison, team sport athletes, such as cricketers, tend to specialise in late adolescence with peak levels of performance excellence occurring during adulthood and, therefore, retire later in their lifespan (i.e., between 30 and 40 years old) (Mangan, 2014).

In addition to the idiosyncrasies associated with athletic careers in different sports, it is also important to consider that cultural structures and societal norms might influence the progress of athletes throughout their careers (Stambulova & Ryba, 2013, 2014; Ryba, Schinke, & Tenenbaum, 2010). For example, elite sport in America is embedded within the education system. This cultural structure ensures that the majority of athletes in America enrol at a university to pursue a career in elite sport (Leonard, 1996). In contrast, athletes from Europe are required to progress from club level into regional and then national competition (De Knop, Wylleman, Van Houcke, & Bollaert, 1999).

From the perspective of sporting organisations, an athlete's career is represented by a succession of stages that reflect their development over time (e.g., club, university, national, international, Olympic) (Samuel & Tennenbaum, 2011). These stages start at participatory levels and, in the most successful cases, culminate in representing one's country at international competitions (Alfermann & Stambulova, 2007). Although numerous factors tend to influence the pathways to elite status (e.g., type of sport, cultural structures), researchers have designed several conceptual models to describe the career development of athletes. These athletic career development models have been classified into two separate categories (Bruner et al., 2010). The first category of athletic career development models highlights various stages of physical, psychological, and social growth associated with an athletic career (e.g., Bloom, 1985; Côté, 1999; Durand-Bush & Salmela, 2002). Whereas, the second category of models show that athletes typically progress through multiple transitions to initiate and sustain an elite athletic career (e.g., Stambulova, 1994; 2000; Wylleman, Alfermann, & Lavallee, 2004).

**Stage models of athletic career development.** Several stage models of athletic career development were established to demonstrate how individuals reach their full athletic potential (e.g., Bailey & Morley, 2006; Bloom, 1985; Côté, 1999; Durand-Bush & Salmela, 2002; Morgan & Giacobbi, 2006). These models reflected a shift away from the innate aspects of talent development (i.e., genetics) and, instead, focused on the physical, psychological, and social aspects of talent development (Durand-Bush & Salmela, 2002). These models emphasised that athletic career development is a lengthy process involving several stages through which talent is eventually realised.

Bloom (1985) provided the first stage model to highlight the developmental pathway to elite performance. Bloom examined the development of world-class performers from the fields of science, art, and sport. Using interviews to understand talent development in a diverse sample of performers, Bloom delineated three stages of learning that were central to the development of the participants. These stages were: (a) the initiation stage, in which young performers are introduced to organised sports and identified as talented; (b) the development stage, that involved increased dedication, training, and specialisation; and (c) the stage of mastery/perfection, in which performers reached their highest level of proficiency. To progress through each stage, Bloom's findings showed that individuals were required to invest increasing levels of practice to develop the relevant technical, tactical, physical, and psychological skills associated with their field.

Bloom's (1985) model formed the basis of several athletic career development models, including the 'expert athletic performance model' (Durand-Bush & Salmela, 2002) and the 'developmental model of sports participation' (Côté, 1999; Côté et al., 2009). Côté's (1999) 'developmental model of sports participation' has received the most attention within the athletic career development literature (Bruner et al., 2010). Focusing on the development of talented athletes between the period of childhood and late adolescence, Côté identified three distinct stages of athletic development. These stages were termed 'the sampling years',

‘the specialisation years’, and ‘the investment years’. These stages occurred between the age of six years old and early adulthood, and each stage was defined by the progression from deliberate play in multiple activities to deliberate practice in one single activity.

Côté (1999) also postulated that there was likely to be a fourth stage, which he termed the “perfection or performance stage” (p. 412). During this period, elite athletes continued with deliberate practice to maintain and perfect their skills. Durand-Bush and Salmela (2002) reinforced the importance of deliberate practice for the development and maintenance of expert athletic performance. Data from interviews with athletes who competed at Olympics and World Championships provided evidence that personal characteristics, training, and competition influenced athletic development and performance in this stage. This stage explained the period of an athlete’s career where he or she had gained elite status, yet continued to enhance his or her athletic performance. Durand-Bush and Salmela also provided greater insight into the psychological aspects of elite performance. For example, they explained that the maintenance years were fraught with physical setbacks and pressure associated with the expectation to successfully perform. These findings highlighted that athletes who develop psychological skills such as confidence, motivation, and self-regulation were more likely to prolong their elite sport careers.

Both Côté’s (1999) and Durand-Bush and Salmela’s (2002) models shared many common characteristics with Bloom’s (1985) earlier model (e.g., increased specialisation), yet these models were specific to athletic development and highlighted the progression from deliberate play to deliberate practice throughout adolescence. These models have informed the practise of various consultants who specialise in athlete development (e.g., coaches, sport psychologists) by providing knowledge on the contexts, psychological competencies, physical attributes, and support structures that are required to develop elite athletes (Bruner et al., 2010). However, the other life domains in which athletes operate outside sport and the transitions that occur within each of these life domains whilst pursuing an elite athletic career

have not been directly considered in these models. Thus, the second category of athletic career development models highlight individuals' ability to progress through multiple transitions both inside and outside of sport as integral to achieving and maintaining an athletic career in elite sport (Stambulova, 1994; Wylleman et al., 2004).

**Transition models of athletic career development.** The second category of athletic career development models highlight that athletes pass through a number of normative and non-normative transitions to achieve a career in elite sport (e.g., Stambulova, 1994; 2000; Wylleman et al., 2004). A transition is defined as “an event or non-event [*which*] results in a change in assumptions about oneself and the world, and thus requires a corresponding change in one's behaviour and relationships” (Schlossberg, 1981, p. 5). Normative transitions are generally predictable or anticipated, and part of a definite sequence of age-related biological, psychological, and social events or changes (e.g., the transition from junior to senior sport) (Wapner & Craig-Bay, 1992). Whereas, non-normative transitions do not occur in a set pattern but are the result of important events that take place in an individual's life. Such idiosyncratic transitions tend to be unpredictable, unanticipated, and involuntary (e.g., retirement from a career in elite sport due to injury) (Schlossberg, 1981).

Stambulova (1994) introduced the idea that athletes must overcome several normative transitions to attain and maintain a career in elite sport. Following her research with Russian athletes, Stambulova forwarded the analytic description model of sports careers. This model included seven transitions that spanned from adolescence to retirement from an elite athletic career. These transitions were associated with: (1) sports specialisation; (2) special intensive training in a chosen sport; (3) mass popular sports to high-achievement sports; (4) junior sports to adult sports; (5) amateur sports to elite sports; (6) elite athletic careers; and (7) the ending of athletic careers (i.e., retirement). Each of these normative transitions were associated with a number of specific demands and developmental tasks. For example, the

athletes in Stambulova's study were required to remain motivated as their training commitments increased during the transition from junior sports to adult sports.

The 'analytic description model' provided a foundation for understanding the transitions associated with athletic careers. This model, however, was not without limitations. For example, this model mainly focused on transitions associated with the sport domain and failed to fully acknowledge the transitions that athletes face in other areas of their lives; indirectly emphasising the pursuit of performance excellence only (Wylleman et al., 2004). Research conducted at the turn of the millennia supported the notion that athletes who successfully negotiate transitions occurring inside and outside the sporting domain are more likely to experience positive psychological development across their lifespan (see Lavalée, 2000 for more detail). This growing body of research encouraged researchers to explore athletes' development beyond the sport domain (e.g., Hays, 2002; Miller & Kerr, 2002). Thus, an holistic, lifespan view of athletic career development became more prominent in the sport psychology literature (e.g., Henriksen, Stambulova, & Roessler, 2010; Martindale, Collins, & Daubney, 2005; Wylleman & Lavalée, 2004).

Researchers who adopt an holistic, lifespan perspective of athletic career development view athletes as individuals participating in sports alongside other activities in their lives; emphasising the importance of both performance excellence and personal excellence (Stambulova & Wylleman, 2014). Wylleman and Lavalée (2004) were the first researchers to present an athletic career development model based on an holistic, lifespan approach (see Figure 1, p. 25). The 'developmental model of transitions faced by athletes' included an overview of multiple transitions that athletes encounter across four developmental domains. These developmental domains were labelled: (i) athletic; (ii) psychological; (iii) psychosocial; and (iv) academic/vocational.

The athletic domain included transitions associated with the three broad stages of talent development from Côté's (1999) developmental model of sports participation (i.e., sampling, specialisation, and investment) and a 'discontinuation stage' to reflect athletes' retirement from sport. The psychological domain accounted for transitions linked with psychological development throughout childhood, adolescence, and adulthood. Numerous transitions concerning athletes' involvement and relationship with significant others (e.g., parents, coaches, peers) relative to their athletic development were forwarded in the psychosocial domain. The transitions that individuals encounter between formal tiers of education (e.g., primary school, high school) and within their occupations were categorised to the academic/vocational domain. By adopting an holistic, lifespan approach, Wylleman and Lavallee (2004) suggested that athletes can encounter multiple transitions associated with each developmental domain at any given point in their lives.

In line with Wylleman and Lavallee's (2004) developmental model of transitions faced by athletes, researchers have explored some of the specific transitions encountered by athletes within the athletic domain. These include *within-career* transitions (e.g., junior to senior competition) (Finn & McKenna, 2010; Morris, Tod, & Eubank, 2016; Poczwadowski, Diehl, O'Neil, Cote, & Haberl, 2014; Pummell, Harwood, & Lavallee, 2008), cross-cultural transitions (e.g., Debois et al., 2015; Stambulova & Ryba, 2014), and retirement from sport (e.g., Alfermann et al., 2004; Kerr & Dacyshyn, 2000; Lally, 2007). Whilst many of these transitions are considered normative and predictable, athletes can experience these transitions at any stage during their athletic career. For example, athletes who were committed to a career in elite sport have previously experienced involuntary retirement (e.g., Blinde & Stratta, 1992; Butt & Molnar, 2009; Fortunato & Marchant, 1999; Munroe, Albinson, & Hall, 1999).



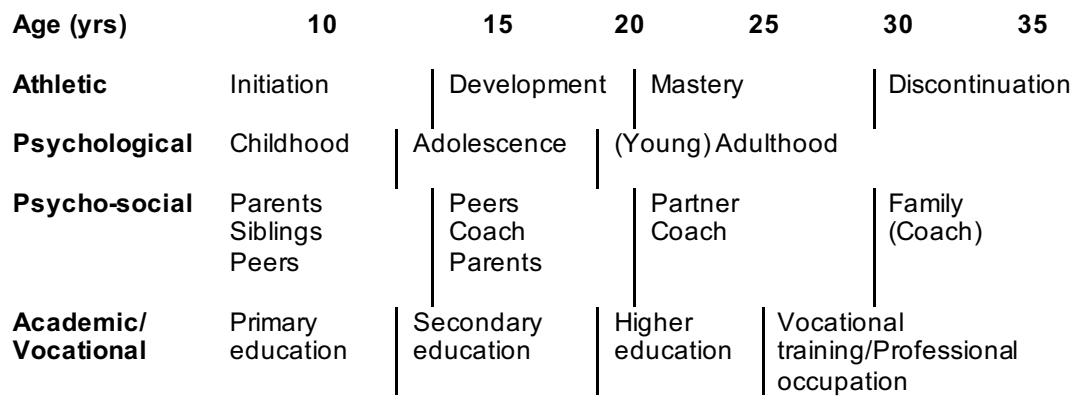


Figure 1. The developmental model of transitions faced by athletes (adapted from Wylleman & Lavallee, 2004).

The experiences of athletes as they transition out of sport has received a substantial amount of attention from researchers (e.g., Fortunato & Marchant, 1999; Grove, Lavallee, & Gordon, 1997; Sinclair & Orlick, 1993; Torregrosa, Boixadós, Valiente, & Cruz, 2004). The transition out of elite sport is considered to be a catalyst for decreased psychological well-being (Brown & Fletcher, 2017; Rice et al., 2016). Those athletes who fully commit to their athletic identity without exploring other identities (e.g., Lally, 2007), who lack the relevant psychological skills to negotiate the transition (e.g., Roberts et al., 2015), and who are without transferable psychological skills (e.g., Lavallee, 2005) are more likely to experience decreased psychological well-being during their retirement from sport. Based on these findings, researchers and practitioners have been encouraged to help athletes engage in identity exploration and develop psychological skills that can be utilised in multiple contexts (e.g., at home, in a secondary career, in sport) (Miller & Kerr, 2002; Lavallee, 2005; Stambulova & Wylleman, 2014).

This review of the athletic career development literature has highlighted two potential areas for helping athletes initiate and sustain a career in elite sport. Firstly, athletes require various psychological skills to successfully progress through multiple stages and transitions across their athletic careers and achieve performance excellence. Secondly, athletes who

develop psychological skills that are transferable across life domains are more likely to advance through numerous transitions outside the athletic domain during and after their career in sport. The acquisition of these psychological skills has been associated with positive psychological development and demonstrating personal excellence (Anderson, 2012; Miller & Kerr, 2002). To promote positive psychological development in athletes, researchers and practitioners might consider developing psychological skills interventions that promote both performance excellence and personal excellence (Miller & Kerr, 2002). Subsequently, the next section of this literature review focuses on psychological interventions associated with promoting performance excellence. This section is followed by a review of the literature concentrating on programmes and interventions designed to facilitate personal excellence in athletes.

### **Performance Excellence**

Sport psychology research and practise is most commonly associated with theories and interventions to help athletes achieve performance excellence (Hanrahan & Andersen, 2013; Williams & Krane, 2015). Performance excellence refers to observable, measurable athletic outcomes and encompasses accomplishments ranging from completing a community five-kilometre run to hitting a winning serve at a major tennis championship. Thus, striving for performance excellence is concerned with relative rather than absolute skill level (Miller & Kerr, 2002; Williams & Krane, 2015). Athletes who continually demonstrate performance excellence in relation to their peers are more likely to successfully progress through within-career transitions in the athletic domain (e.g., the transition from junior to senior competition) and to sustain a career in elite sport (Wylleman & Lavalley, 2004).

There are numerous within-career transitions associated with attaining and maintaining a career in elite sport. Some of the most notable within-career transitions include the transition from junior to senior level (e.g., Stambulova, Franck, & Weibull, 2012), from academy to first team competition (e.g., Finn & McKenna, 2010), from local to regional

competition (e.g., Pummell et al., 2008), and into elite residential sport training camps (e.g., Poczwardowski et al., 2014). Athletes are required to demonstrate performance excellence on a relatively consistent basis to earn the opportunity for each within-career transition (i.e., to gain selection for the next tier of competition) and eventually progress into elite sport (Wylleman & Lavallee, 2004). Given the small percentage of athletes who enjoy a prolonged career in elite sport (Witnauer et al., 2007), it appears particularly difficult for athletes to consistently achieve performance excellence.

Athletes who possess a greater number of psychological skills are more likely to display performance excellence and to negotiate within-career transitions (Bruner, Munroe-Chandler, & Spink, 2008; Giacobbi et al., 2004; Gledhill & Harwood, 2015; Podlog & Eklund, 2009; Pummell et al., 2008). Many of these psychological skills can be developed using various psychological strategies (Hodge, 2004; Vealey, 2007). Examples of psychological strategies that facilitate the development psychological skills include positive self-talk to enhance confidence (e.g., Giacobbi et al., 2004), self-reflection to increase self-awareness (e.g., Jones et al., 2011), and goal setting to enhance motivation and commitment to athletic goals (e.g., Wilson & Brookfield, 2009). An abundance of research has highlighted the value of psychological interventions for helping athletes to develop psychological skills that can be used to achieve performance excellence (Wilson & Brookfield, 2009; Giacobbi et al., 2004; Jones et al., 2011).

**Psychological interventions for performance excellence.** Considerable evidence suggests that performance excellence is achieved more readily by those athletes who possess various psychological skills (Gould et al., 2002; MacNamara, Button, & Collins, 2010; Mahoney & Avenier, 1977; Orlick & Partington, 1998). Psychological skills are considered psychological processes that improve human functioning (Murphy, 2012). The psychological skills that have received the most attention in sport psychology research include concentration/attention, self-regulation, motivation, self-efficacy/self-confidence, teamwork,

and leadership (Hanrahan & Andersen, 2013; Lavallee, Kremer, Moran, & Williams, 2012; Murphy, 2012; Schinke, McGannon, & Smith, 2016). These psychological skills have been categorised into foundation skills, performance skills, and facilitative/team skills as part of psychological skills training models to help practitioners better support athletes as they pursue performance excellence (Hodge, 2004; Vealey, 2007).

Foundation skills are the basic intrapersonal resources required to achieve success in sport. Foundation skills include motivation, self-confidence, and self-awareness, and are integral to long-term athlete development. Performance skills are psychological processes that are critical to achieving performance excellence in sport. The most commonly discussed performance skills include self-regulation and concentration/attention. Athletes require performance skills to achieve and maintain an 'ideal performance state' leading up to and during competition (Hodge, 2004). Facilitative/team skills are social processes that facilitate an effective team/squad environment and promote collective success. Examples of facilitative/team skills include teamwork, leadership, and communication (Hodge, 2004; Vealey, 2007).

Athletes acquire psychological skills by practising psychological strategies (Danish et al., 1993; Hodge, 2004; Vealey, 2007). Psychological strategies are the methods that practitioners use to develop psychological skills. Goal setting, imagery, relaxation/centring, self-talk, and pre-performance routines have received the most research attention (see Williams & Krane, 2015 for more detail) and are classified as cognitive-behavioural techniques (Hanrahan & Andersen, 2013). The primary focus of cognitive-behavioural techniques is to promote positive psychological development and to strengthen positive behaviours towards a desired goal using psychological strategies (Beck, 2011). Cognitive-behavioural techniques have been used to help athletes regulate their arousal and anxiety using relaxation strategies (e.g., Kuan, Morris, Kueh, & Terry, 2018; Maynard, Hemmings, & Warwick-Evans, 1995), enhance their motivation through goal setting (Evans & Hardy,

2002), increase their confidence via imagery (e.g., Cumming & Hall, 2002; Hammond, Gregg, Hrycaiko, Mactavish, & Leslie-Toogood, 2012), and develop their concentration/attention using self-talk (e.g., Dali, 2018, Perkos, Theodorakis, & Chroni, 2002). Various types of cognitive-behavioural interventions have been shown to have a positive effect on targeted psychological skills and subsequent performance behaviours (Brown & Fletcher, 2017; Greenspan & Feltz, 1989; Vealey, 1994).

Brown and Fletcher (2017) recently conducted a systematic review of the most robust psychological interventions for athletes. Data from 35 randomised controlled interventions studies were synthesised and results indicated that psychological interventions had a significant positive effect on performance. These findings provide an evidence base for the effectiveness of various psychological strategies for promoting performance excellence. Brown and Fletcher also highlighted that the effects of these interventions can last for up to a month. Whilst these lasting effects of psychological interventions might be useful for helping athletes achieve short-term performance excellence, athletes should continually engage with psychological skills training to achieve performance excellence on a consistent basis. Athletes who continue to practise psychological strategies are likely to broaden their range of psychological skills over their athletic careers (Crocker, Tamminen, & Gaudreau, 2015). A broad range of well-developed psychological skills will likely enhance athletes' ability to consistently display performance excellence and improve their potential of successfully progressing through within-career transitions (Stambulova & Wylleman, 2014).

Psychological skills training for performance excellence is regarded as the “bread and butter” of sport psychology practise (Hanrahan & Andersen, 2013, p. xiv). Athletes who engage in psychological skills interventions are more likely to achieve performance excellence on a consistent basis and prolong their careers in elite sport (Brown & Fletcher, 2017). However, athletes with well-developed psychological skills that promote performance excellence are not exempt from a multitude of transitions emanating from outside the athletic

domain or involuntary transitions within the athletic domain (e.g., a career-ending injury) (see Park et al., 2013 for a review). Given that athletes' ability to successfully progress through transitions outside the athletic domain has been linked with an increased potential of experiencing psychological well-being (e.g., Baron et al., 2013; Glick et al., 2009; McDuff, 2012), researchers and practitioners might also focus on developing psychological skills interventions that benefit the person as well the athlete (e.g., Andersen et al., 2001; Friesen & Orlick, 2010, 2011; Miller & Kerr, 2002). Consequently, concepts and interventions associated with promoting personal excellence in athletes is discussed in the next section.

### **Personal Excellence**

Athletes who develop psychological skills enhance their ability to consistently display performance excellence and improve their potential of successfully progressing through within-career transitions (Stambulova & Wylleman, 2014). However, researchers have highlighted that elite athletes are at comparable risk of decreased psychological well-being relative to the general population (e.g., Baron et al., 2013; Glick et al., 2009; McDuff, 2012). Furthermore, elite athletes are likely to be at a greater risk of diminished psychological well-being when they are injured, during periods of poor athletic performance, and when they transition out of sport (see Rice et al., 2016 for a recent review). These findings are not surprising given that striving for performance excellence during an athletic career is likely to come at the expense of displaying personal excellence (Andersen et al., 2001; Friesen & Orlick, 2010, 2011; Miller & Kerr, 2002).

Personal excellence has been defined as “the achievement of developmentally appropriate tasks across the length of one’s life and the acquisition of personal qualities that contribute to optimal health and well-being” (Miller & Kerr, 2002, p. 141). Developmentally appropriate tasks are challenges and experiences (e.g., identity exploration) that promote positive psychological development. Positive psychological development is associated with the acquisition of psychological skills (e.g., self-regulation) that enable individuals to display

competence in various contexts (e.g., in sport, at home, in work) and successfully progress through transitions in multiple developmental domains (Gould & Carson, 2008; Stambulova, 1994; Wylleman & Lavallee, 2004). Thus, personal excellence is underpinned by developmental experiences that facilitate an understanding that psychological skills can be used in multiple life domains. Athletes who possess transferable psychological skills are more likely to display competence in multiple domains (i.e., demonstrate personal excellence) and, subsequently, experience psychological well-being across their lifespan.

The transferable psychological skills that enable individuals to display competence across multiple life domains have been labelled as life skills (LS). Various definitions of LS have been forwarded and, whilst these definitions contain some differences, a recurring theme is that LS help people succeed in sport and in life outside sport (Danish, Forneris, Hodge, & Heke, 2004; Gould & Carson, 2008; Jones & Lavallee, 2009; Papacharisis et al., 2005; World Health Organisation, 1999). Life skills refer to a range of *interpersonal* skills and *intrapersonal* skills that can be developed in sport and applied in non-sport settings (Gould & Carson, 2008); many LS are synonymous with the psychological skills that are learned through sport and underpin performance excellence (Danish et al., 1993). Notably, a skill learned in sport is only considered a LS when it has been successfully transferred to a non-sport setting (Danish, Forneris, & Wallace, 2005; Gould & Carson, 2008; Hodge et al., 2012; Pierce et al., 2017).

The potential for athletes to acquire LS that facilitate personal excellence as they pursue performance excellence has been widely debated in the sport psychology literature (e.g., Bruner et al., 2008; Douglas & Carless, 2009; Lally, 2007; Lavallee & Robinson, 2007; Miller & Kerr, 2002). Empirical research (e.g., Lally, 2007; Roberts et al., 2015) and anecdotal literature (e.g., Knowler, 2014; Napier, 2015; Roan, 2017) has highlighted difficulties associated with displaying personal excellence during an elite athletic career. In particular, the ‘win at all costs’ culture typically associated with elite sport emphasises skills

for achieving performance excellence over personal excellence and limits opportunities for LS development (e.g., Roan, 2017; Roberts et al., 2015). For example, coaches typically emphasise the value of additional practice during periods of decreased performance without considering the other developmental opportunities (e.g., education) these athletes sacrifice to commit to the additional practices.

Despite these barriers to developing LS associated with personal excellence, Miller and Kerr (2002) posited that there is potential for elite athletes to achieve both performance excellence and personal excellence during an elite athletic career (also see Hodge, Henry, & Smith, 2014). These researchers argued that, when sport is “delivered in a developmentally appropriate manner”, skills associated with a successful career in elite sport (e.g., psychological skills) can compensate for the potential developmental costs of striving for performance excellence (Miller & Kerr, 2002, p. 141). For example, some athletes develop psychological skills that help them persist during difficult situations in the sport environment. These psychological skills can also be used to remain committed to the athletes’ academic endeavours or to develop a secondary career.

A number of researchers have sought to understand the influence of sport participation on positive psychological development (e.g., Camiré, Trudel, & Forneris, 2012; Douglas & Carless, 2009; Holt, Tink, Mandigo, & Fox, 2008; Jones & Lavalley, 2009; Lally 2007). The influence of sport participation on personal excellence has typically been studied from two perspectives. The first perspective was generated by researchers who explored the experiences of athletes who were either approaching their retirement from sport or had retired from sport (e.g., Debois et al., 2015; Douglas & Carless, 2009; Lally 2007). Conversely, the second perspective was fostered by researchers who were interested in the developmental benefits of participating in sport during adolescence (e.g., Camiré, 2014; Gould & Carson, 2008; Fraser-Thomas, Côté, & Deakin, 2005; Turnnidge et al., 2014). Both retrospective research that has focused on the psychological development of elite athletes during and after their careers in



sport and studies that have explored the developmental benefits of participating in sport are reviewed in the following sections to better understand the potential for developing personal excellence during a career in sport.

**Retirement from an athletic career.** Researchers have shown considerable interest in the retirement experiences of athletes from both team and individual sports, and competitive levels (e.g., university, Olympic) (Debois et al., 2015; Douglas & Carless, 2009; Lally 2007). Athletes' retirement experiences are determined by developmental factors and the availability of coping resources (see Park et al., 2013 for a review). Developmental factors influencing the quality of athletes' transition out of sport include identity development, professional development, voluntariness of transition decision, self-perception, control of life, and sport-life balance (Alfermann et al., 2004; Kerr & Dacyshyn, 2000; Lally, 2007; Stambulova, Stephan, & Jäphag, 2007). Coping resources are underpinned by various psychological skills such as foundation skills (e.g., self-awareness, motivation) and facilitative skills (e.g., seeking social support) that help promote competence across multiple life domains during retirement (Alfermann et al., 2004; Grove et al., 1997; Lally, 2007; Stambulova et al., 2007). Athletes who engage in various developmentally appropriate tasks during their careers in sport are more likely to increase their psychological skills and experience a more successful transition out of sport (Park et al., 2013).

Four out of five athletes typically experience a successful transition out of sport (e.g., Blinde & Greendorfer, 1985; Johns, Lindner, & Wolko, 1990; Kleiber & Brock, 1992; Wang, 2008). Elite athletes of varying ages and experience have reported a decreased reliance on their athletic identity, have felt a sense of accomplishment from their athletic careers, have engaged in pre-retirement planning, and have utilised social support to facilitate their successful transitions out of sport (e.g., Alfermann & Gross, 1997; Werthner & Orlick, 1986). These findings support the position that athletes can develop psychological skills associated with personal excellence during their sporting careers (e.g., self-regulation skills,

communication skills) (e.g., Goddard, 2004; Selden, 1997; Stankovich, 1998; Torregrosa, Mateos, Sanchez, & Cruz, 2007). Thus, it is reasonable to suggest that athletes can engage in developmentally appropriate tasks and enhance their psychological skills to facilitate positive psychological development throughout their athletic careers.

Athletes who are able to utilise their psychological skills to demonstrate competence in non-sport domains are more likely develop their identities outside sport and experience successful transitions out of sport (Miller & Kerr, 2002; Stambulova & Wylleman, 2014). However, the increasingly institutionalised nature of professionalised sports restricts some athletes' opportunities to understand the utility of their psychological skills to other contexts and develop their identities outside the sport domain (e.g., Roberts et al., 2015; Roan, 2017; Ryan, 2017). Athletes who have limited understanding of the utility of their psychological skills are typically reluctant to engage in developmental tasks that promote LS development and enable them to display personal excellence. Those athletes who fail to engage in this process typically do not engage in identity exploration; a central process in identity development (Ryan, 2013). The issue of identity development has become one of the most salient factors associated with the quality of athletes' transitions in non-sport domains and during retirement from sport (Park et al., 2013; Stambulova & Wylleman, 2014).

***Athletic identity.*** Identity development is a largely unconscious and constantly evolving sense of who one is, both as an individual and as a member of society (Erikson, 1968). It is possible for an individual's identity to comprise of several different roles that vary in dominance at any point in time (e.g., employee, spouse, parent, friend). Individuals who have had the opportunity to explore multiple roles are likely to become more aware of their personal competencies (Marcia, 1966); a process that is associated with displaying personal excellence (Miller & Kerr, 2002). In contrast, those individuals who do not engage in identity exploration are likely to have less developed identity structures, to become confused about

their self-concept, and to experience decreased psychological well-being during their lifespan (Erikson, 1968; Marcia, 1966).

Athletes are most vulnerable to being confused about their self-concept during their retirement from their athletic career (Brewer et al., 1993; Kerr & Dacyshyn, 2000; Lally, 2007; Murphy, Petitpas, & Brewer, 1996; Pearson & Petitpas, 1990). To better understand individuals' commitment to the athlete role, Brewer et al. (1993) used the term '*athletic identity*'. Athletic identity was defined as "the degree to which an individual identifies with the athlete role" and understood as an aspect of multidimensional self-concept (Brewer et al., 1993, p. 237). Incorporating aspects of developmental psychology (see Erikson, 1968 for more detail) and social psychology (see Stets & Burke, 2000 for more detail), athletic identity was viewed as a cognitive structure that "guides and organises processing of self-related information" as well as a social role, which implies that athletes' identities are predominantly derived from external feedback (e.g., parents, coaches, teammates, spectators) (Brewer et al., 1993, p. 238).

Researchers have attempted to understand the influence of athletic identity on the psychological development of athletes (Brewer et al., 1993; Cosh et al., 2015; Kerr & Dacyshyn, 2000; Sparkes, 1998), with some researchers have suggested that a high level of commitment to the athlete role is favourable to sporting performance (e.g., Lally, 2007; Murphy et al., 1996; Pearson & Petitpas, 1990; Werthner & Orlick, 1986). A strong athletic identity has been associated with a multitude of protective factors, such as self-affirmation (Harrison et al., 2009), increased physical activity (Anderson, 2004; Fox, Barr-Anderson, Neumark-Sztainer, & Wall, 2010), and enhanced body image and self-confidence (Zimmerman, 2011). These protective factors likely help athletes achieve performance excellence and, subsequently, initiate and sustain an athletic career (Bloom, 1985; Côté, 1999).

Nevertheless, a high level of commitment to the athlete role might compromise individuals' ability to display personal excellence (Miller & Kerr, 2002). Athletes who exclusively commit to their athletic identity tend to experience increased adjustment difficulties during transitions within their athletic career (e.g., during injury) and after their athletic career (e.g., remaining motivated in a secondary career) (Brewer et al., 1993; Kornspan & Etzel, 2001). When an individual relies heavily on one role, identity foreclosure is likely to occur (Marcia, 1966). Athletic identity foreclosure is associated with limited role exploration and is a result of reduced opportunities to engage in developmentally appropriate tasks outside sport (Brewer et al., 2000; Lally, 2007; Lavalley & Robinson, 2007). Fewer developmental opportunities outside sport have also been related with a narrow and limited number of transferable psychological skills (i.e., skills that help with performance excellence, rather than skills that promote personal excellence), and is likely to restrict positive psychological development (Miller & Kerr, 2002).

Athletic identity foreclosure can limit positive psychological development and subsequently reduce the likelihood of athletes successfully progressing through transitions in multiple developmental domains before, during, and after their athletic careers (Gustafsson, Hassmén, Kenttä, & Johansson, 2008; Park, Tod, & Lavalley, 2012; Stambulova, Engström, Franck, Linnér, & Lindahl, 2014). Moreover, athletes who are unable to successfully progress through transitions in the athletic domain are more likely to experience burnout (e.g., Gustafsson et al., 2008), issues associated with dual career development (e.g., Stambulova et al., 2014), and decreased psychological well-being in their lives after sport (e.g., Park et al., 2013). Furthermore, athletes with foreclosed athletic identities only tend to acknowledge that their psychological development has been limited when they transition out of sport (e.g., Kadlcik & Flemr, 2008; Kerr & Dacyshyn, 2000; Lavalley & Robinson, 2007).

It is possible for athletes to decrease their reliance on their athletic identity and experience positive psychological development as they approach their retirement from sport (e.g., Alfermann et al., 2004; Lally, 2007; Stambulova et al., 2007; Wang, 2008). For example, Lally (2007) conducted a longitudinal study with six student-athletes (three males and three females;  $M^{age} = 23.5\text{yrs}$ ,  $SD^{age} = 0.54\text{yrs}$ ) to examine the relationship between athletic identity and athletic retirement. The findings indicated that five of the six participants smoothly navigated through their retirement transition by proactively diminishing their athletic identities as retirement approached. Moreover, athletes who engaged in tertiary qualifications or full-time employment immediately upon retirement have been shown as less likely to experience a major identity crisis (e.g., Kuettel, Boyle, & Schmid, 2017; Lally & Kerr, 2005; Lavalley, Gordon, & Grove, 1996).

Studies have generally supported the idea that a high athletic identity can be both Hercules' muscles and Achilles' heel (Brewer et al., 1993); in other words, high athletic identity can promote performance excellence, but limit personal excellence. High athletic identity can be a positive source of meaning and self-esteem for athletes, yet can also be problematic for athletes' psychological well-being when sport is not going well or during their retirement from sport (Kerr & Dacyshyn, 2000; Lavalley & Robinson, 2007). Consequently, while it is important for athletes to commit to their athletic identity whilst they are pursuing performance excellence, it is imperative that athletes explore multiple non-sport related roles to also achieve personal excellence (e.g., Cabrita et al., 2014; Danish & Nellen, 1997). Athletes who deploy their psychological skills in other developmental domains are more likely to engage in identity exploration and avoid athletic identity foreclosure (Danish et al., 1993; Miller & Kerr, 2002). Various researchers and practitioners have attempted to enhance personal excellence in elite athletes by implementing programmes and interventions that focus on LS acquisition and promote identity exploration (Stambulova & Wylleman,

2014). The following section discusses the literature that has developed, delivered, and evaluated programmes and interventions to promote personal excellence.

**Programmes and interventions for personal excellence.** Athletes who transfer their psychological skills from sport to non-sport domains and who engage in identity exploration are more likely experience psychological well-being across their lifespan (Danish et al., 1993; Lavalley & Robinson, 2007; Miller & Kerr, 2002). Researchers and practitioners have used this knowledge to develop a number of programmes and interventions to help athletes achieve personal excellence during their sporting careers. The components of these programmes and interventions have varied, but a common factor has been a focus on positive psychological development to help athletes transition out of sport (e.g., Lavalley, 2000; Stambulova, 2010; Wylleman & Lavalley, 2004). Stambulova (2010) used the term ‘professional culture of career assistance’ to summarise the conceptual frameworks and intervention methodologies used to promote positive psychological development in individuals during and after their athletic careers.

Experts from counselling centres and sport science departments have developed a number of programmes and interventions to enhance personal excellence in high-school, university, and elite athletes (e.g., Carr & Bauman, 1993; Hellison, 2000; Hodge, Heke, & McCarroll, 2000; Jones et al., 2011; Lavalley, 2005; Stambulova, 2010). However, the majority of elite athletes are enrolled in programmes developed by sporting organisations. These programmes have been designed to help athletes manage their personal lives and professional lives during their athletic careers and to prepare athletes for their secondary career after sport (Albion & Fogarty, 2005; Lavalley, 2000; Stambulova & Ryba, 2013). Given that these programmes have primarily focused on preparing athletes for their secondary career after sport, these programmes have been labelled career assistance programmes (CAPs) (Lavalley, 2000; Stambulova & Wylleman, 2014).

***Career assistance programmes.*** Many sporting organisations have invested in CAPs to promote positive psychological development in athletes and to prepare these athletes for a secondary career upon their retirement from sport (Albion & Fogarty, 2005). Both national sporting organisations (e.g., British Olympics Association) and professional sporting organisations (e.g., New Zealand Rugby Union) have implemented and adapted CAPs that offered a wide range of services to athletes. Reints (2011) identified 27 CAPs located in Europe, North America, Oceania, Asia, and Africa. The most commonly cited CAPs include the Career Assistance Programme for Athletes, the Challenging Athletic Minds for Personal Success, and variations of the Athlete Career and Education programme (Anderson & Morris, 2000; Reints, 2011; Ryan & Thorpe, 2013). Common services available in these CAPs include: (a) education (e.g., distance learning); (b) career management (e.g., job application skills); (c) life skills training (e.g., goal setting, communication skills); (d) financial management (e.g., investment advice); and (e) health education (e.g., nutrition advice, medical support). Providers of these services prioritised a preventive approach that was focused on helping athletes to prepare for forthcoming transitions and, especially, their transition out of sport (Reints, 2011).

Enhancement programmes prepare athletes for events by helping athletes anticipate transitions and teaching LS that enhance athletes' abilities to successfully progress through transitions and display competence in multiple life domains (Danish et al., 1993). Given that elite athletes have the potential to experience athletic identity foreclosure, these programmes have also tended to include a variety of tasks that encourage athletes to engage in identity exploration (e.g., Danish, 2002a; Petitpas et al., 1997). Many CAPs have used workshops and vocational experiences that integrate both LS acquisition and identity exploration tasks; two processes that have been shown to help athletes achieve success in their personal lives and professional lives (see Petitpas, Van Raalte, & Brewer, 2013 for more detail).

As with any support service that requires substantial funding, the uptake and effectiveness of CAPs requires evaluation. To date, only a few reports discussing the effectiveness of CAPs have been made available to the public (see Australian Sports Commission, 2010; United Kingdom Sport, 2001 for exceptions). United Kingdom Sport (2001) provided an example of a report following the evaluation of their career assistance programme. This report showed that 90% of athletes were aware of their career assistance programme, but only 30% had utilised the available services. However, of the 30% of athletes who had utilised the support services, 100% spoke positively of the benefits. This report is typical of evaluations concerning the effectiveness of CAPs conducted by sporting organisations and, whilst these reports have tended to highlight the benefits of CAPs, they have failed to include detail on the conceptual frameworks underpinning CAPs and they have shown that CAPs have been evaluated using only descriptive measures. These issues make it difficult for researchers to understand and explain the effect of CAPs on behavioural change and personal excellence in athletes.

Athletes involved in empirical investigations have often portrayed a negative perception of the CAPs provided by sporting organisations (e.g., Gilmore, 2008; Roberts et al., 2015; Ryan, 2013). Researchers based in the United Kingdom and New Zealand (NZ) have questioned the effectiveness of certain CAPs for helping athletes to develop skills associated with personal excellence and to experience successful transitions outside sport. For example, Roberts and her colleagues (2015) found, when examining the retirement experiences of nine British, male, retired professional cricketers ( $M^{age} = 34\text{yrs}$ ,  $SD^{age} = 4.65\text{yrs}$ ), that the cricket career assistance programme was “ineffective” and “undirected”, with “little incentive or promotion of the services on offer by the clubs” (p. 6). Ryan (2013) also identified a reluctance from NZ athletes to use the career assistance programme provided as part of the Carded Athlete programme. Ryan found that elite NZ athletes prioritised



resources that led to immediate sports performance improvements rather than utilising long-term, future-oriented resources (e.g., personal development managers).

In summary, sporting organisations have developed a number of CAPs that offer a wide range of support services to elite athletes. However, the evidence is equivocal with respect to the effectiveness of CAPs for helping athletes develop skills associated with personal excellence (e.g., Australian Sports Commission, 2010; Gilmore, 2012; Roberts et al., 2015; Ryan, 2013; United Kingdom Sport, 2001). There are three main issues that currently exist within reports published on the components and effectiveness of CAPs. First, there is limited evidence that CAPs have been developed using conceptual frameworks (i.e., they are largely atheoretical). Second, CAPs have been evaluated using only descriptive measures and fail to explain the effectiveness of these programmes for promoting positive psychological development (Gordon, Lavalley, & Grove, 2005). Third, many athletes favour services that promote performance excellence (e.g., strength and conditioning, nutrition advice) and, subsequently, do not engage with these CAPs (e.g., Albion & Fogarty, 2005; Roberts et al., 2015; Ryan & Thorpe, 2013). Given the equivocal support and limitations of existing CAPs, researchers might consider focusing on psychological interventions designed to promote personal excellence that are: (a) underpinned by conceptual frameworks that promote skills for *both* performance and personal excellence; and (b) evaluated using scientific research designs (i.e., explanatory measures).

***Psychological interventions for personal excellence.*** Helping athletes develop the necessary psychological competencies to successfully negotiate multiple transitions both inside and outside sport has become a central part of the sport psychologist's role (Stambulova & Wylleman, 2014). Several psychological interventions have been developed to help promote positive psychological development (e.g., identity exploration, life skills acquisition) in elite athletes and to facilitate successful transitions across their lifespan (e.g., Lavalley, 2005; Stambulova, 2010). To assess underlying psychological development that

might have occurred as an outcome of these psychological interventions, it is necessary to understand the psychological mechanisms that effect such development (Vansteenkiste & Sheldon, 2006). Some psychological interventions have been developed using conceptual models to explain the targeted psychological mechanisms that effect the psychological development of individuals and have been evaluated in a scientific manner (e.g., Lavallee, 2005; Stambulova, 2010).

The 5-step career planning strategy (5-SCPS) for athletes is one example of an intervention underpinned by a conceptual framework (Stambulova, 2010). The 5-SCPS is grounded in the model of human adaptation, which posits four major factors that influence an individual's ability to successfully progress through any transition (Charner & Schlossberg, 1986; Schlossberg, 1981). These factors are: (a) the situation (e.g., feelings of personal control over the transition, previous experience with similar transitions); (b) the self (e.g., identity, psychological characteristics); (c) support (i.e., the availability of social support); and (d) strategies (e.g., psychological skills/life skills). These factors help to explain *inter*-individual and *intra*-individual differences in athletes' experiences during transitions. Each factor may act as a resource or a deficit during an individual's adaptation to each transition, with the ratio of resources and deficits determining ease of adaptation (Schlossberg, 1981).

The 5-SCPS for athletes is delivered using a counselling intervention methodology that attempts to foster resources associated with the four factors that promote a successful transition (i.e., situation, self, support, and strategies) (Schlossberg, 1981). The practitioner actively supports the athlete through a five-step counselling process. The first four steps in this strategy involve creating a timeline (Step One) and mapping out the client's past experiences (Step Two), current situation (Step Three), and perceived future (Step Four). Step Five includes integrating their past, present, and projected future into a career and life strategy. Using the 5-SCPS, practitioners help athletes to develop various *inter*personal resources (e.g., social support) and *intra*personal resources (e.g., self-awareness, psychological

skills/life skills), and acknowledge barriers as various internal and external factors (e.g., a lack of life skills) that interfere with successful transitions.

The 5-SCPS for athletes is facilitated by humanistic counselling approach that enables a dialogue between the practitioner and the athlete to: (a) increase the athlete's awareness of his/her past experiences, present situation, and future perspectives in sport and life; and (b) develop the athletes' resources to help them successfully progress through transitions in sport and in non-athletic domains. The 5-SCPS is an example of a counselling-based, enhancement intervention that aims to help athletes increase their self-awareness, set realistic career goals that bridge their past, present, and future, and to prepare for transitions inside and outside sport. The main aim of practitioners using the 5-SCPS is to facilitate identity development and to develop transferable resources (i.e., life skills) in athletes to affect behavioural change and to promote personal excellence (Stambulova, 2010).

More recently, Stambulova and Wylleman (2014) highlighted four additional enhancement interventions that might help athletes to successfully progress through various transitions and achieve personal excellence. These interventions included lifestyle management interventions, identity development interventions, cultural interventions, and life development interventions (LDIs). A number of transition interventions can be embedded within LDIs. For example, athletes who transfer the skills learned in sport to other life domains (the main aim of LDIs) engage in identity exploration (an integral part of identity development interventions). These two processes have been shown to promote positive psychological development and help athletes display personal excellence (Miller & Kerr, 2002), to facilitate successful transitions in athletic and non-athletic life domains (Wylleman & Lavallee, 2004), and to promote psychological well-being (Danish et al., 1993).

Life development interventions can also be used to promote skills associated with performance excellence and personal excellence. Given the versatility of LDIs, it is perhaps surprising that few researchers have developed, delivered, or evaluated LDIs for elite athletes. Lavallee (2005), who conducted one of the few life development intervention evaluation studies with elite athletes, evaluated the effectiveness of a life development intervention for supporting professional soccer players following their retirement from sport ( $M^{age} = 29.04$  yrs;  $SD^{age} = 3.92$  yrs). Using an intervention ( $n = 32$ ) and a control group ( $n = 39$ ), Lavallee collected pre-intervention and post-intervention data on the participants' life skills (LS) needs and coping resources. The findings revealed significant group differences on career transition adjustment in favour of the group who participated in the life development intervention. Specifically, the post-intervention results showed that the intervention group scored significantly higher on coping resources associated with the situation, self, support, and strategies. The use of explanatory statistical analyses provided a more detailed understanding of the effectiveness of the life development intervention for helping retired soccer players, in comparison to the measures typically used to evaluate CAPs.

In comparison to the atheoretical and descriptive approaches employed by sporting organisations who have evaluated the effectiveness of CAPs, Stambulova (2010) and Lavallee (2005) provided two examples of psychological interventions that were: (i) underpinned by a conceptual framework; and/or ii) evaluated using a scientific research design. In addition, Stambulova and Wylleman (2014) highlighted that LDIs can achieve multiple aims associated with promoting performance excellence and personal excellence (e.g., life skills acquisition, identity exploration). Athletes who participate in LDIs are more likely to employ psychological skills that are developed through a career in sport to non-sport contexts (e.g., psychological skills). These athletes are more likely to understand the benefit of psychological skills for performance excellence as well as personal excellence, and are subsequently more likely to engage with programmes (Ryan & Thorpe, 2013). Thus, the next

section discusses concepts relating to LS acquisition through sport before critiquing the utility of LDIs for developing a programme that promotes both performance excellence and personal excellence in elite athletes.

### **Life Skills Acquisition Through Sport**

Elite athletes have been shown to possess positive psychological attributes, such as mental toughness, resilience, confidence, and motivation (Holland, Woodcock, Cumming, & Duda, 2010; MacNamara et al., 2010). Athletes who achieve a career in elite sport tend to demonstrate behaviours associated with these psychological attributes at various stages across their careers (Bull, Shambrook, James, & Brooks, 1996; Jones, 2002). Therefore, it is perhaps not surprising that some commentators have assumed that these psychological attributes are developed through participating in sport and inevitably equip athletes to be successful in other areas of their lives (Trottier & Robitaille, 2014). Much of the research concerning the developmental benefits of sports participation has been conducted in the field of positive youth development (Camiré, 2014; Gould & Carson, 2008; Fraser-Thomas et al., 2005; Turnnidge et al., 2014). The positive youth development literature concerning the developmental benefits of sport participation has largely focused on two main areas: (i) the types of LS that can be developed from participating in sport; and (ii) strategies that promote LS acquisition.

Numerous LS have been associated with sport participation; with the most commonly reported LS being *interpersonal* skills such as teamwork, leadership, and communication (e.g., Holt, Tammien, Tink, & Black, 2009; Holt et al., 2008). A number of *intrapersonal* skills such as self-efficacy, motivation, self-regulation, and problem-solving have also been highlighted (Camiré et al., 2012; Goudas & Giannoudis, 2010; Hardcastle et al., 2015; Marsh & Kleitman, 2003). Many of these LS are psychological skills that athletes develop either through experience or with help from their coaches (Camiré et al., 2012; Danish et al., 1993).

These findings provide preliminary evidence that LS associated with performance excellence and personal excellence might be developed through sports participation.

Multiple skills can be developed by participating in sport and many of these skills have been considered to be LS (Hardcastle et al., 2015; Holt et al., 2009; Holt et al., 2008; Jones & Lavalley, 2009). Nevertheless, there is a lack of consensus regarding how skills learned in the sport domain become LS (i.e., transferred to other life domains) (Turnnidge et al., 2014). Researchers have long acknowledged that LS are ‘taught and not caught’ (Hodge, 1989) and, more recently, Coakley (2011) reinforced this position when he stated that “the act of sport participation among young people leads to no regularly identifiable developmental outcomes” (p. 309). Thus, LS acquisition does not occur from simply participating in sport and is reliant on a combination of internal and external factors (e.g., individual agency, the type of sport, actions of peers, coaching philosophy). To provide a better understanding of how athletes develop LS through participating in sport, Turnnidge and colleagues (2014) identified that LS can be developed through either implicit or explicit approaches.

Individuals can implicitly develop LS through their involvement in recreational or competitive sports that have a specific emphasis on skills that enhance sporting performance. Through their involvement, athletes can acquire sport-specific skills whilst comprehending the application of these skills to other areas of life and, subsequently, can deploy these skills in other life domains (Turnnidge et al., 2014). Researchers advocating implicit LS acquisition have continued to acknowledge that learning LS is not an automatic part of being involved in sport and have indicated that certain conditions within the sporting domain are more likely to facilitate implicit LS acquisition (Hodge et al., 2012; Jones & Lavalley, 2009; Pierce et al., 2017). For example, athletes are required to be active agents in their own psychological growth; a process that is aided by coaches with a philosophy that focuses on holistic athlete development (Camiré et al., 2012; Gould, Collins, Lauer, & Chung, 2007; Hodge et al., 2012; Holt et al., 2009).

Individuals can also explicitly develop LS when LS are directly taught by programme leaders or coaches. This approach is inherent in intentionally designed LS programmes that provide guidance on applying the skills learned in sport to other life domains. The majority of these programmes have typically been taught in non-competitive settings before, during, or after physical activity, physical education, or sports practices (e.g., Bean et al., 2014; Danish, 2002a; Weiss et al., 2013). Explicit LS acquisition has been widely accepted and supported in the positive youth development literature (e.g., Bean, Forneris, & Fortier, 2015; Bean et al., 2014; Camiré et al., 2012; Weiss et al., 2013). For instance, coaches perceive they effectively teach LS when they use specific pedagogical strategies (e.g., goal setting, reflective practice) to emphasise how the skills learned in sport can transfer to other life domains (e.g., Camiré, Forneris, Trudel, & Bernard, 2011; Holt, Sehn, Spence, Newton, & Ball, 2012).

Two options are available for researchers and practitioners interested in developing LS in athletes. These options are: (a) developing LS implicitly by working with coaches to ensure their underlying philosophies encourage holistic development; or (b) developing and delivering LS programmes that explicitly develop LS. Given the widespread acceptance of explicit LS acquisition (Bean & Forneris, 2016; Hodge, Forneris, Danish, & Miles, 2016; Pierce, Kendellen, Camiré, & Gould, 2016), researchers might consider focusing on studies that have evaluated the effectiveness of LS programmes to glean a better understanding of promoting performance excellence and personal excellence in elite athletes.

### **Life skills programmes for performance excellence and personal excellence.**

Researchers have developed, delivered, and evaluated an abundance of LS programmes that were designed to help athletes demonstrate competence in multiple life domains (e.g., Bean et al., 2014; Goudas & Giannoudis, 2008; Holt et al., 2013; O’Hearn & Gatz, 1999, 2002; Papacharisis et al., 2005; Petitpas, Van Raalte, Cornelius, & Presbrey, 2004). Specific to athletic populations, Danish et al. (1993) chose to focus on the term LS because they wanted to concentrate on the teaching of skills. The process then becomes one of learning new LS

and, as such, is consistent with the way athletes learn many of the skills required for performance excellence (Danish & D'Augelli, 1983; Danish, D'Augelli, & Ginsberg, 1984; Danish et al., 1993).

Many of these LS programmes have been considered life development interventions and were developed using the Life Development Intervention (LDI) conceptual framework and LDI methodology. The LDI conceptual framework, based on an holistic, lifespan approach, provides an understanding for the process of positive psychological development and behavioural change. Life development intervention participants engage in self-directed and goal-directed behavioural change, which requires an understanding of what needs to be done in the present to reach one's best possible future (Danish & D'Augelli, 1983; Danish et al., 1984; Danish et al., 1993). The LDI methodology is based on a psychoeducation approach that incorporates cognitive-behavioural techniques (Danish & D'Augelli, 1983; Danish et al., 1993). This approach is a skills-based teaching format to promote positive psychological development and behavioural change. The specific goal of a LDI is to increase the likelihood of success by enhancing personal competencies through the teaching of LS (Danish & Forneris, 2008).

Life skills programmes, underpinned by the LDI conceptual framework and LDI methodology, have been developed for a variety of physical activity, physical education, and sports settings (e.g., Goudas et al., 2006; Goudas & Giannoudis, 2008). Danish's (2002a) Sports United to Promote Education and Recreation (SUPER) programme is the most commonly cited LS programme and has been evaluated across multiple contexts (e.g., Brunelle, Danish, & Forneris, 2007; Forneris, Danish, & Scott, 2007; Goudas et al., 2006; Goudas & Giannoudis, 2008; Hodge, Cresswell, Sherburn, & Dugdale, 1999a, 1999b; Kolovelonis et al., 2006; O'Hearn & Gatz, 1999, 2000; Papacharisis et al., 2005). Based on the Going for Goal (GOAL) programme (Danish, 2002b), the SUPER programme uses goal-setting to teach other psychological strategies (e.g., self-talk) to enhance athletes'



psychological skills (e.g., self-regulation, motivation, confidence). Athletes who use psychological strategies and develop psychological skills are more likely to display performance excellence and to demonstrate competence across multiple life domains (i.e., personal excellence) (see Table 1, p. 50 for more detail).

Several researchers have adapted the GOAL and the SUPER programmes for use in physical education, as well as sports settings, and evaluated the effectiveness of these programmes with adolescent sporting populations (e.g., Brunelle et al, 2007; Forneris et al., 2007; Goudas et al., 2006; Papacharisis et al., 2005). For example, Papacharisis and associates (2005) condensed the SUPER programme to an 8-week period consisting of 15-minute sessions. Participants aged 10 to 12 years old from volleyball and soccer teams underwent a sport skills test that acted as a stimulus for goal setting. In relation to goal setting, the programme focused on problem-solving and positive thinking. The programme was evaluated using an experimental-control design with both groups completing a LS knowledge test (adapted from Hogan, 2000) and a self-beliefs scale that assessed the participants' ability to set goals, solve problems, and think positively (adapted from Roedel, Schraw, & Plake, 1994). Those individuals who participated in the programme demonstrated greater knowledge about LS and had higher beliefs for goal setting, problem-solving, and positive thinking compared to those in the control group.

O'Hearn and Gatz (1999, 2000) conducted perhaps the most rigorous assessment of a sport-based LS programme when they evaluated a 10-week variation of Danish's (2002b) GOAL programme with 479 middle-school students (aged 11-14 years old). Using an experimental-control design and a 10-week follow-up assessment, participants were assessed on their knowledge about goal setting skills, internal locus of control, problem-solving skills, and goal attainment. Results demonstrated increased knowledge about these skills and improved problem-solving skills. Moreover, the results from a 10-week follow-up measure supported the transfer of the skills taught during the programme to other life domains.

Table 1

*Summary of SUPER programme (adapted from Danish, 2002a).*

Workshop No.	Workshop Title
1	Developing a Team
2	Dare to Dream
3	Setting Goals (Part 1)
4	Setting Goals (Part 2)
5	Setting Goals (Part 3)
6	Making Your Goal Reachable
7	Making a Goal Ladder
8	Identifying and Overcoming Roadblocks to Reaching Goals
9	Seeking Help from Others
10	Using Positive Self-Talk
11	Learning to Relax
12	Managing Emotions
13	Developing a Healthy Lifestyle
14	Appreciating Differences
15	Having Confidence and Courage
16	Learning to Focus on Your Personal Performance
17	Identifying and Building on Your Strengths
18	Goal Setting for Life

Findings from assessments of LS programme effectiveness indicate that LS programmes can help athletes develop their knowledge and beliefs about LS. (e.g., Goudas et al., 2006; Kolovelonis et al., 2006; O’Hearn & Gatz, 2002; Papacharisis et al., 2005). Life skills programmes developed using aspects of the LDI conceptual framework and LDI methodology, and evaluated using scientific methodologies would promote a more detailed understanding of the effect of LS programmes on behavioural change. Therefore, researchers and practitioners interested in promoting performance excellence and personal excellence in athletes might consider using aspects of LDI conceptual framework and LDI methodology to

develop and deliver programmes for promoting performance excellence and personal excellence, and evaluating these programmes using scientific methodologies.

Life skills programmes developed and delivered using aspects of the LDI conceptual framework and LDI methodology, and evaluated using scientific research designs would likely provide a useful contribution to the extant athletic career development literature. However, there are limitations associated with existing LS programme research that first need to be addressed. These limitations have been linked with aspects of programme development, programme delivery, and programme assessment. Regarding LS programme development, the majority of LS programmes have been designed for adolescent athletes and at-risk youth (Hodge et al., 2016) and, whilst adolescence is considered the most favourable period to affect positive psychological development (Erikson, 1966), the lack of research conducted with other sporting populations implies that positive psychological development is confined to adolescent athletes. It is evident, however, that LS can be developed throughout individuals' lifespan and elite adult athletes would likely benefit from LS programmes that promote performance excellence as well as personal excellence (Danish et al., 1993; Stambulova & Wylleman, 2014; Wylleman & Lavalley, 2004). It is perhaps surprising that only a few researchers have developed, delivered, or assessed LS programmes to enhance performance excellence and personal excellence in older, aspiring elite, or elite athletes (e.g., Hardcastle et al., 2015; Jones et al., 2011; Lavalley, 2005).

Jones and his colleagues (2011) conducted one of the few studies that evaluated the effectiveness of a LS programme with aspiring elite athletes in early adulthood. These researchers developed the Enhancement of Leadership Intercommunication Teamwork and Excellence (ELITE) intervention to increase five British university athletes (aged 18 to 20 years old) use of communication and organisation skills. The decision to target communication and organisation skills was based on findings from their previous study that identified the unique LS needs of British athletes (Jones & Lavalley, 2009). By using the

findings from their previous study, Jones et al. (2011) developed the ELITE intervention to meet the specific needs of their target sample. A single-case, multiple baseline research design was used to evaluate the effectiveness of the ELITE intervention. Analysis of self-reported LS experiences using Standard Mean Difference effect sizes revealed an increase in LS experiences for each participant during the intervention, demonstrating that the ELITE intervention had a positive effect. The findings from Jones and colleagues (2011) study highlighted the value of: (i) conducting LS research with adult athletic populations; (ii) conducting a needs-analysis to explore the LS needs of the target athletic population; and (iii) employing a single-case design as an alternative experimental design when working in real world settings with low-inference populations (e.g., small groups of athletes).

The extant LS programme literature is also limited by a lack of reports concerning the development and delivery of LS programmes. Life skills programme researchers have tended to focus on outcome measures only and failed to include detailed information on programme development and delivery prior to conducting outcome assessments. Programme evaluation researchers have advocated multiple types of evaluation to assess the delivery of programmes, the processes associated with specific components of programmes, and the overall effectiveness of programmes (Chen, 1996, 2014; Petitpas et al., 2005). To address some of the limitations associated with existing LS programme evaluation literature, the following section provides insight into literature associated with programme evaluation procedures for applied research.

***Programme evaluation procedures.*** The term evaluation is used in many different contexts and includes judgements that range from formal evaluation research to informal subjective assessments in everyday life (Chen, 1996, 2014; Clarke, 1999). Evaluation research is a disciplined form of inquiry that applies scientific principles to the collection and analysis of information about the processes and outcomes associated with the development and delivery of programmes and interventions. The primary purpose of evaluation research is

not to discover new knowledge, but to study the effectiveness with which existing knowledge is used to inform and guide practical action. Evaluation research, therefore, is applied social science concerned with understanding ‘how’ and ‘why’ a programme or intervention works, rather than solely focusing on outcomes (Chen, 1996, 2014). The term programme(s) is used to represent both programmes and interventions for the remainder of this chapter (Abramson & Abramson, 2011)

Researchers have evaluated multiple facets of programme development, programme delivery, and programme outcomes, and have forwarded various types of programme evaluations that spanned from needs-analysis (Chambers et al., 1992; Rossi & Freeman, 1993) to programme monitoring and impact analysis (Patton, 1997). Chen’s (1996) typology of programme evaluation has received the most attention within the evaluation literature (Clarke, 1999). Chen (1996) focused on two broad elements of programme evaluation: programme stages and evaluation functions. Programme stages were categorised as process and outcome, while evaluation functions were divided into improvement and assessment; creating four basic types of programme evaluation. These four basic types of evaluation were labelled: (1) process-improvement; (2) process-assessment; (3) outcome-improvement; and (4) outcome-assessment (see Figure 2, p. 54).

Process-improvement evaluations provide information on the instrumental or conceptual processes involved in programme delivery. Chen (1996) emphasised process-improvement evaluations for generating conceptual knowledge to help with decisions concerning whether programmes should be further developed, continued, and/or established in alternative locations. Process-assessment evaluations are conducted to judge the implementation of programmes. This type of evaluation is viewed as a quality-checking procedure for the delivery of programmes and can provide information regarding programme fidelity (discussed in more detail on p. 60). Outcome-improvement evaluations are useful when programmes contain several components that might influence the overall outcome of a

programme (e.g., a number of LS). This type of evaluation provides information on which components influenced programme outcomes and should be used in future iterations of a programme. Outcome-assessment evaluations provide an overall judgement of a programme and is synonymous with summative evaluation. To complete the most robust evaluation of programmes, Chen recommended integrating a combination of both outcome and process evaluation procedures.

		<b>Evaluation Functions</b>	
		<b><i>Improvement</i></b>	<b><i>Assessment</i></b>
<b>Programme Stages</b>	<b><i>Process</i></b>	Process-Improvement Evaluation	Process-Assessment Evaluation
	<b><i>Outcome</i></b>	Outcome-Improvement Evaluation	Outcome-Assessment Evaluation

Figure 2. Four-fold typology of programme evaluation (adapted from Chen, 1996)

Several types of programme evaluation that share some similarities with Chen’s four-fold typology have been forwarded in the LS programme literature (Gould & Carson, 2008; Hodge et al., 2012; Petitpas et al., 2005; Pierce et al., 2017). For example, Petitpas et al. (2005) outlined three forms of evaluation labelled ‘implementation’, ‘process’, and ‘outcome’. Implementation evaluation was viewed as the first step in the evaluation process to examine programme delivery (i.e., process-assessment evaluation). Implementation evaluation assesses aspects of the programme associated with programme fidelity (e.g., delivery methods, staff training); aspects that influence the overall effectiveness and future replications of programmes (Hodge et al., 2012). The specific programme features that are related to programme outcomes can be identified and examined using process evaluation

research (i.e., a process-improvement evaluation). Process evaluations can be conducted using a number of research methods (e.g., participants interviews, observations, field notes) to illuminate the component parts of LS programmes that influence the programme outcomes and to generate information for future developments of the programme (Petitpas et al., 2005). Whereas, outcome evaluation is necessary to determine if programme achieves the stated goals (i.e., outcome-assessment evaluation).

Petitpas et al. (2005) also recommended combining multiple types of evaluation to assess the context (e.g., programme structure and environment), external assets (e.g., social support, leadership), and internal assets (e.g., targeted LS) associated with LS programmes. Despite this suggestion, few researchers have provided a detailed explanation of the component parts of LS programme development (e.g., programme structure, programme format, programme contents) or have employed multiple types of evaluation to assess the context, provision of external assets, or strategies for fostering internal assets during the delivery of LS programmes (see Cox et al., 2016; Holt et al., 2013; Weiss et al., 2013 for exceptions). Holt and colleagues (2013) were one of the few research groups to combine multiple types of evaluation to assess the development, delivery, and outcomes of LS programmes. These researchers evolved and refined their programmes using a multi-method approach that incorporated a process evaluation and an outcome evaluation. Using reflective practice as part of an action research methodology, the programme facilitators recorded critical incidents to identify problems encountered and inform the changes required for the following iterations of the programme (also see Holt, McHugh, Coppola, & Neely, 2014). The reflections were supported by interviews with participants, teachers, and stakeholders (e.g., school board members, coaches) to identify the provisional outcomes and effectiveness of the programme.

Evaluating the development, delivery, and outcomes of LS programmes helps researchers to understand how programmes are working and what parts of programmes are working within a given context (Petitpas et al., 2005). Conducting multiple types of evaluations are more likely to provide a more detailed account of the specific LS addressed, the content of the LS programme workshops, and the training of the practitioners who are charged with delivering the LS programme (Hodge et al., 2012). To provide more detailed accounts of the delivery, development, and outcomes of LS programme, researchers have been encouraged to generate research questions that increase knowledge of processes and outcomes associated with programme development and programme delivery (Hodge et al., 2016; Holt et al., 2013; Jones et al., 2011).

The research questions also inform the research methods utilised in each type of evaluation (Patton, 2002). For example, research questions for a process-improvement evaluation might align with qualitative research methods to explore the opinions of programme participants or programme leaders. Conversely, research questions for outcome-assessment evaluations might benefit from a quantitative research method to identify causal explanations between the programme and targeted dependent variables. Both Chen (1996) and Petitpas et al. (2005) advocated combining multiple types of evaluations and research methods when an assessment of a programme is serving various purposes for numerous stakeholders (e.g., researchers, practitioners, national sporting organisations). Whilst Petitpas and colleagues (2005) recommendations were specific to evaluating LS programmes, Chen (1996) provided a more detailed overview that delineated each type of evaluation with a specific part of programme evaluation (e.g., the use of process-improvement evaluations during programme development).



Researchers who combine multiple types of evaluation are more likely to conduct robust programme evaluations and provide a detailed understanding of the programme under investigation. Furthermore, existing evaluations of LS programme have typically been conducted using outcome-assessment evaluations only and these evaluations have been limited by the continued measurement of only knowledge and self-beliefs about LS using self-report measures (Gould & Carson, 2008; Hodge et al., 2012). Whilst measuring the acquisition of knowledge and beliefs about LS provides some insight into the effectiveness of LS programmes, self-report measures merely assume that psychological development has occurred because of participating in the LS programme. Self-report measures provide no indication that either the knowledge about LS resulted in actual behaviour change (Hodge et al., 2012). Therefore, researchers have been encouraged to measure the underlying psychological mechanisms that contribute to positive psychological development and behavioural change, as well as knowledge and beliefs concerning LS acquisition. Hodge and colleagues (2012) introduced a conceptual framework to guide the integration of multiple evaluation procedures and to measure actual psychological development.

*Life development intervention/basic needs theory life skills model.* To enhance the potential of LS programmes effecting positive psychological development, several key issues regarding the development, delivery, and assessment of LS programmes should be considered and addressed. In addition to adopting a detailed conceptual to guide programme evaluation, perhaps the most prominent issue within the existing research is whether or not LS programmes directly contribute to positive psychological development (Hodge et al., 2012). Life skills researchers have tended to assume that the acquisition of knowledge and beliefs about LS would automatically lead to positive psychological development in participants. Whilst increasing participants' knowledge and beliefs about LS are integral to the purpose of LS programmes, the use of pre-intervention and post-intervention self-report measures merely provide indirect assessments of any underlying psychological development that might have

occurred as an outcome of LS programmes. To address this limitation, Hodge et al. (2012) forwarded the ‘life development intervention/basic needs theory life skills (LDI/BNT LS) model as a conceptual framework that encourages the direct measurement of psychological mechanisms that underpin LS acquisition (see Figure 3, p. 59).

By integrating aspects of the LDI conceptual framework (Danish et al., 1993) and Basic Needs Theory (Deci & Ryan, 2008; Ryan & Deci, 2017), Hodge et al. (2012) suggested that LS researchers should examine whether the teaching of LS contributes to positive psychological development and optimal psychological well-being; the stated outcome goals of most LS programmes and an outcome of personal excellence. Within Basic Needs Theory, Deci and Ryan (2002) posited that individuals continuously strive to satisfy the three complementary basic *psychological needs* of autonomy, competence, and relatedness. The need for autonomy is satisfied when an individual feels a sense of psychological freedom or choice in his or her actions. Competence refers to an individual’s need to succeed at optimally challenging tasks and to be able to attain desired outcomes. Relatedness refers to an individual’s need to establish a sense of mutual respect and connectedness with significant others. Deci and Ryan (2008) argued that these three psychological needs determine human behaviour across different situations and contexts because they promote optimal functioning and psychological well-being.

Research concerning psychological need satisfaction (need-satisfaction) has grown exponentially in the past 20 years (Deci & Ryan, 2008; Hodge et al., 2016). Need-satisfaction has been shown to predict intrinsic motivation, psychological well-being, and other positive outcomes in various life domains such as work (Baard, Deci, & Ryan, 2004; Levesque et al., 2007), education (Ferrer-Caja & Weiss, 2000), exercise (Wilson & Rogers, 2004), and sport (Hollembek & Amorose, 2005). Hodge et al. (2012) proposed that need-satisfaction would underpin LS acquisition, as well as psychological well-being. Given that most LS programmes focus on positive psychological development, measuring need-satisfaction will

ascertain if any underlying psychological development has occurred from participating in the LS programme (Hodge et al., 2012).

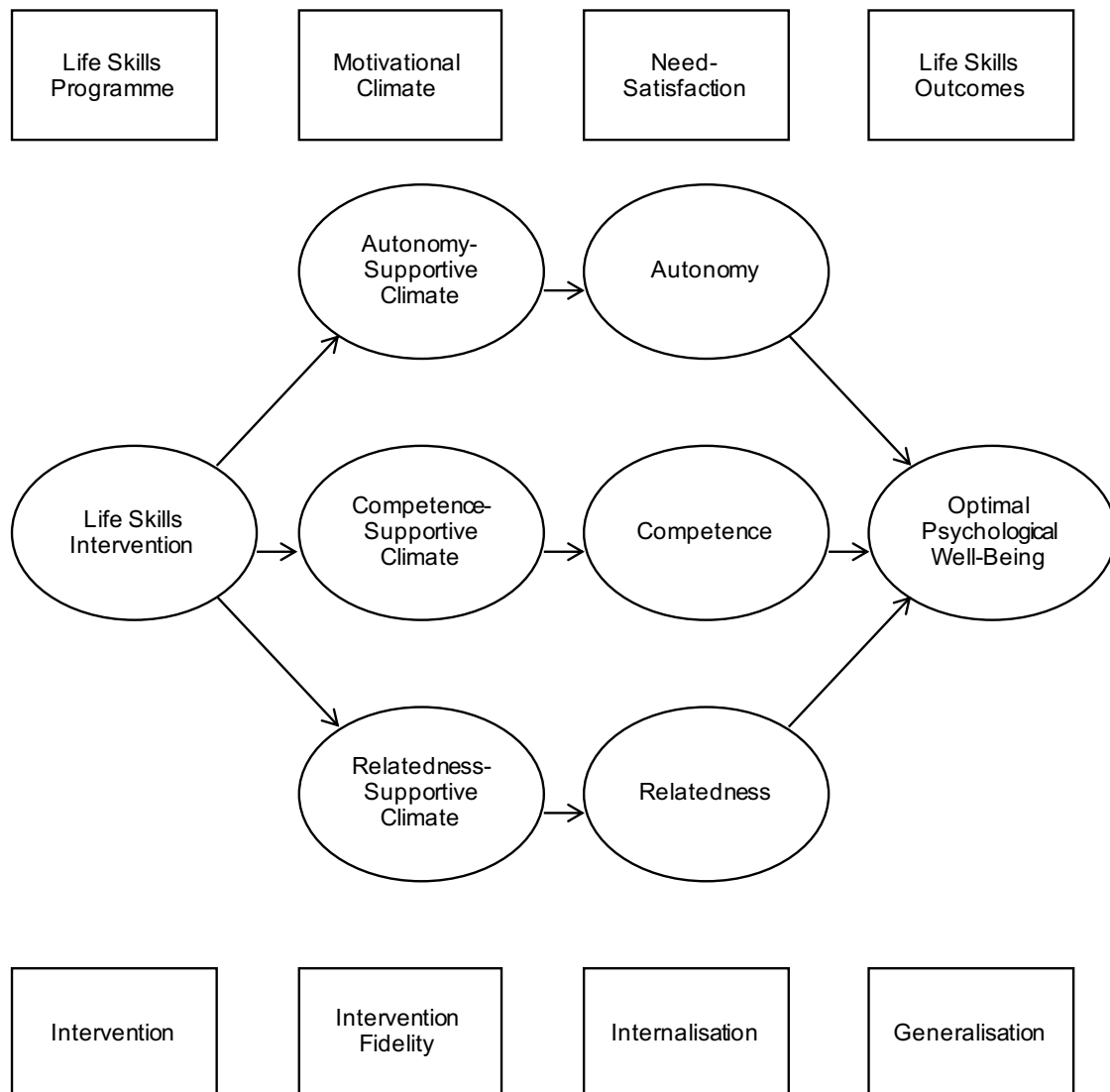


Figure 3. The life development intervention/basic needs theory life skills model (adapted from Hodge et al., 2012).

Researchers have evaluated the provision of need-supportive motivational climates during the delivery of LS programmes (e.g., Bean et al., 2016; Bean, Kendellen, & Forneris, 2013). For example, Bean and colleagues (2013) evaluated the effectiveness of the Girls Just Wanna Have Fun programme with youth sport athletes ( $n = 10$  participants;  $M^{age} = 11.75$  yrs;  $SD^{age} = 1.19$  yrs) over the course of the school year. The participants attended thirty-one, 1.5-hour sessions and were taught LS through various forms of physical activity (e.g., teamwork was reinforced during a game of basketball). Results indicated that the participants believed that the programme leaders provided a need-supportive motivational climate. On a 6-point Likert scale, the mean scores were 5.25 for autonomy-support, 5.70 for competence-support, and 5.80 relatedness-support. Thus, LS programme leaders who promote a need-supportive motivational climate are more likely to increase participants' need-satisfaction and, subsequently, foster LS acquisition in participants that reflects learned and generalisable behaviours.

Using a valid measure of need-support can also serve as a manipulation check regarding programme fidelity (Hodge et al., 2012). Programme fidelity is associated with “the extent to which the critical components of an intended programme are present when that programme is enacted” (Century et al., 2010, p. 202) and is critical to a comprehensive evaluation of LS programmes (O’Hearn & Gatz, 2002). Researchers interested in programme fidelity start with the question ‘does the programme work?’ and move towards questions concerning ‘why the programme works?’ and ‘how the programme works?’ Measuring the influence of the content of the LS programme (e.g., workshops/exercises designed to promote need-satisfaction) and the context surrounding the individuals participating in the LS programme (i.e., need-supportive motivational climate) would provide more detailed insight into programme fidelity.

The LDI/BNT LS model provides researchers developing LS programmes with an opportunity to maximise positive psychological development and affect behavioural change by measuring need-satisfaction and need-support. The use of instruments that measure need-satisfaction and need-support alongside self-report measures associated with LS acquisition (i.e., knowledge and beliefs) would allow researchers to better understand if any underlying psychological development occurred from participating in LS programmes. Furthermore, data gleaned from these assessments would also provide an understanding of programme fidelity.

### **Summary**

Athletes who possess a greater number of psychological attributes are more likely to display performance excellence and to successfully progress through a number of stages and transitions in the athletic domain to obtain and sustain a career in elite sport (e.g., Bloom, 1985; Côté, 1999; Gould, 2002). It is becoming increasingly evident that athletes also require a set of transferable psychological skills (i.e., LS) to successfully progress through transitions in non-athletic domains and out of their athletic careers, and to subsequently experience psychological well-being throughout their lives (Baron et al., 2013; Glick et al., 2009; McDuff, 2012). Researchers and practitioners have supported athletes' pursuit of performance excellence, but have also emphasised that athletes should engage in developmentally appropriate tasks that promote skills associated with personal excellence and that help athletes experience successful transitions in non-athletic domains (e.g., academic/vocational). Therefore, some researchers and practitioners have attempted to increase both performance excellence and personal excellence using an holistic, lifespan approach that focuses on developing LS that promote competence in the athletic domain and in non-sport settings (e.g., Miller & Kerr, 2002; Friesen & Orlick, 2010).

The development of personal excellence has been associated with athletes' ability to successfully transition within sport and eventually outside sport (i.e., retirement from an athletic career). Those athletes who possess a variety of LS that can be used across multiple life domains tend to display personal excellence and avoid identity foreclosure (Park et al., 2013). To help elite athletes display personal excellence, several career assistance programmes (CAPs) have been established by sporting organisations to promote personal excellence (Albion & Fogarty, 2005). However, reports published on the content and effectiveness of CAPs highlight that these programmes were largely atheoretical and were not evaluated using scientific research designs (Gordon et al., 2005). Furthermore, researchers have revealed that many athletes favour support services that promote performance excellence and, subsequently, do not engage with CAPs (e.g., Albion & Fogarty, 2005; Roberts et al., 2015; Ryan & Thorpe, 2013).

Psychological interventions, underpinned by conceptual frameworks, provide researchers and practitioners with the opportunity to target the psychological mechanisms that affect actual behavioural change (Hodge et al., 2012). Life skills programmes, developed using aspects of the LDI conceptual framework and LDI methodology, have been used to promote skills associated with both performance excellence and personal excellence in athletes (e.g., O'Hearn & Gatz, 1999, 2002; Papacharisis et al., 2005; Petitpas et al., 2004). Athletes who participate in LS programmes explore the types of skills that are developed in the sport domain and practise applying these skill in domains outside sport (Danish et al., 2005). These LS programmes span beyond the scope of existing CAPs that focus on secondary career development, as many LS are psychological skills that can also help athletes display performance excellence.

Life skills programmes designed to help athletes develop a number of LS can facilitate successful transitions associated with life inside and outside sport, promote positive psychological development, and, subsequently, help athletes to experience increased psychological well-being throughout their lifespan (Stambulova & Wylleman, 2014). Programmes underpinned by the LDI conceptual framework and LDI methodology, and evaluated using scientific research designs would likely increase the opportunity to affect behavioural change and provide knowledge concerning ‘how’ LS programmes promote behavioural change. Furthermore, programmes underpinned by the LDI conceptual framework and LDI methodology are able to promote performance excellence and personal excellence in an integrated manner and, thus, might encourage increased athlete participation.

Prior to developing a programme for promoting performance excellence and personal excellence using knowledge from existing LS programme literature, there are several existing limitations associated with the development, delivery, and assessment of LS programmes that might to be addressed. To extend the existing LS programme research, researchers and practitioners might consider:

- (i) developing programmes to meet the specific needs of the targeted athletic population;
- (ii) providing a detailed explanation of the content, the structure, and the strategies employed in the LS programme;
- (iii) employing multiple evaluations to generate knowledge on the delivery and development of LS programmes;
- (iv) examining the influence of both the LS programme content and the LS programme context on LS acquisition and psychological development; and
- (v) conducting longitudinal evaluations that measure LS acquisition.

To help researchers conduct the most robust evaluations of LS programme effectiveness, Hodge and colleagues (2012) forwarded the LDI/BNT LS model that combined the LDI conceptual framework and Basic Needs Theory. To date, few researchers have developed, delivered, or assessed LS programmes for promoting performance excellence and personal excellence in elite athletes or explored the utility of the LDI/BNT LS model. Thus, the purpose of this research project was to develop, deliver, and assess a LS programme for promoting performance excellence and personal excellence in elite athletes.



## CHAPTER THREE

### RESEARCH CONTEXT AND RESEARCH DESIGN

The purpose of this research project was to develop, deliver, and assess a life skills (LS) programme for promoting performance excellence and personal excellence in elite athletes. This research project consisted of three interrelated studies associated with the development, delivery, and assessment of the LS programme for elite athletes. This chapter has been included to provide an in-depth understanding of the research context and demonstrate that this research project was a sequence of interrelated studies bridged by an overarching research design.

This chapter opens with a discussion of the context for this research project. First, cricket is introduced as a sport worthy of research in sport psychology and, more specifically, cricketers are forwarded as a sporting population who might benefit from a purposefully designed LS programme. A brief historical and socio-cultural background of cricket in New Zealand (NZ) is then provided to promote an understanding of a professional cricket career in NZ. Given that this research project required access to *professional* cricketers, an overview of the process that led to a collaboration between the researcher and his supervisory committee, New Zealand Cricket, and the New Zealand Cricket Players Association is discussed. The section focusing on the research context culminates with disclosure of relevant information associated with the researcher as a ‘research instrument’.

The second section highlights the overall research design for this research project. A detailed explanation of the types of programme evaluation used in each of the three studies is provided. This is followed by a detailed rationale for the use of a multiphase, mixed-methods design to combine several types of evaluation and address the purpose of this research project. Finally, the mixed-methods design(s) employed in each study are highlighted.

## **Research Context**

Athletes who develop positive psychological attributes are more likely to experience successful transitions within the athletic domain (e.g., junior to adult competition) and in life domains outside sport (e.g., establishing a secondary career) (Stambulova, 1994; Stambulova & Wylleman, 2014; Wylleman & Lavallee, 2004). The issues facing elite athletes who do not develop positive psychological attributes have been well-documented (Park et al., 2013) and, over the past 25 years, sporting organisations have developed a number of career assistance programmes with the aim of enhancing personal excellence in athletes (Stambulova & Ryba, 2013). These career assistance programmes have tended to emphasise the importance of positive psychological development, yet there is limited evidence that these programmes have been designed using conceptual framework for behavioural change. Whilst these programmes have been designed with the intention of helping athletes, as discussed in Chapter Two, existing programmes are largely atheoretical (Gordon et al., 2005), have been evaluated using descriptive measures (Albion et al., 2007), and are often ignored by elite athletes (Roberts et al., 2015; Ryan, 2013).

Purposely designed LS programmes provide an alternative option for promoting both performance excellence and personal excellence in elite athletes (Danish et al., 1993; Miller & Kerr, 2002). Life skills programmes can be designed for athletes from specific sports (e.g., football, hockey) and/or particular age groups (e.g., adolescents, adults). Given the current limitations of career assistance programmes designed by sporting organisations (Lavallee, 2000; Stambulova & Ryba, 2013), a LS programme designed specifically for elite athletes would provide a valuable contribution to the athletic career development literature. This section provides a rationale for developing a LS programme for cricketers and explains the process of gaining access to professional cricketers in NZ. The term professional has been frequently used in the sport psychology literature to describe athletes who have “made a

living” from competing in sport (Swann et al., 2015, p. 9). Thus, the term professional cricketers will be used instead of elite athletes for the remainder of this chapter.

**Rationale for cricket.** Cricketers are one group of athletes who have reported decreased psychological well-being during and after their sporting careers (e.g., Cleaver, 2013; Houtt, 2014; McRae, 2017; Vaughan, 2012). Decreased psychological well-being in professional cricketers has been associated with the unique psychological demands associated with a career in professional cricket (Firth, 2001). Unlike many other professional sports, the playing conditions for cricket consist of days rather than hours and, subsequently, the life of a professional cricketer is often associated with weeks, rather than nights, spent in hotels away from family and friends (Bowles, 2018). Whilst all professional athletes encounter a variety of physical demands and psychological demands during their careers, the duration of cricket matches leads professional cricket to be considered as one of the most labour-intensive forms of sporting competition (Cotterill & Barker, 2013).

A multitude of psychological demands have been associated with a career as a cricketer (Bull, 1995; Miles, Neil, & Barker, 2016; Roberts et al., 2015; Thelwell, Weston, & Greenless, 2007). For example, Roberts and colleagues (2015) highlighted that cricketers’ opportunities to pursue other interests and to engage in developmentally appropriate tasks are limited by the time-consuming nature of cricket. Furthermore, cricketers require a number of psychological skills to achieve performance excellence and to negotiate psychological demands emanating from competition, organisational issues, and domains outside cricket (Miles et al., 2016; Thelwell et al., 2007). Cricketers who develop psychological skills to manage psychological demands from multiple life domains are less likely to jeopardise their performances (i.e., performance excellence) and their goals outside cricket (i.e., personal excellence).

Cricketers' opportunities to engage in developmentally appropriate tasks outside the sporting domain are limited by the structure of professional cricket which, in turn, reduces their ability to develop LS associated with achieving personal excellence. Nevertheless, those professional cricketers who achieve personal excellence are more likely to demonstrate performance excellence (Roberts et al., 2015). Thus, professional cricketers would likely benefit from a LS programme that encourages them to engage in developmental opportunities that promote personal excellence.

Researchers have been encouraged to gain an understanding of their athlete-participants prior to developing LS programmes for specific athletic populations (Jones et al., 2011). By considering the historical and sociocultural context of the sport, knowledge can be acquired on the unique traditions and development of the sport in the country of the athlete-participants (Stambulova & Ryba, 2013). Therefore, a brief historical and sociocultural background of cricket in NZ is provided to better understand the professionalisation of cricket and the athlete-participants in this research project.

***Cricket in New Zealand.*** Cricket is a team-based, ball-striking sport that was formalised in Britain during the early 1700s. By the mid-1800s, there was widespread participation in cricket from village green to international level (Birley, 2013). The increased popularity of cricket in Britain saw the sport adopted in a number of the British colonies such as Australia, South Africa, India, the Caribbean, and NZ. The process of British colonisation and acculturation of NZ from the mid-nineteenth century established cricket as one of the most popular sports in NZ (Ryan, 2005). The New Zealand Cricket Council was formed in December 1894 to promote and co-ordinate cricket in NZ and organise international tours. In the hundred years that followed the establishment of New Zealand Cricket Council (now called New Zealand Cricket), cricket continued to gain popularity and became the most popular summer sport (Birley, 2013; Ryan, 2007).

The growth of cricket in NZ was slower than in some of more populous colonies (e.g., Australia), with the first-class playing season only extended beyond five matches in 1975-1976 season. Prior to the 1975-1976 season, the six major cricket associations (Canterbury, Otago, Auckland, Wellington, Northern Districts, and Central Districts; vis-à-vis county, provincial, or state regional sports organisations) competed against each other once over an extended Christmas (summer) period. Whilst the domestic playing programme was extended to ten games, an amateur ethos remained in cricket until 2002. During this period, only the twenty most established international cricketers were considered professional cricketers, whilst amateur, domestic cricketers received limited compensation for basic expenses and loss of earnings during the summer months (Ryan, 2005).

The lack of remuneration caused many domestic cricketers to retire before the age of 30. For example, only seventeen of 113 first-class players during 2002-2003 were aged 30 years or older (Ryan, 2005). The difficulties associated with establishing a professional career as a domestic cricketer resulted in the New Zealand Cricket Players Association (NZCPA) registering as a union with the Labour Department in June 2001. By November 2002, the NZCPA gained a substantial increase in the player payment pool for all domestic cricketers, enabling each major cricket association (MCA) to employ 11 domestic cricketers for a six-month period. New Zealand Cricket (NZC) continued to employ twenty international cricketers on a 12-month basis and, therefore, there has been a minimum of 86 professional cricketers retained for their services on a six-month to 12-month basis each year since 2002-2003 (Ryan, 2005).

Since the initial agreement between the NZCPA and NZC, the popularity of cricket has continued to rise in NZ (New Zealand Cricket, 2016a). New Zealand Cricket has continued to redevelop its structures to allow NZ to compete at an international level (Ryan, 2005) and, subsequently, the number of international contracts available has risen to 21 and domestic contracts has increased to 90 (i.e., 15 cricketers per MCA). Furthermore, the

contracts of domestic cricketers in NZ have been extended from six months (October – April) to seven months (September – April) (New Zealand Cricket, 2016b). By 2017, cricket in NZ was considered a professional occupation for both international cricketers and domestic cricketers, with each cricketer receiving a contract lasting between seven-months and 12-months per annum. During the five-months that domestic cricketers are not employed by a MCA or NZC, they typically study, engage in part-time work, focus on their skill development, or travel to the United Kingdom to compete as overseas professionals (New Zealand Professional Cricketers Association, 2016).

At the beginning of this research project, there were 111 professional cricketers contracted to the Blackcaps (NZ national team) and the six major cricket associations. A large proportion (90) of these cricketers were only contracted for seven-months of the year (New Zealand Cricket, 2016b). The increased professionalisation of cricket in NZ provided both a rationale (e.g., seasonal contracts and early retirement from cricket) and an opportunity (i.e., five-month off-season) for the development of a LS programme focusing on performance excellence and personal excellence. Prior to developing, delivering and assessing a LS programme for professional cricketers, the researcher was required to gain the endorsement and support of the two main stakeholders who were responsible for the personal and professional development of cricketers in NZ (i.e., NZC and the NZCPA). Thus, the researcher contacted both NZC and the NZCPA to explore the viability of this research project. An overview of this ‘gaining access’ process is detailed in the following section.

*Gaining access to professional cricketers in New Zealand.* New Zealand Cricket and the NZCPA are the two main stakeholders for cricket in NZ. New Zealand Cricket is the national sporting organisation concerned with the growth of cricket from grass roots to international level and comprises of three main units: (a) Community; (b) Commercial; and (c) the High Performance Unit (New Zealand Cricket, 2016a). The New Zealand Cricket High Performance Unit (NZCHPU) is concerned with implementing player pathways into first-

class cricket and international cricket. The NZCHPU consists of specialist technical coaches, strength and conditioning coaches, physiotherapists, performance analysts, and mental skills trainers. The NZCPA support the personal development and professional development of current and past cricketers during and after their careers in cricket. The main objectives of the NZCPA are to protect the employment rights of their members and to facilitate a smooth transition out of cricket. The NZCPA consists of an executive board, administrative staff, and two personal development managers. The personal development managers responsible for assisting with player welfare and are based on the North Island and the South Island of NZ (New Zealand Professional Cricketers Association, 2017).

With the understanding that the NZCPA were gatekeepers of the players' welfare, the researcher first contacted and met with the lead personal development manager (PDM) in February 2015. The lead PDM showed initial interest in this research project and asked the researcher to contact him when this research project had been accepted and granted ethical approval by the university ethics committee. The researcher also informally contacted and met with the lead mental skills trainer (MST) from the NZCHPU in May 2015. Following a discussion about the project and its application to the NZCHPU's and the NZCPA's strategic objectives, the lead MST indicated his support for the project.

The researcher informed the lead PDM and lead MST that this research project had been accepted and granted ethical approval by the research committee at the University of Otago in August 2015 and asked for a formal meeting to discuss this research project in detail. Given the alignment of this research project with psychological skills training for performance excellence and personal excellence, the researcher first met with the lead MST to discuss this research project in September 2015. Following the lead MST's endorsement of this research project, the researcher met with the lead MST and both PDMs from the NZCPA. In this meeting, the researcher provided an overview of the proposed research project (i.e., a rationale, purpose, structure, and expected outcomes). The stakeholders approved the verbal

proposal and granted the researcher permission to submit a formal written proposal to the Chief Executive of the NZCPA and the NZC High Performance Manager in September 2015.

On 8<sup>th</sup> October 2015, the NZCPA responded to the formal written proposal with several queries concerning this research project. The NZCPA first queried the researcher's involvement as a playing member of a MCA and questioned the integrity of potential interview data from cricketers who played for other major cricket associations. The NZCPA also asked for more detail concerning the questions in the proposed interview guide for Study One. Furthermore, the NZCPA questioned the researcher's experience in comparison to existing practitioners with many years of practical experience delivering personal development workshops for career transitions.

The researcher responded to the queries posited by the NZCPA in a formal document on 12<sup>th</sup> October 2015. This document alleviated some concerns regarding the position of the researcher as a current player, as well as explaining that the programme was not directly concerned with career transitions. The researcher also justified his experience as a MST in the area of performance excellence and personal excellence whilst completing his Master of Science (MSc) degree in Britain and attached an updated interview guide to demonstrate the exact nature of the interview questions and all follow-up probes for the interviews in Study One. Following submission of this response document, the lead PDM asked the researcher and his supervisory committee to attend a meeting in Auckland with the Chief Executive of the NZCPA, both PDMs and the lead MST on 13<sup>th</sup> November 2015. The researcher's supervisory committee was unable to attend the meeting, but sent a formal apology and further emphasised the main points of the researcher's response document via email correspondence.



The researcher attended a meeting with the NZCPA chief executive, PDMs, and lead MST on 13<sup>th</sup> November 2015; in which he provided documents containing an overview of this research project. The overview contained the rationale, aims, overall research design, response to concerns, and anticipated outcomes. The NZCPA representatives were concerned that the researcher's continued involvement as a playing member of a MCA presented a conflict of interest between his role as a researcher and as a cricketer. However, the researcher confirmed that he was no longer playing cricket for a MCA and was focused on his role as a researcher. With the researcher's role as a cricketer no longer compromising the integrity of the programme, this research project was approved.

The NZCPA agreed to help organise the participants for Study One of this research project (for more detail, see Chapter Four) and the lead MST proposed that the LS programme could be delivered to the New Zealand Cricket Winter Training Squad (NZCWTS) between May and September 2016 (see Chapter Five and Chapter Six for more detail). The researcher was asked to provide a report of Study One and an overview of the LS programme, information pertaining to the delivery of the LS programme, and the types of data collection methods for evaluating the processes and outcomes associated with the LS programme (Study Two and Study Three) in March 2016, before progressing any further with this research project. Based on the assumption that the researcher would meet the relevant criteria in March 2016, the lead MST presented a provisional timeline for this research project (see Table 2, p. 74).

The process of gaining access to professional cricketers highlighted several issues associated with conducting a research project with professional athletes. In particular, the process of initiating and developing a collaborative relationship with stakeholders was particularly important during the proposal stage (Boog, 2003; McHugh & Kowalski, 2009; Stringer & Genat, 2004). Furthermore, understanding and aligning the needs of this research project with the strategic objectives of both stakeholders was also important. Perhaps one of

the most fundamental issues during the ‘gaining access’ process was the researcher’s identity and experiences. As an *insider* to the research context, the researcher’s involvement in professional cricket likely offered substantial cricket credibility and, thus, facilitated access to the stakeholders; yet, this insider status also created some potential barriers for this research project.

Table 2

*Provisional timeline for this research project*

Month	Objective
December 2015	Programme Development (Study One)
March 2016	Study One Report and Proposal for Programme Delivery (Study Two) and Programme Evaluation (Study Three)
May 2016	NZCWTS Camp 1: Participant Introduction/Informed Consent
June 2016	NZCWTS Camp 2: LS Programme -- Sessions 1 and 2
July 2016	NZCWTS Camp 3: LS Programme -- Sessions 3 and 4
August 2016	NZCWTS Camp 2: LS Programme -- Sessions 5 and 6
September 2016	NZCWTS Camp 5: Social Validation
March 2017	Qualitative Follow-Up
April 2017	NZC High Performance Forum: Preliminary Data
March 2018	NZC Report

The issues associated with insider membership and gaining access to target research populations have been discussed within the research methods literature (e.g., Brannick & Coghlan, 2007; Dwyer & Buckle, 2009). Researchers situated within their respective fields of inquiry are encouraged to reflect on their previous experiences, skills, and competencies to fully understand their biases towards the research process (Brannick & Coghlan, 2007). Researchers who acknowledge and document their own beliefs, values, and biases are more likely to overcome potential issues associated with the ‘gaining access’ process and methodological rigor (e.g., confirmation bias) (Dwyer & Buckle, 2009). Methodological rigor concerns the validity and reliability of findings from studies conducted for empirical generalisability, and the credibility and trustworthiness of findings from studies conducted for

naturalistic generalisability (Gratton & Jones, 2010). Researchers have previously acknowledged their position within the research context by providing a detailed description of their background, education, and professional experiences (Cox, 2016; Faull & Cropley, 2009). Thus, the next section discloses the personal, educational, and professional background of the researcher to enhance the methodological rigor of this research project. The following narrative is written in the first person (Faull & Cropley, 2009; Peel, Cropley, Hanton, & Fleming, 2013).

**The researcher: Researcher as instrument.** For the past nine years of my University education, I have combined my pursuit of several tertiary qualifications with an involvement in sport. I started studying a Bachelor of Science (BSc) degree in Sport and Exercise Science in September 2009 at one of the six Marylebone Cricket Club (MCC) universities that are spread regionally across England and Wales. The MCC universities provide “an alternative pathway into professional cricket for young players who might be unsure of their abilities or plans, or for those unwilling to make an early choice between academia and sport” (Atherton, 2013, p.58). Whilst it was my goal to establish a career in professional cricket at the age of eighteen, I was aware that attending a MCC university would allow me to continue pursuing a career in professional cricket, whilst developing knowledge and skills that would also enhance my ability to obtain an alternative career outside professional cricket.

In line with my ongoing pursuit of a career in professional cricket, I focused my attention on the area of sport psychology and, in my final year, completed a thesis on the use of self-talk in cricket batting performance (see Miles & Neil, 2013 for published manuscript). My studies and research in sport psychology generated an awareness and understanding of the benefits of psychological skills training on human functioning in a range of performance contexts. As a result of my increased interest in sport psychology and my continued involvement with the MCC university, I progressed onto a Master of Science (MSc) degree in Applied Sport Psychology during September 2012.

During my studies and research at BSc and MSc level, I gained knowledge and experiences of cognitive-behavioural techniques for psychological skills training that were underpinned by an holistic, lifespan approach (Baltes et al., 1980) and a humanistic therapeutic orientation (Rogers, 1951). Many of the applied experiences in the MSc degree programme were associated with counselling psychology; a process that is largely consistent with the constructivist paradigm and qualitative research methods (McLeod, 2003; Ponterotto, 2005). The MSc degree programme also contained a Quantitative Research Methods module that enhanced my understanding of the post-positivistic paradigm and associated research designs, and statistical analysis procedures associated with quantitative research methods. With an increased understanding of both qualitative and quantitative research methods, I began to appreciate that different research methods could be both useful and appropriate depending on the nature of the research question (Johnson & Onwuegbuzie, 2004; discussed in more detail later; pp. 85-87).

I first applied my knowledge of psychological skills training to my own performance as a cricketer before applying this knowledge as a practitioner and coach. During the MSc degree programme, I became player-coach at a cricket club in South Wales. Unlike my previous experiences delivering psychological skills on a one-to-one basis or in a classroom setting, I began to appreciate the benefit of teaching psychological skills during coaching sessions. By practising cognitive-behavioural techniques using an holistic, lifespan approach and a humanistic therapeutic orientation, I developed a coaching philosophy that placed the person, rather than the athlete, at the centre of each coaching intervention (Cassidy, Jones, & Potrac, 2016; Thelwell, Harwood, & Greenless, 2016). Alongside my growing knowledge of skill acquisition and skill development, I used cognitive-behavioural techniques to foster psychological skills that could be practiced both on the cricket field and in life outside cricket (i.e., life skills) based on each individuals' needs. During this period, I became interested in the psychological development of athletes through their participation in sport and I soon

began to postulate that, given an appropriate motivational climate, sport could promote positive psychological development in individuals (Camiré et al., 2011; Gould & Carson, 2008).

Adopting a person-centred coaching philosophy, I began to question the types of psychological skills that could promote positive psychological development. As part of my MSc research, I explored the types of psychological skills that athletes used to regulate their cognitions and emotions in the lead-up to competition. Adopting a constructivist worldview, I explored each participant's experiences as a construction of their social realities. This worldview was consistent with my current philosophy as a researcher, which is underpinned by an holistic, lifespan approach and a humanistic therapeutic orientation (Danish et al., 1993). Using this philosophy, I focused on the holistic development of each individual across their lifespan by understanding their experiences as a construction of interactions with their context (e.g., community, family, sports team).

I was still aspiring for a career in professional cricket and, as a result, I pursued the role as an overseas cricketer-coach during the 'write-up' of my MSc research. I arrived in Dunedin (New Zealand) as a cricketer-coach in September 2013. During seven-months in Dunedin, I coached cricket at school, club, and representative level and competed at both club and MCA level. These experiences provided an opportunity to practise sport psychology and to develop my understanding of how athletes' psychological development can influence their performances in sport (i.e., performance excellence) and their ability to display personal excellence in multiple life domains. During this period of applied practice highlighted that those athletes who learned from their past experiences (i.e., experiential learning) tended to demonstrate more effective behavioural change (Walter, Marks, & James, 1981). Thus, I included strategies that promoted experiential learning as part of my sport psychology and coaching philosophies; a process that helped me to develop the relevant skills for developing and delivering the LS programme for this research project.

In March 2014, I applied to become a Doctor of Philosophy (PhD) candidate at the University of Otago and returned to the United Kingdom to graduate with a MSc degree in Applied Sport Psychology. I continued to coach and play cricket at club and representative level and used my involvement in cricket as a ‘vehicle’ to practise principles associated with sport psychology. With growing experience as a researcher, a practitioner, and a coach, I started to consider the psychological factors that influence athletes’ motivation and psychological well-being. I became aware that athletes who exercise ownership over their involvement and development in sport, display competence on a regular basis, and feel connected with others in their sport are more likely to demonstrate enduring motivation and psychological well-being. These principles aligned with Deci and Ryan’s (2008) Basic Needs Theory; a theory developed to help explain optimal motivation and psychological well-being. Using principles associated with Basic Needs Theory, I have since developed, delivered, and evaluated both sport psychology and coaching sessions that allow athletes to display and acknowledge choice and competence in their behaviours, and experience relatedness with others in each context (see Ryan & Deci, 2017 for more detail). By creating a psychological need-supportive motivational climate in each session, athletes are more likely to display increased motivation towards skill development and, in turn, are more likely to acquire skills that can be deployed in various life domains (Hodge et al., 2012).

I returned to Dunedin to start my PhD candidature at the University of Otago in February 2015 and continued to balance my involvement as a cricketer for a MCA during the proposal stage of this research project. After achieving my goal of playing first-class cricket in October 2015, I terminated my pursuit of a career in professional cricket and decided to focus my full attention on a career as a researcher. My involvement in cricket and the process of balancing several degrees, part-time coaching, and numerous other part-time jobs taught me the value of developing skills that can be utilised in multiple domains; many of these skills I developed and practised within the sport context. Furthermore, my involvement in

representative cricket combined with my ongoing commitment to my studies helped demonstrate the necessary skills to undertake this research project.

My ongoing involvement with cricket as a player and then as a coach, combined with studying, researching, and practising sport psychology, has helped me to develop a professional philosophy grounded in an holistic, lifespan approach and a humanistic therapeutic orientation. This philosophy underpins my practise of cognitive-behavioural techniques which aim to facilitate behavioural change through experiential learning and the satisfaction of participants' basic psychological needs (Deci & Ryan, 2008). By disclosing this information regarding my personal, education, and professional experiences in relation to this research context, I have gone some way to acknowledging any potential beliefs, values, and biases which may compromise the methodological rigour of this research project (Dwyer & Buckle, 2009) (see Method sections in chapters four, five, and six for more detail). Furthermore, the disclosure of these details provides an understanding of my knowledge and expertise to enable more accurate replications of the LS programme that was developed, delivered, and evaluated in this research project (i.e., increase programme fidelity).

### **Research Design**

Information concerning the research context for this research project was provided in the first section of this chapter. The sporting population under investigation was discussed, as well as the process of gaining entry to professional cricketers, and the researcher disclosed relevant background information concerning his suitability to conduct this research project. A rationale for the overall research design will be discussed in the remainder of this chapter. The research design section highlights the types of programme evaluation used in this research project before introducing a multiphase, mixed-methods design as suitable for combining the various types of programme evaluation.

**Programme evaluation.** Numerous types of programme evaluation can be used to improve or assess the processes and/or outcomes of programmes (Chen, 1996; Petitpas et al., 2005) (see Chapter Two, pp. 52-57). Depending on the research purpose and/or research questions, programme evaluation can be used to understand different phases of programmes in isolation or as part of a purposefully mixed evaluation strategy (Chen, 1996, 2014). Mixed evaluation strategies require researchers to adopt various types of research methods that can be used in an independent and/or integrated manner (Patton, 2002). For researchers interested in evaluating the processes and outcomes associated with developing and delivering programmes, integrating various types of evaluation would likely enable a more complete understanding of programme effectiveness. Thus, the next section discusses the different types of programme evaluation employed in this research project.

***Types of evaluation used in this research project.*** Previous evaluations of career assistance programmes have typically used descriptive measures (e.g., percentage of participants enrolled in programmes) to assess programme effectiveness (Hodge et al., 2012; Lavalley, 2000). Furthermore, evaluations of programmes for performance excellence and personal excellence have tended to focus on outcome measures only (e.g., acquisition of knowledge and skills) (Hodge et al., 2016). Relatively few researchers have conducted evaluation studies to highlight the unique needs of the target population (see Jones & Lavalley, 2009 for an exception) or to better understand programme development or programme delivery (see Cox, et al., 2016; Holt et al., 2013; Weiss et al., 2013 for exceptions). To date, few research projects have comprised numerous types of evaluation to generate knowledge concerning the processes and outcomes of programmes promoting either performance excellence or personal excellence in professional cricketers.



Several types of programme evaluation were integrated to address the purpose of this research project and the purpose of each study. In an attempt to address the purpose of this research project, it was deemed important to evaluate various aspects of programme development, programme delivery, and the outcomes of the LS programme (Abramson & Abramson, 2011; Chen, 1996, 2014; Clarke, 1999; Petitpas et al., 2005). Thus, this research project comprised of three studies that combined to address: (a) the purpose of this research project; and (b) several limitations within the athletic career development and LS programme literature. This section highlights the type of evaluation(s) employed to address the purpose of each study in this research project.

*Types of programme evaluation used in Study One.* The purpose of Study One was to inform the development of a LS programme for promoting performance excellence and personal excellence in professional cricketers. Various researchers have highlighted the importance of developing programmes to meet the perceived needs within a specific client population (Chambers et al., 1992; Herman, Morris, & Fitz-Gibbon, 1987; Rossi & Freeman, 1993). A needs-analysis can provide information on the nature or extent of a social problem prior to researchers and stakeholders embarking upon a search for a solution (e.g., LS development in professional cricketers) (Clarke, 1999). In some instances, existing literature can be used to identify the specific needs of certain populations and provide guidance on the design of programmes to achieve various outcomes (e.g., programme content, programme structure). However, existing literature is limited when the area of investigation is novel or when previous findings might not be applicable across populations or cultures (Jones & Lavallee, 2009). Thus, a needs-analysis was conducted to explore the types of LS that might be considered for a LS programme designed specifically for professional cricketers (discussed in full detail in Chapter Four, pp. 99-130). The findings from Study One were combined with knowledge from existing athletic career development and LS programme literatures, peer-supervision, and New Zealand Cricket's Core Mental Skills (New Zealand Cricket, 2015) to

inform the development of the LS programme (for more detail, see Chapter Five, pp. 131-142).

*Types of programme evaluation used in Study Two.* Limited literature exists on the processes involved with delivering LS programmes (see Cox et al., 2016; Holt et al., 2013; and Weiss et al., 2013 for exceptions). Examples of the processes involved in delivering a LS programme include: (i) the development of teaching strategies over the course of programme delivery; (ii) programme revisions prior to outcome evaluations; and (iii) adaptations to the delivery setting prior to outcome evaluations. Therefore, the purpose of Study Two was to examine the instrumental and conceptual processes associated with delivering a LS programme for promoting performance excellence and personal excellence. A process-improvement evaluation was conducted to address the purpose of this study and was administered during two pilots of the LS programme and the delivery of the LS programme to professional cricketers during the NZCWTS. This type of evaluation was employed to generate knowledge on the instrumental and conceptual processes associated with delivering the programme (Abramson & Abramson, 2011; Chen, 1996, 2014). More specifically, knowledge was engendered on the practical implementation of the programme to enhance the validity and reliability of future replications of the LS programme, demonstrate the strategies used to promote LS development in the programme, highlight the practicalities of programme delivery, and inform the assessment of programme fidelity (Hodge et al., 2012; Petitpas et al., 2005).

*Types of programme evaluation used in Study Three.* Life skills programmes have typically been evaluated using outcome-assessment measures to provide an understanding of whether or not the programme worked. However, researchers have tended to focus on outcome-assessment measures only and have often failed to explain how component parts of the programme might have contributed to the effectiveness of the programme (Hodge et al., 2012). Consequently, Study Three comprised three types of evaluation to address several

limitations with the extant athletic career development and LS programme literature. The types of evaluation included in this study were: (i) an outcome-assessment evaluation; (ii) an outcome-improvement evaluation; and (iii) a process-assessment evaluation.

An outcome-assessment was used to provide an overall judgement on the outcomes of the programme (e.g., ‘did participating in the PPEP influence LS acquisition?’). An outcome-improvement evaluation was employed to understand which parts of the programme influenced the outcome (e.g., ‘how did the PPEP influence the participants’ ability to display performance excellence?’). Whereas a process-assessment evaluation was used to assess programme fidelity (i.e., ‘did the motivational climate created during the LS programme support the participants’ psychological needs?’). The outcome-improvement evaluation was employed to provide information for future iterations of the programme (Chen, 1996). Furthermore, outcome-improvement and outcome-assessment evaluations were included to measure a number of dependent variables (see Chapter Six, pp. 185-193 for more detail).

Three studies and multiple types of evaluation were conducted to address the purpose of this research project (see Table 3, p. 85). A detailed explanation of the research design for each study is provided in the following three chapters to fully explain how the research purpose and research question(s) for each study were addressed. Prior to explaining the individual studies conducted in this research project, the overarching framework used to combine Study One, Study Two, and Study Three is provided.

**Mixed-methods designs.** Researchers are required to adopt a variety of research designs and research methods to combine different types of programme evaluation (Chen, 1996). The use of mixed-methods designs has been encouraged to combine various research designs and research methods, and to provide a depth and breadth of knowledge concerning the processes and outcomes of LS programmes (Petitpas et al., 2005). Mixed-methods designs provide researchers with the opportunity to offset weaknesses associated with single method research designs through data triangulation (Doyle, Brady, & Byrne, 2009; Hagger &

Chatzisarantis, 2011). Despite the proposed benefits of using a mixed-methods design to combine multiple types of programme evaluation, researchers have been advised to employ mixed-methods designs with caution (Brymann, 2006; Sparkes, 2015). Sparkes (2015) recently provided a critical reflection on several points of controversy for mixed-methods designs used in sport and exercise psychology. These critical reflections were provided to help future researchers create, implement, and communicate more robust mixed-methods designs. The points of controversy included, but were not exclusive to, the use and application of research paradigms and integrating findings using mixed-methods designs.

***The use and application of research paradigms.*** One of the major controversies concerning mixed-methods designs is the use and application of research paradigms (Creswell, 2011; Johnson, Onwuegbuzie, & Turner, 2007; McGannon & Schweinbenz, 2011). The term paradigm has been interpreted in various ways by the mixed-methods research community (Sparkes, 2015). A paradigm has been broadly described as a worldview concerning the nature of the world and the types of relationships individuals can have to the world (Kuhn, 1970). Applying this definition to the research context, Morgan (2007) defined a paradigm as “systems of beliefs and practices that influence how researchers select both the questions they study and the methods that they use to study them” (p. 49).

There appears to be some consensus within the literature that paradigms are not static, unchanging entities that restrict all aspects of the research process. Instead, paradigms can help frame one’s approach to a research problem and offer suggestions for how to address the research problem based on certain beliefs about the world (Shannon-Baker, 2016; Sparkes, 2015). Denzin and Lincoln (2011) proposed that paradigms are generated and characterised by researchers’ responses to the following questions: ‘What is the nature of reality?’ (ontological question); ‘how we know the world, and what is the relationship between the knower (the inquirer) and the known (or the knowable)?’ (epistemological questions); and ‘to what extent is the research process value-laden?’ (axiological questions).

Table 3

*Purpose, type of programme evaluation, and research questions for each study*

Study	Purpose	Programme Evaluation	Research Question
One	The purpose of Study One was to identify the LS needs of professional cricketers and to inform the development of a LS programme for promoting performance excellence and personal excellence in this population.	Needs-Analysis	<ol style="list-style-type: none"> <li>1. What types of LS promote performance excellence and personal excellence in experienced, professional cricketers?</li> <li>2. How do experienced, professional cricketers develop LS throughout their career in cricket?</li> <li>3. To what extent do professional cricketers understand the potential for LS development during a career in cricket?</li> </ol>
Two	The purpose of Study Two was to examine the instrumental and conceptual processes associated with delivering the LS programme using a process-improvement evaluation.	Process-Improvement	<ol style="list-style-type: none"> <li>1. What was learned about the context of the LS programmes?</li> <li>2. What was learned about developing 'external assets' during the delivery of the PPEP?</li> <li>3. What was learned about the strategies associated with developing the participants' 'internal assets' during the delivery of the PPEP?</li> </ol>
Three	The purpose Study Three was to evaluate the processes and outcomes of the LS programme for promoting performance excellence and personal excellence in professional cricketers.	Outcome-Assessment	<ol style="list-style-type: none"> <li>1. Did participating in the LS programme influence need-satisfaction?</li> <li>2. Did participating in the LS programme influence LS development?</li> <li>3. Did participating in the LS programme influence athletic identity?</li> </ol>
		Outcome-Improvement	<ol style="list-style-type: none"> <li>1. What did the participants learn from the LS programme?</li> <li>2. How did the LS programme influence the participants' ability to display performance excellence?</li> <li>3. How did the LS programme influence the participants' ability to display personal excellence?</li> <li>4. How will the LS programme influence the participants' future behaviours?</li> <li>5. What were the participants favourite aspects of the LS programme?</li> <li>6. What were the participants least favourite aspects of the LS programme?</li> <li>7. What aspects of the LS programme could be improved?</li> <li>8. Who would benefit from participating in the LS programme?</li> </ol>
		Process-Assessment	<ol style="list-style-type: none"> <li>1. Did the motivational climate created during the LS programme support the participants' psychological needs?</li> </ol>

Whilst there is a broad range of paradigms available to researchers, two broad categories have commonly been used to classify the answers to both ontological and epistemological questions (Lincoln et al., 2011; Sparkes & Smith, 2014; Whaley & Krane, 2011). These broad categories are termed post-positivism and constructivism-interpretivism. The post-positivistic paradigm is founded on the ontological position that the world exists and is knowable and the epistemological position that knowledge should be acquired through the use of conventional methodologies, research designs (e.g., experimental, cross-sectional), and research methods (e.g., questionnaires, standardised tests). The constituent parts of post-positivistic methodologies are associated with deductive reasoning, deemed to be ‘objective’, and generate numeric data that can be analysed using statistical procedures to test theories or provide explanations (Maxwell & Delaney, 2004; Newman & Benz, 1998). When conducting research using a post-positivistic approach, the researcher is assumed to be separate from the outcome of the research and the data is allowed to ‘speak’ for itself (Black, 1999).

Conversely, researchers who adopt a constructivist-interpretivist paradigm view the world as constructed, interpreted, and experienced by people in their interactions with each other and their wider social systems (ontological beliefs) (Schwandt, 2007; Willis, Willis, Jost, & Nilakanta, 2007). The epistemological position of constructivist-interpretivists guides a subjective approach to research that investigates, interprets, and describes social realities and considers people as participants rather than subjects (Teddlie & Tashakkori, 2009). Constructivist-interpretivists tend to employ methodologies, research designs (e.g., case studies, cross-sectional), and research methods (e.g., focus groups, interviews) that are underpinned with inductive reasoning and enable the meaning of a phenomenon to be explored from the position of the participants or by combining the views of the researcher with the participants’ perspectives.

Quantitative research methods have typically been associated with the post-positivistic paradigm, whereas qualitative research methods have often been linked with the constructivist-interpretivist paradigm (Greene, 2007; Morse & Niehaus, 2009; Teddlie & Tashakkori, 2009). Advocates of mixed-methods designs have argued that appealing to the basic philosophical assumptions of paradigms is a purist approach (e.g., Creswell, 2011; Johnson & Onwuegbuzie, 2004; Yvonne Feilzer, 2010). This debate is most often located within the frame of a post-positivistic paradigm versus a constructivist-interpretivist paradigm and, therefore, each type of purist exists at one end of a continuum and tends to focus on the differences, rather than on similarities, between these paradigms (Onwuegbuzie & Leech, 2005).

Opposing traditional views against combining these two paradigms, advocates of mixed-methods designs argue that both the post-positivistic paradigm and the constructivist-interpretivist paradigm are important and useful (Lincoln et al., 2011). Thus, some mixed-methods researchers have used the philosophical assumptions associated with both paradigms to provide a better understanding of research problems than either approach alone (Creswell & Plano Clark, 2007; Teddlie & Tashakkori, 2009). A pragmatic logic of inquiry utilises the philosophical assumptions associated with both paradigms and includes the use of induction (usually associated with the constructivist-interpretivist paradigm and qualitative research methods), deduction (commonly related to the post-positivistic paradigm and quantitative research methods), and abduction (uncovering and relying on the best set of explanations for understanding one's results) (Johnson & Onwuegbuzie, 2004). Pragmatists encourage researchers to alternate between the most relevant paradigm depending on their choice of mixed-methods design (Creswell & Plano-Clark, 2007).

Mixed-methods researchers who advocate a pragmatic approach assume that post-positivistic paradigms and constructivist-interpretivist paradigms, and their associated methodologies, research designs, and research methods, can be fruitfully used in conjunction with one another. This infers that paradigms and components of associated methodologies can be delinked, and the research process may proceed accordingly without the need for any philosophical debate (Sparkes, 2015). Contrary to a pragmatists' perspective that philosophical debates between paradigms are an unproductive endeavour, there has been an ongoing call for researchers to justify their choice of paradigm and better explain the rationale for their methodological decisions in the sport psychology literature (Gibson, 2012; Sparkes, 2015; Whaley & Krane, 2011); a process that is less likely to be achieved in a robust manner by those adopting a pragmatic philosophical orientation.

*A critical realist stance to mixed-methods designs and programme evaluation.* Alternating between the philosophical assumptions associated with post-positivistic and constructivist-interpretivist paradigmatic perspectives presents a significant challenge when conducting multiple types of evaluation using mixed-methods designs (Kelly, 2004). Conducting an outcome-assessment evaluation using an experimental research design serviced by quantitative research methods is inherently different to orchestrating a qualitative exploration of the LS needs of professional cricketers. The assessment of real-world uncontrollable variables during an outcome-assessment evaluation compared to exploring the LS experiences of professional cricketers requires a unique approach that allows the researcher to examine his findings from studies that are both separate and interrelated (Clarke, 1999).



In response to the polarisation of the post-positivistic paradigm and the constructivist-interpretivist paradigm, some researchers have adopted a critical realist stance (Maxwell & Mittapalli, 2010). Critical realists assume that the post-positivistic paradigm and the constructivist-interpretivist paradigm can be combined using an overarching paradigmatic stance, and that quantitative and qualitative research methods can work together to address the other's limitations. Embodying a constructivist-interpretivist paradigm, critical realists believe in a world that is constructed through our individual standpoints and perceptions (Creswell & Plano Clark, 2007). However, critical realists contextualise individuals' perceptions with the understanding that reality can exist outside perception (i.e., adopt a traditional realist ontology) (Maxwell & Mittapalli, 2010). Thus, while there may be multiple perspectives of a single event or object (Healy & Perry, 2000), critical realism also recognises that there are realities that cannot be known (Bisman, 2010; Maxwell & Mittapalli, 2010).

By acknowledging that multiple methods can be used to address research question and that there are realities that cannot be known, critical realists are less likely to encounter issues associated with both paradigm and methods slurring. Paradigm slurring and methods slurring occurs when researchers utilise methodological procedures interchangeably without prior explanation of their epistemological, ontological, and axiological stance (Wurst & Stern, 1992). Researchers are liable to both paradigm and methods slurring when switching between quantitative and qualitative procedures during mixed-methods designs (e.g., when using a sequential-explanatory design). Unlike pragmatists, critical realists do not switch between post-positivistic and constructivist-interpretivist stances. Conversely, critical realists maintain that the world is constructed through our individual standpoints and perceptions when using both quantitative and qualitative methods.

Critical realism shares with pragmatism the utilisation of abduction when applying theory to the data. While both perspectives use abduction, critical realism in particular emphasises that findings can be used to generate or extend theories and can be generalised to wider populations, whilst also accounting for the context of the findings (Modell, 2009). Critical realism can also offer researchers using mixed-methods designs a perspective that emphasises diversity and the relationships among people, events, and ideas; a perspective that is essential for researchers who are conducting programme evaluations. Furthermore, critical realism offers mixed-methods researchers an approach that emphasises perspective-taking and empowering the voices of others, while still recognising that these can only be partial representations of reality (Maxwell & Mittapalli, 2010). These philosophical assumptions make this paradigmatic stance particularly useful in evaluation-based research studies (Shannon-Baker, 2016).

A critical realist paradigmatic stance was adopted for this research project based on the researcher's values and beliefs that knowledge is socially constructed and that multiple realities exist (ontological position). Using this paradigmatic stance, the researcher also lessened the distance between himself and the participants of the research and became an insider to the research process (epistemological position), as well as acknowledged that the research will be value-laden and that biases will be present (axiological position). These positions allowed the researcher to view inductive reasoning and deductive reasoning on a continuum rather than single, independent approaches was important to conducting both process-oriented *and* outcome-oriented programme evaluations (Patton, 2002; Robson, 2002). Therefore, the data derived from multiple evaluations of the processes and outcomes associated with the development and delivery of the LS programme were analysed using a combination of both inductive and deductive reasoning. Ontological position; epistemological position; and axiological position.

**Types of mixed-method designs.** Mixed-methods designs include at least one quantitative research method and one qualitative research method (Teddlie & Tashakkori, 2009). A number of mixed-methods designs are available to researchers as a result of combining quantitative research methods and qualitative research methods (Creswell & Plano-Clark, 2007). Creswell (2011) advised that researchers should select their mixed-methods design based on the research purpose and research questions associated with their research projects. Whilst deciding which mixed-methods design best fits their research purpose and research questions, researchers have been advised to consider four factors that determine the how the data from each research method are mixed and interpreted. These factors include: (i) the level of interaction between quantitative research methods and qualitative research methods; (ii) the priorities of each research method in addressing the research question(s); (iii) the timing of the introduction of each research method; and (iv) the point of interface of the data from each research method (i.e., integration of mixed methods data).

Integrating both quantitative and qualitative findings in a valid and effective manner is an important issue for mixed-methods researchers (Moran, James, & Kirby, 2011). Sparkes (2015) encouraged researchers to consider the way they integrate data from mixed-methods research designs. In terms of integration, this involves the extent to which the components of a mixed-methods design are related to each other or are either totally or largely independent of each other (Bryman, 2006; 2007). To address this issue, researchers are presented with a choice of six main types of mixed-methods designs that have been labelled: (a) convergent parallel; (b) explanatory-sequential; (c) exploratory-sequential; (d) embedded; (e) transformative framework; and (f) multiphase (Creswell, 2011) (see Table 4 for more detail, p. 93).

The need to utilise mixed-methods designs to provide more rigorous evaluations of LS programmes and to define the type of mixed-methods design employed has been identified in contemporary LS research (e.g., Bean & Forneris, 2017; Pierce et al., 2017). For example, Bean and Forneris (2017) employed an explanatory-sequential design to understand LS development in various youth sport programmes. First, a quantitative study was conducted to examine the differences in LS development across youth sport programmes. The findings from this quantitative study were used to highlight coaches who intentionally integrated LS into their sport programmes. Qualitative research methods were then employed to gain an understanding of youth sport coaches' perceptions of LS development, particularly those who did not intentionally integrate the teaching of LS into their programmes. Bean and Forneris extended existing LS programme evaluation research by utilising a mixed-methods design and integrating findings that were analysed using both deductive and inductive procedures.

Despite extending the LS programme evaluation research, Bean and Forneris (2017) failed to identify their paradigmatic stance, provide a rationale for using an explanatory-sequential design, or explain the level integration for the data from both qualitative and quantitative research methods. Furthermore, this study failed to extend existing LS programme literature beyond outcome-assessment evaluation. Multiphase, mixed-methods designs allow for quantitative, qualitative, and mixed-methods designs to be combined both sequentially and concurrently to address a set of incremental research questions that all advance the objectives of this research project (Teddlie & Tashakkori, 2009). The use of multiphase, mixed-methods designs enable researchers to combine multiple types of evaluation to assess the processes and outcomes associated with the development and delivery of LS programmes (Creswell & Plano Clark, 2011).

To expand on previous LS literature, three studies that included five types of evaluation were combined within in a multiphase, mixed-methods design. The following section details the various types of mixed-methods design employed in each study of this research project. To guide the reader, Figure 4 shows the temporal sequence, type of mixed-methods design, and research design used in each study and illustrates the interaction, priority, and point of interface (i.e., integration) for the research methods used in this research project.

Table 4

*Types of mixed-methods design (adapted from Creswell, 2011)*

Design	Level of Interaction	Timing	Priority	Point of interface
Convergent parallel	Independent	Quantitative and qualitative research methods used in the same phase of the research process (concurrent)	Equal	Interpretation
Explanatory-sequential	Interactive	Two distinct interactive phases: Quantitative research method followed by qualitative research method (sequential)	Quantitative	Data collection
Exploratory-sequential	Interactive	Two distinct interactive phases: Qualitative research method followed by quantitative research method (sequential)	Qualitative	Data collection
Embedded	Interactive	A supplementary research method (quantitative or qualitative) is added to enhance the overall design. An embedded design can be sequential or concurrent.	Qualitative or quantitative	Design
Transformative	Interactive	Use of quantitative and qualitative research methods are informed by theoretical framework (e.g., feminist perspective). The research methods can be concurrent or sequential	Equal, qualitative, or quantitative	Design
Multiphase	Interactive	Quantitative and qualitative research methods are used both concurrently and sequentially over a prolonged period of time	Equal or can vary across phases	Multiphase combination

***Study One: A need-analysis evaluation.*** A needs-analysis was embedded at the start of this research project design and conducted between December 2015 and February 2016. Embedded studies can enhance the overall quality of multiphase, mixed-methods designs by providing supplementary information that inform future phases of this research project (Creswell, 2011). The findings from Study One were used to inform the development of a LS programme for professional cricketers. Furthermore, the findings from Study One were interpreted independently and then discussed at the final interpretation stage in line with the findings from the other studies from this research project.

***Study Two: A process-improvement evaluation.*** A process-improvement evaluation was conducted to address the purpose of Study Two. Study Two was also embedded within the multiphase, mixed-methods design. Given that the data from Study One contributed to the development and delivery of the LS programme, Study Two commenced following the initial interpretation stage in Study One (February 2016) and continued until August 2016 (see Table 2, p. 74). The latter stages of Study Two were implemented concurrently with Study Three. The findings from Study Two were used in conjunction with the data gathered during Study Three and discussed in the final interpretation stage of this research project.

***Study Three: Outcome-assessment, outcome-improvement, and process-assessment evaluations.*** The purpose of Study Three was to evaluate the processes and outcomes of a LS programme for promoting performance excellence and personal excellence in athletes. Extending on the extant research that has adopted only outcome-assessment measures (e.g., Papacharisis et al., 2008; Petitpas et al., 2005), several types of evaluation were conducted to assess the effectiveness of the LS programme during Study Three of this research project. Study Three consisted of an outcome-assessment evaluation, an outcome-improvement evaluation, and a process-assessment evaluation.

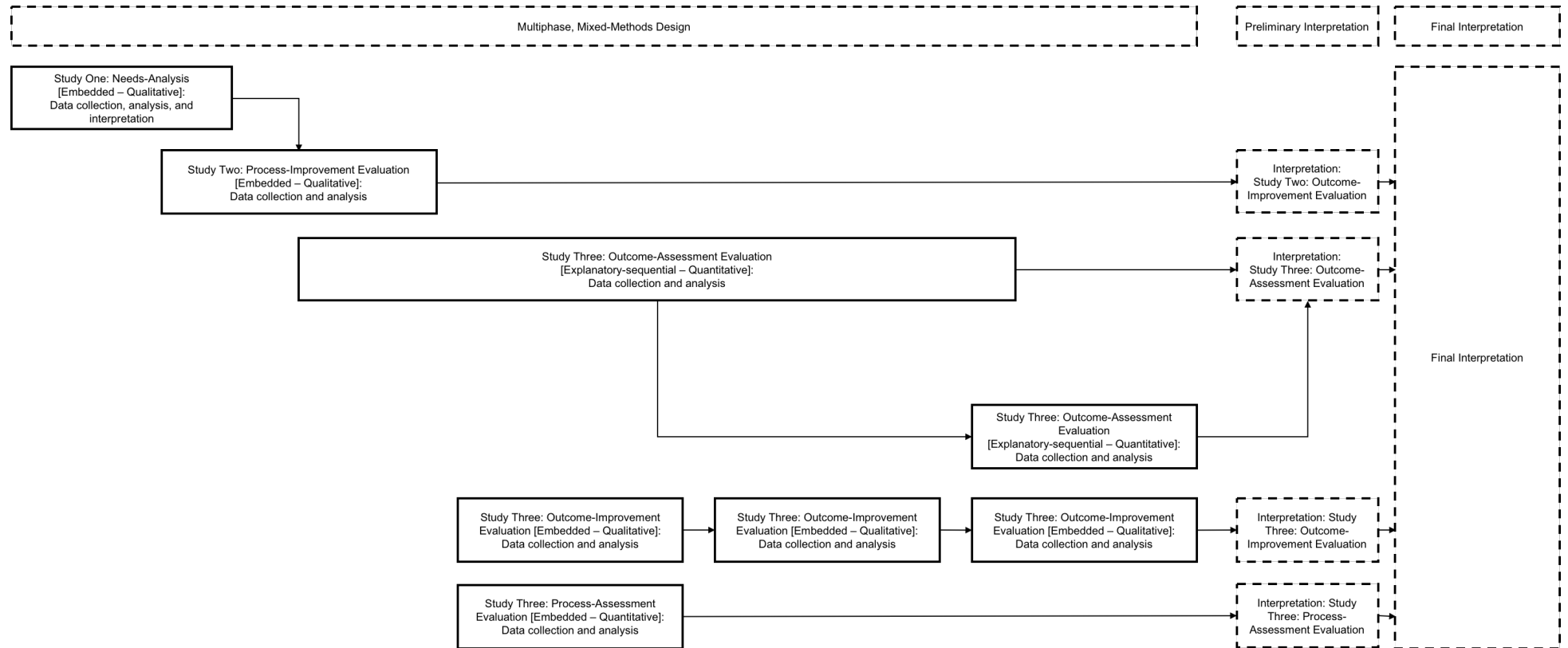


Figure 4. Schematic of the multiphase, mixed-methods design for this research project

An outcome-assessment evaluation was conducted using an explanatory-sequential design between May 2016 and March 2017. The explanatory-sequential, mixed-methods design occurred in two distinct, interactive stages. Quantitative data was first collected and analysed as it had the priority for addressing the primary purpose of Study Three. Following analysis of the quantitative data, qualitative follow-up interviews were conducted to help explain the quantitative data (Fetters, Curry, & Creswell, 2013). Given that the qualitative findings were used to help explain the quantitative findings, the point of interface for this explanatory-sequential design was during data analysis in Study Three. The findings from the explanatory-sequential design were further analysed in line with the other findings from Study Three before being interpreted in line with the findings from the previous two studies.

Within the extant programme evaluation literature, social validation procedures have been used to determine participants' satisfaction with programmes and to connect the programme effects to the social context (Storey & Horner, 1991). For example, social validation procedures were used to understand participants' perceptions of a goal setting intervention on performance excellence and whether changes in performance excellence were viewed as useful to each individual (Mellalieu, Hanton, & O'Brien, 2006). Therefore, an outcome-improvement evaluation was embedded with Study Three to understand the participants' perceptions of the LS programme and the component parts of the LS programme that influenced performance excellence and personal excellence. This embedded design was included to provide additional information for future iterations of the LS programme. The findings from this outcome-improvement evaluation were integrated with the findings from the other evaluations in Study Three before being interpreted with the findings from the needs-analysis and the process-improvement evaluations.



Researchers have also been encouraged to evaluate the fidelity of LS programmes (Bean & Forneris, 2017; Gould & Carson, 2008; Hodge et al., 2012; Pierce et al., 2017). From an LS programme fidelity perspective, it is essential to assess the influence of both the content of the LS programme (e.g., workshops/exercises designed to satisfy autonomy, competence, and relatedness) and the context surrounding the individuals participating in the LS programme (e.g., the provision of a need-supportive motivational climate). Therefore, a process-assessment evaluation was conducted to understand programme fidelity. This process-assessment evaluation was embedded within the multiphase, mixed-methods design. The findings from this process-assessment evaluation were integrated with the findings from the other evaluations in Study Three before being interpreted with the findings from the needs-analysis and the process-improvement evaluations.

### **Summary**

This chapter was included to provide an in-depth understanding of the research context and demonstrate that this research project was a sequence of interrelated studies bridged by an overarching research design. Opening with a discussion of the context for this research project, professional cricketers from New Zealand were highlighted as the target population and a detailed explanation of the ‘gaining access’ process to professional cricketers was provided. Given the applied nature of this research project, disclosure of the researcher’s background was then forwarded to illuminate his professional philosophy and to increase methodological rigor. Having outlined the context and the imposed timeline for this research project, the overarching research design was presented. Multiple types of programme evaluation were discussed in relation to their utility for addressing the purpose of this research project. A detailed rationale was then provided for the use of a multiphase, mixed-methods design grounded in a critical realist paradigmatic stance. The use of multiphase, mixed-methods design enabled this research project to extend previous literature by combining various types of evaluation to address the purpose of this research project. This chapter

concluded with an explanation of the mixed-methods design employed in each study and highlighted the integration of the findings from each type of mixed-methods design.

## CHAPTER FOUR

### STUDY ONE: A NEEDS-ANALYSIS EVALUATION

The purpose of this research project was to develop, deliver, and assess a life skills (LS) programme for promoting performance excellence and personal excellence in elite athletes. Based on a review of the athletic career development literature and LS programme literature, this research project spanned three interrelated studies that were combined using a multiphase, mixed-methods design. Various types of programme evaluation were employed in these three studies to assess the processes and outcomes associated with the development (Study One and Study Two) and delivery (Study Two and Study Three) of LS programmes (Creswell & Plano Clark, 2011). Study One, a needs-analysis evaluation to inform the development of the LS programme, is discussed in this chapter.

#### **Programme Development**

Given the current limitations of career assistance programmes designed by sporting organisations (Lavallee, 2000; Stambulova & Ryba, 2013), a LS programme designed specifically for elite athletes would provide a valuable contribution to the athletic career development literature. Life skills programmes can be purposely designed for athletes from specific sports (e.g., football, hockey) and/or particular age groups (e.g., adolescents, adults), and provide an alternative option for promoting both performance excellence and personal excellence in elite athletes (Danish et al., 1993; Miller & Kerr, 2002). Various LS programmes have been developed, delivered, and evaluated to explicitly teach psychological skills and enhance positive psychological development in athletic populations (e.g., Bean et al., 2014; Goudas & Giannoudis, 2006; Hardcastle et al., 2015; Holt et al., 2013; Jones et al., 2011). Life skills programmes have typically been developed using conceptual frameworks and components of intervention methodologies (e.g., psychological techniques, psychological strategies, psychological skills). To inform the components of intervention methodologies, a

needs-analysis exploring the LS needs of the athletic population under investigation would generate specific knowledge to inform the development of a purposefully designed LS programme.

**Needs-analysis.** A needs-analysis can provide information on the nature or extent of a social phenomenon prior to researchers and stakeholders embarking upon a search for a solution (e.g., LS development in professional cricketers) (Clarke, 1999). The use of knowledge from existing literature is limited when the area of investigation is novel or when previous findings might not be applicable across populations or cultures (Jones & Lavallee, 2009). Needs-analyses have been advocated to ensure components of intervention methodologies align with the unique LS needs of targeted athletic populations (Gould & Carson, 2008; Pierce et al., 2017). Jones and Lavallee (2009) conducted one of the few research projects to identify the LS needs of their target athletic population prior to developing and delivering a LS programme for British athletes. The findings from their study provided information regarding the unique LS needs of the population under investigation and facilitated the development of an effective LS programme (see Jones et al., 2011 for more detail).

**The life skills needs of athletes.** Life skills programmes have typically focused on *interpersonal* LS (e.g., communication, leadership) and *intrapersonal* LS (e.g., self-organisation, motivation) (Bean et al., 2016; O’Hearn & Gatz, 2002; Petitpas et al., 2004). The inclusion of these LS has been supported by the youth development researchers who have provided an in-depth understanding of the types of LS that the young athletes need to display performance excellence and personal excellence. Whilst youth athletes are worthy of existing and future research attention, researchers have been warned about adolescents’ ability to fully explain the extent of their LS (Danish et al., 1993). Danish and colleagues suggested that adolescents, based on their stage of psychological development, may not have sufficient self-awareness to report the LS they have learned and/or had the opportunity to deploy their

intrapersonal LS in other life domains. Given this suggestion, it is perhaps surprising that few researchers have conducted studies exploring LS development in adult athletes (see Chinkov & Holt, 2016 for an exception). Furthermore, it is becoming increasingly apparent that adult athletes might also benefit from LS development (Gordon et al., 2005; Roberts et al., 2015).

The majority of LS programmes have been developed for adolescent athletes and at-risk youth (Hodge et al., 2016). Whilst adolescence is considered the most favourable period to affect positive psychological development (Erikson, 1966), positive psychological development can occur across the lifespan and other groups of athletes would likely benefit from LS programmes (Wylleman & Lavallee, 2004). The majority of research focusing on LS development in sport has been conducted with social agents from the youth and college sport domain (e.g., parents, teachers, coaches, volunteers) and few researchers have reported on programmes that enhance LS in older, aspiring elite, or elite athletes (e.g., Hardcastle et al., 2015; Jones et al., 2011; Lavallee, 2005). Further research is warranted to explore LS development in other age groups (e.g., adults) and sporting contexts (e.g., professional sport). Research exploring LS development in adult professional athletes would provide an important contribution to both the athletic career development and the LS literature, and assist with the development of purposely designed LS programmes.

***The life skills needs of elite athletes.*** The transition out of elite sport is considered to be a catalyst for decreased psychological well-being for many athletes (Brown & Fletcher, 2017; Rice et al., 2016). Those athletes who fully commit to their athletic identity without exploring other identities (e.g., Lally, 2007) and who lack the relevant psychological skills to negotiate multiple transitions (e.g., Roberts et al., 2015) are more likely to experience decreased psychological well-being during their retirement from sport. Based on these findings, researchers and practitioners require an in-depth understanding of LS that benefit adult elite athletes in multiple contexts (e.g., at home, in a secondary career, in sport) and that

promote identity exploration (Miller & Kerr, 2002; Lavallee, 2005; Stambulova & Wylleman, 2014).

### **Study One: Rationale, Purpose, and Research Questions**

Life skills programmes have generally been developed for adolescent athletes and few LS programmes have been developed, delivered, and assessed with elite athletes (see Hardcastle et al., 2015 or Lavallee, 2005 for exceptions). Furthermore, many LS programme researchers have failed to justify the components of their intervention methodology in relation to their target athletic population (see Jones et al., 2011 for an exception). Life skills programme development has typically been informed by the experiences of younger athletes who likely do not understand the extent of their life skills (Danish et al., 1993). To enhance the potential effectiveness of purposely designed LS programmes, researchers have been advised to conduct a needs-analysis to provide context-specific knowledge regarding their target athletic population (Gould & Carson, 2008; Hodge et al., 2016; Jones & Lavallee, 2009; Pierce et al., 2017). Thus, the purpose of Study One was to identify the LS needs of experienced professional cricketers and to inform the development of a LS programme for promoting performance excellence and personal excellence in cricketers.

**Study One: Research questions.** The purpose of Study One was addressed by answering the following research questions:

1. What types of LS promote performance excellence and personal excellence in experienced, professional cricketers?
2. How do experienced, professional cricketers develop LS throughout their careers in cricket?
3. To what extent do professional cricketers understand the potential for LS development during a career in cricket?

## **Study One: Method**

### **Methodology**

A narrative methodology (Riessman, 2008), grounded in a critical realist paradigmatic stance, was adopted for Study One (Carless & Douglas, 2012; Smith & Sparkes, 2012). A critical realist paradigmatic stance enabled the researcher to explore how the participants constructed and interpreted their experiences and the meanings that they attributed to these experiences (Maxwell & Mittapalli, 2010). By adopting this paradigmatic stance, the researcher was also able to accept that there was likely to be multiple perspectives of LS development and to generate knowledge using context-based inferences (Bisman, 2010; Guba, 1990; Maxwell & Mittapalli, 2010). The researcher employed a narrative methodology with the understanding that the participants' narratives do not speak for themselves but offer a window to an essential self which incorporates the participants' biographical and cultural context (Riessman, 2008; Carless & Douglas, 2012). A narrative methodology is likely to provide greater insight into the perceptions of LS development in athletes because it enables the researcher to interpret the meaning of the participants' narratives and the importance of these narratives for personal functioning (Smith & Sparkes, 2009).

Researchers have previously explored LS development using cross-sectional research designs (e.g., Camiré et al., 2009; Holt et al., 2009). Cross-sectional research designs and qualitative research methods are used for observational studies whereby information about the participants is recorded without manipulating the study environment (Heiman, 1995). The types of LS developed in different sporting contexts (e.g., physical education, organised sport) and with various groups of athletes (e.g., soccer, basketball, volleyball) have typically been identified using cross-sectional research designs (e.g., Camiré et al., 2009; Holt et al., 2009). Researchers who use qualitative cross-sectional research designs gain the advantage of being able to gather in-depth and detailed accounts of their participants' experiences (e.g., the development of LS during an athletic career). The data from each participant in the sample

can then be analysed and presented as main themes associated with the research questions, and common narratives amongst the participants can be presented (Patton, 2002). Thus, a narrative methodology grounded in a critical realist paradigmatic stance and a qualitative cross-sectional research design was used to purposely select the participants and gather, analyse, and interpret the data in Study One.

## **Participants**

The participants for Study One were 12 experienced adult male professional cricketers ( $M^{age} = 28.83\text{yrs}$ ;  $SD^{age} = 3.04\text{yrs}$ ;  $M^{professionalexperience} = 8.25\text{yrs}$ ;  $SD^{professionalexperience} = 3.25\text{yrs}$ ). Professional cricketers were recruited from the six major cricket associations in NZ using purposeful sampling criteria (Gratton & Jones, 2010). The first sampling criterion sought two cricketers from each major cricket association (MCA) to be selected for this study. This criterion was employed to account for potential variations in motivational climates within each MCA that might have influenced implicit LS development in cricketers (Camiré et al., 2012; Gould et al., 2007; Holt et al., 2009). Furthermore, a broad sample of cricketers from the six major cricket associations was selected to acknowledge social-cultural differences that might exist within participants from different regions of the same country (Stambulova & Ryba, 2013). The second sampling criterion specified that cricketers whose careers were longer than four years were eligible to be recruited for this study. This criterion was formulated in line with previous research that explored LS development in adult athletes who had been competing for two years or more (Chinkov & Holt, 2016). This criterion specified that the most experienced professional cricketers in each MCA were selected for this needs-analysis study.

Upon obtaining ethical approval from the university ethics committee, the researcher initially approached the New Zealand Cricket High Performance Unit (NZCHPU) and the New Zealand Cricket Players Association (NZCPA) in writing. The researcher then formally presented his research proposal to personnel from the NZCHPU and the NZCPA (as



previously discussed in Chapter Three, pp. 70-75). Upon receiving approval from the stakeholders from both organisations, information regarding the professional playing experience of all professional cricketers in New Zealand was collated from the public domain (Cricinfo, 2015) and the names of 33 cricketers who met the sampling criteria were recorded. The list of professional cricketers was then sent to the NZCPA personal development manager who contacted the potential participants for this study. The personal development manager provided contact details for 12 cricketers who informally agreed to participate in Study One. The 12 cricketers were contacted via email and sent an information sheet (Appendix A) and informed consent document (Appendix B). All 12 professional cricketers verbally agreed to participate and provided written informed consent before participating in this study.

The cricketers playing experience at the professional level ranged from 4 to 11 years and included five cricketers who had played or were currently playing international cricket. Furthermore, the nature of professional cricket in New Zealand meant that seven of the cricketers were also working in other occupations on a fixed, part-time or flexible, part-time basis. The remaining five cricketers were either studying or had spent their off-season playing cricket in the Northern Hemisphere (see Table 5, p. 106).

### **Data Collection**

Gould and Carson (2008) emphasised the value of using qualitative research methods to explore the LS needs of specific athletic populations. Qualitative research methods can be used to address questions such as ‘what are the LS needs of athletes?’, ‘are LS developed through sports participation?’, and ‘how are LS developed through sports participation?’; questions that cannot be answered with the necessary depth using quantitative research methods. Since Gould and Carson’s review of LS research, qualitative research methods have been used to address questions relating to whether LS can be developed through sport (e.g., Camiré et al., 2009; Holt et al., 2009).

Qualitative research methods have typically been used to provide a detailed understanding of athletes' experiences, beliefs, and values concerning LS development (Camiré et al., 2009; Gould & Carson, 2008; Jones & Lavalley, 2009). The most commonly employed qualitative research method when participants cannot be directly observed and/or to explore the participants' historical or biographical information has been interview (Patton, 2002). Given that the purpose of Study One was to identify the LS needs of professional cricketers and to inform the development of a LS programme, a research method that promoted retrospective recall was required and, thus interview was the research method employed in this study.

Table 5

*Participant information for Study One*

Pseudonym	Age (yrs)	Ethnicity	Career length (yrs)	Secondary occupation
Mark	28	New Zealand-European	5	Student
Neil	27	New Zealand-Asian	8	Accountant
Dave	30	New Zealand-European	10	Banker
Rory	31	New Zealand-European	8	Lawyer
Rhys	33	New Zealand-European	14	-
Alex	32	New Zealand-European	5	Banker
Joe	28	New Zealand-European	11	Banker
Nick	29	New Zealand-European	11	Teacher/Coach
Ian	23	New Zealand-European	4	Student
Matt	31	New Zealand-European	8	-
Josh	30	New Zealand-European	11	Builder
Max	24	New Zealand-European	4	Student

**Interview guide.** An interview guide was developed following a literature review on the interrelated topics of LS development (e.g., Danish et al., 2004), psychological skills and psychological strategies (e.g., Gould et al., 2002), and cricket (e.g., Woolmer, Noakes, & Moffett, 2008). The interview guide was divided into four sections to address the three research questions for Study One. Section one was designed to discover the types of skills that the cricketers' perceived to have developed during their cricket career and helped them display performance excellence. This section explored skills developed for competition (e.g., self-regulation skills) and in the cricket environment (e.g., communication with coach regarding selection). This section was devised with the knowledge that athletes require a broad range of skills (e.g., psychological, physical, technical, and tactical) to successfully progress through multiple transitions in the athletic domain (Stambulova & Wylleman, 2014). Section two consisted of questions to explore the cricketers' perceptions of the types of skills that were developed in cricket and helped them display competence in non-cricket settings during their cricket careers (i.e., personal excellence). To aid the memory of each of the cricketers, this section was accompanied by a list of skills that each cricketer had mentioned during section one of the interview. The third and fourth sections of the interview guide investigated the cricketers' perceptions of how these LS were developed and the extent to which the other professional cricketers understood the potential for LS development during a career in cricket (see Appendix C for the interview guide).

The researcher conducted all 12 interviews using a semi-structured interview technique. A conversational approach (i.e., an active listener) was used to facilitate an open-ended conversation, to explore newly emerging themes, and to provide opportunities to gain greater understanding of the cricketers' experiences (Patton, 2002). Moreover, this type of interview guide enabled the cricketers to talk freely, tell stories, and change topics when they thought it appropriate (Smith, 2010; Sparkes & Partington, 2003).

**Pilot interviews.** Two formal pilot interviews were conducted with two professional cricketers to gain experience with the interview guide and to provide an opportunity to refine the questions and probes. The first pilot interview enabled the interviewer to become familiar with the type of responses provoked by the open-ended questions (Flick, Kardorff, & Steinke, 2004). A debriefing session with the cricketer after the first interview resulted in some minor adjustments to a small number of questions and the inclusion of several new probes (e.g., ‘I’m not entirely sure what you mean, could you please go over that again?’). The revised interview guide was piloted with a second professional cricketer to ensure that the amendments strengthened the interview guide. No further amendments were made to the interview guide following the second pilot interview.

**Main interviews.** Face-to-face interviews were conducted between December 2015 and February 2016 at a time and location that was convenient to each of the 12 cricketers. Interviews were conducted with two players from the same major cricket association during the same week, with the 12 interviews spanning a period of six weeks. The interview time ranged from 33 minutes 52 seconds to 57 minutes 36 seconds ( $M^{minutes} = 46.92$ ;  $SD^{minutes} = 7.93$ ) and amounted to 5975 lines of double-spaced verbatim transcript data (see Appendix D for an example transcript).

**Researcher as instrument.** When adopting qualitative research methods, the researcher is considered to be a methodological instrument whose biography influences all aspects of the study (Carless & Douglas, 2012). Thus, the trustworthiness of the findings is reliant upon full disclosure of the interviewer’s relevant personal characteristics and experiences. The interviewer was an applied sport psychology researcher with previous experience using qualitative research methods. The sporting biography of the interviewer is relevant as he was a former cricketer (provincial level) and current cricket coach (age-group provincial level). Consequently, the researcher had an insider membership for the sample in this study (see Chapter Three, pp. 75-79).

## **Data Analysis**

A number of qualitative data analysis methods have been reported within the qualitative research methods literature (e.g., content analysis, thematic analysis, phenomenological analysis, grounded theory) (Patton, 2002). The type of data analysis employed is dependent on the research problem (i.e., research purpose and research questions), the researcher's personal experience, and the audience of the research publication (Creswell & Plano Clark, 2007). Given the scarcity of LS research conducted with elite athletes, the researcher employed narrative thematic analysis. Narrative thematic analysis allowed the researcher to account for participants' biographical, historical, and cultural experiences during the analysis process (Riessman, 2008).

All the interviews were transcribed verbatim and the researcher listened to the audio files and read the transcripts several times in an attempt to immerse himself in the data (Holt & Sparkes, 2001). This process, also known as indwelling, was accompanied by notes that represented the researcher's initial impressions of the data (Maykut, & Morehouse, 1994). The data were then subjected to narrative thematic analysis (Riessman, 2008). During this process, raw themes were identified and quotes were extracted from the text based on the three research questions for this study. These questions were 'what types of LS promote performance excellence and personal excellence in experienced professional cricketers?', 'how do experienced professional cricketers develop LS throughout their career in cricket?', and 'to what extent do professional cricketers understand the potential for LS development during a career in cricket?' Alongside the raw themes and quotes that were identified and extracted from the text, the researcher also kept analytical memos to establish preliminary connections between the cricketers' narratives and the theoretical concepts of LS development. The raw themes were then categorised into sub-themes and shaped into preliminary case reports that were sent to each cricketer for member checking procedures (see Appendix E for an example case report). Following member-checking procedures, the sub-

themes from each of the 12 participants were analysed collectively and grouped into main themes, before being subjected to an audit trail process.

### **Methodological Rigor**

**Member checking.** Each cricketer received a copy of their case report to initiate member-checking procedures (Sparkes & Smith, 2009). Each cricketer was asked to read the case report and to verify that the content was an accurate and a fair representation of their experiences. The cricketers were also offered the opportunity to expand on their answers by including additional information on the transcript, and to revise the main themes and sub-themes created by the researcher (Patton, 2002). All of the cricketers confirmed the accuracy of their transcripts, but they did not offer any further explanation or amendments to their case reports.

**Audit trail.** An audit trail was conducted by the researcher's supervisor who had extensive knowledge of qualitative methods. The researcher was required to make a defensible case that the available data supported his classification of quotes, raw themes, sub-themes, and main themes. Only minimal discrepancies were identified in the audit trail and these discrepancies were debated until a mutual consensus was reached between the researcher and researcher's supervisor.

### **Study One: Results**

During narrative thematic analysis, the cricketers' names were replaced by pseudonyms (see Table 5, p. 106) and any quotes indicating the cricketers' major cricket association, team members, or management were deleted to protect the anonymity of each individual. This results section has been divided into three sub-sections in line with the research questions for this study. Four main themes that represent the cricketers' perceptions of the types of skills that are developed during a cricket career and transferred to non-cricket settings are included in section one. These main themes were: (a) communication; (b) self-regulation; (c) motivation; and (d) problem-solving. Three main themes that illustrate the

cricketers' perceptions of how their LS developed during their career in cricket are presented in section two. These main themes were labelled: (i) experiential learning; (ii) openness to experience; and (iii) preparing for life after cricket. One theme, related to the cricketers' perceptions of LS development in other professional cricketers and labelled 'limited awareness', is presented in section three. During narrative thematic analysis, a number of sub-themes emerged for each main theme. These sub-themes have been included to provide insight into the development of LS to display competence in multiple contexts (i.e., for both performance and personal excellence). A narrative is provided for each sub-theme and each narrative is accompanied by a selection of quotes to facilitate a contextual understanding and to generate an empathetic view of LS development during a career in cricket (Smith & Sparkes, 2005).

### **Perceived Life Skills**

Narrative thematic analysis revealed four main themes associated with the cricketers' perceptions of LS that are developed during a career in cricket. These main themes were: (a) communication; (b) self-regulation; (c) motivation; and (d) problem-solving. Whilst all 12 cricketers provided narratives associated with each of these main themes, three sub-themes emerged for the main theme 'communication' and two sub-themes emerged for the main themes 'self-regulation', 'problem-solving', and 'motivation'. Each sub-theme is accompanied by examples of how the LS was utilised in multiple settings (e.g., in cricket, in a secondary career, during study, at home).

**Communication.** Communication skills were reported as a commonly used LS to help the cricketers display competence both inside and outside the cricket domain. The utility of communication skills in the cricket domain and alternative life domains were highlighted by each of the cricketers. The sub-themes associated with communication skills were labelled 'team work', 'public speaking', and 'information seeking'.

**Teamwork.** All 12 cricketers stated that communication skills were central to effective teamwork in cricket and in life outside cricket. For example, Alex described that communication skills help to establish and retain a positive team culture. He emphasised the importance of using communication to “get along” with team members when working towards a common goal in cricket and during his off-season work in a bank:

Communication is crucial in any stage of life. Whether that's with your cricket coach, manager in the work environment, co-workers, or teammates. These are people that you might not necessarily be best mates with and you have to learn to get along and have a common goal, whether that's in a company or a sports team.

**Public speaking.** All 12 cricketers highlighted that they often delivered public speeches to sponsors, children, and the media. Over the course of his career, Mark developed his ability to address unfamiliar audiences as a result of communicating with different age groups at community cricket coaching days and corporate events:

We have certain days we need to do. One of the days is a ‘Hooked on Cricket’ day. [*The major cricket association’s community cricket department*] get all the primary school kids together to play cricket and you coach children of different ages; that's where communication comes in. Other times, you have to go to corporate events where you have to talk to people and do Q&A sessions; all the time you are developing communication skills.

He reinforced that communication is likely to be transferred to contexts outside cricket when he said:

Public speaking and your ability to talk to an audience is always very useful. If you look at most successful people in cricket, they are able to speak confidently; when you go to meetings you need to be confident in your ability to speak to a group of people.



**Information seeking.** Ten of the 12 cricketers suggested that using communication skills to seek information was important in cricket and in life outside cricket. Neil, a current international cricketer and accountant, indicated that “communication helps in cricket or in work” to retrieve valuable information from significant social agents (e.g., coaches or senior staff). He firstly explained how he used communication skills to obtain important information in the cricket domain:

Without communication, you tend to get lost in where you are heading. If you have communication, you have a really clear path in what you are trying to do, and it helps keep things really simple. If you are not able to seek information from your coaches or your teammates, then you are going to struggle to get that extra bit out of yourself.

He then described using communication skills in a similar manner in his role as an accountant when he stated, “It comes down to seeking help from others in the work environment. So, understanding how to communicate effectively to seek help from the senior staff members.”

**Self-regulation.** All 12 cricketers perceived that their experiences in cricket helped them to develop self-regulatory skills. They used these self-regulation skills to manage their emotions and rationalise stressful situations in multiple life domains.

**Managing emotions.** All of the cricketers highlighted how their cricket performances were associated with “highs and lows” (Ian) and likened their careers to a “rollercoaster ride” (Rhys). The cricketers explained that they had to manage their emotions in relation to a number of setbacks during their careers. These setbacks ranged from performance slumps and deselection from their national side, to injury and moving to a different major cricket association. Matt, who had been a full-time cricketer all his career, perceived that cricketers encountered numerous setbacks and, as a result, he had developed skills associated with managing his emotions that could also be used in other areas of his life:

I imagine that it is pretty rare for people in other jobs to deal with setbacks on a consistent basis like you do as a cricketer. So being able to do that, dust yourself off, and go about your business is a transferable skill.

He then elaborated on how skills associated with managing emotions in the cricket domain could be transferred to other life domains:

It's knowing that you can turn things around if you control your emotions. If you can get that under control, that's highly transferable to environments where you have other goals and setbacks. It actually becomes a strength that you have developed from being in the cricket environment.

***Rationalising stressful situations.*** Nine of the cricketers believed that their ability to reappraise stressful situations was transferable to other areas of their lives. Rory explained that appraising stressful situations was an important part of being a professional cricketer. He compared the demands of professional cricket to his secondary occupation as a lawyer to highlight how he was able to rationalise the demands he encountered:

Cricketers are quite good at dealing with stress and I've noticed that you are always playing for your career [*i.e., selection*]. In other professional environments, it always surprises me to the level that people get stressed about the little things. So, I guess cricketers are used to always having their job on the line.

He then highlighted how rationalising stressful situations on a day-to-day basis in cricket had helped him understand and manage the demands that he faced in his secondary occupation:

There are different stresses [*as a lawyer*], but at the end of the day it is never career threatening. Something can go wrong and you might have made a mistake, but it's never really going to end your career like it can in cricket.

**Motivation.** All 12 cricketers highlighted that motivation was integral to maintaining a career in professional cricket. In particular, these cricketers believed that ‘determination’ and ‘goal setting’ underpinned their motivation in the cricket context and had also helped them in life outside cricket.

**Determination.** Nick, who was a part-time teacher and part-time coach during the off-season, stated that maintaining a career in cricket required “determination”. Ten of the cricketers believed that attributes associated with a strong work ethic and determination towards attaining goals were transferable to life outside cricket. Josh highlighted how his drive to achieve goals had helped him in cricket and during his work in the off-season as a builder:

Being a professional athlete, you have to work hard and be willing to go that extra mile. That's a skill that you can use in any career. You could be digging a hole and you know have the ability to work hard and get the job done.

Reinforcing Josh’s suggestion, Nick explained that he achieved his goals of becoming a teacher and coach throughout determination and commitment:

You take your determination from cricket and apply it to other things that are important; for me that was teaching and coaching. I really believe that you take your determination and apply it to other areas of your life. If you have been a success, you have worked hard. You can use that work ethic to work hard at something outside sport.

**Goal setting.** Whilst determination was an important aspect of motivation, seven cricketers also highlighted that goal setting skills could help maintain and enhance their motivation in multiple life domains. Highlighting the utility of goal setting as a LS, Dave stated that goal setting was crucial for self-learning in cricket and in his role as a banker:

Your self-learning is essentially classed as goal setting. As a cricketer, you constantly have a work-on [*i.e., a skill needing improvement*] so you grow up with goals and you understand how they are key to your development. As your career progresses you start to use those skills outside cricket. You always have some form of goal that's in the pipeline that you are trying to work towards.

Dave highlighted that he initially used goal setting in cricket before using goal setting in other areas of his life outside cricket. Alex, who was also a part-time banker, provided a more specific example of using short-term goal setting during cricket and in life outside cricket:

If you look at the off-season, you set goals like “I want to earn this much over six-months” or “I want to have a job for this long”. Goal setting allows you to break it down and work out how you are going to do that. We have talked about breaking down [*cricket performance into*] days and sessions. You use those skills and say, “today I am going to fix up my CV and send it off to five people”. It's understanding that you can have some lofty goals, but you have processes or steps in place to achieve them.

**Problem-solving.** Establishing and maintaining a career in professional cricket was associated with a variety of problem-solving tasks. These cricketers provided a number of examples concerning the utility of problem-solving skills in the cricket domain and in life outside cricket. The sub-themes associated with problem-solving skills were labelled ‘analytical skills’ and ‘skill acquisition’.

**Analytical skills.** Eleven of the cricketers stated that being able to analyse their performances was important to their ongoing success. To overcome a number of technical (*i.e., motor control*) and tactical (*i.e., strategic decision-making*) concerns, the cricketers reported that they often engaged in systematic and structured problem-solving. Max highlighted that using analytical skills to find solutions to problems was a continual part of being a professional cricketer:

When something has gone wrong it's your ability to step back and say, "this can be dealt with". Whereas, when you are in the moment, it's sometimes easy to be like "what's going on here? How do I fix this?" You learn to step back and look at the big picture to find a solution.

He then stated that analytical skills were also useful when he was working on assignments for his university degree:

When you are given assignments, there are so many components to them. You have to understand the question, find the relevant literature, understand what is important, articulate that knowledge, and present it. That analysis process is the same process as I use to resolve some of the issues that we face in cricket.

***Skill acquisition.*** Eight of the 12 cricketers stated that their ability to acquire and develop technical, tactical, psychological, and physical skills in cricket could be used in other areas of their lives. The cricketers suggested that the process used to acquire and develop cricket-specific skills could be used when developing skills and knowledge for other life domains. Neil explained how this process was similar in cricket and in his work as an accountant:

[*In cricket,*] I break that skill down to explore it. I start with really basic drills and try to make it more complex as I go. Throughout this period, I gained feedback from coaches and teammates. With any bowler, if they are required to perfect a slower ball they would have to start really slowly by doing hand release, then bowling at a target, and then bowling at batsmen. So, break the skill down and try to progress, and perfect that skill over time.

Neil then went on to explain how he used this process to develop knowledge and skills required for his secondary occupation:

When I was an accountant I started with easy jobs, and then worked into the medium and complex jobs. It comes down to gaining knowledge or skills for a certain task by talking to a colleague; a bit like you do with your coach. Then you perform that skill in a variety of tasks ranging from simple to complex.

### **Perceived Development of Life Skills**

Three main themes emerged regarding the cricketers' perceptions of LS development throughout their careers in professional cricket. The underlying narrative across these main themes indicated that a career in professional cricket facilitated the development of skills that can be transferred to other life domains. However, these skills only became LS when the cricketers understood the utility of their sport-specific skills and employed these skills in different domains. The cricketers provided a number of examples that explained how they developed LS throughout their careers in cricket. These examples clustered into three main themes labelled: (i) experiential learning; (ii) openness to experience; and (iii) preparing for life after cricket. All 12 cricketers provided narratives and quotes relating to the main theme 'experiential learning'. Whereas nine of the cricketers provided narratives and quotes associated with the main themes 'openness to experience' and 'preparing for life after cricket'.

**Experiential learning.** All 12 cricketers highlighted that experiential learning was fundamental to developing LS. The first stage of experiential learning involved the cricketers reflecting on their experiences that had fostered their cricket-specific skills. The cricketers acknowledged that many of the skills that contributed to their success in cricket were interpersonal skills (communication) and intrapersonal skills (self-regulation, motivation, and problem-solving). With an understanding that these skills were applicable in other life domains, the cricketers reflected on their experiences outside sport to understand the utility of these skills. Max summarised this experience when he said:

Until you go through those experiences you don't realise how important these skills are elsewhere. You end up saying, "I wish I knew that four years ago", then you are like, "I should have known that". If you reflected on your experiences earlier, it would help you transfer these skills sooner rather than later.

Josh reinforced that experiential learning was essential to identify the contexts where the skills learned in cricket could be used as LS in other life domains. He explained that experiential learning can be used to transfer skills to different domains when he said:

You learn from being in a lot of different situations and, when you are put in those situations, you take things out of them and bank that knowledge. So, when you come across similar situations in the future you can say to yourself "I've got these skills, and this is what I need to do to be successful".

**Openness to experience.** Nine of the 12 cricketers emphasised that being "open-minded" (Nick) and "willing to take opportunities" (Rhys) helped them to understand how the skills that they had learned in cricket applied to other life domains. The narratives from these cricketers suggested that engaging in developmental opportunities was a prerequisite to developing LS through experiential learning. For example, Dave believed that embracing rather than avoiding opportunities was integral to developing LS. Making reference to players who he had seen successfully transfer the interpersonal skills and intrapersonal skills used in cricket to other life domains, he stated:

They make the most out of those off-field opportunities... That's something that you need to embrace rather than shy away from and that's why you encourage someone who is starting out to embrace as many opportunities as possible, not to be afraid of putting in effort, and not to place so much emphasis on the outcomes.

Neil reiterated this point when he said:

If you have an open mind and learn a variety of skills throughout the course of your [*cricket*] career, it will stand you in good stead. Those guys who go out of their comfort zone and really make an effort during their careers in cricket become the most successful outside of cricket because they learn to apply those skills in a variety of different situations.

**Preparing for life after cricket.** Nine of the cricketers stated that preparing for life after cricket raised their awareness about the transferable nature of the skills developed during their cricket careers. Mark suggested that:

When you start [*playing cricket*] you aren't aware of anything really. All you want to do is play cricket and make the team. When you get a little bit older you start to think about those transferable skills and what those skills can help with in life after cricket.

Alex found it difficult to apply the skills learned in cricket to other life domains until he engaged in opportunities associated with his preparation for life after cricket. He explained this position when he stated:

You aren't aware of it until it comes to a time where you are talking in a [*job*] interview and someone asks you about a situation where you dealt with and overcame conflict in the workplace. Then you might reflect on cricket and remember the time that you and this guy had a tiff in the changing room and you came to an agreement.

Mark and Alex highlighted that opportunities arising towards the end of their cricket careers made them consider the types of LS developed in the cricket domain. Nick also demonstrated an increased understanding of LS towards the latter stages of his cricket career. Speaking positively about his development during his career in cricket, he said:



The older you get the more you start to realise that you are getting close to career transitioning or moving into the workforce. I am starting to realise that I've played cricket, I've learned a load of skills, and grown as a person; I can take that forward to an organisation and say, "I have a lot to offer".

### **General Awareness of Life Skills Development**

All of the cricketers provided detailed descriptions of the skills that they had developed during their cricket careers and transferred to other life domains. Furthermore, they were able to explain the utility of these LS in multiple contexts outside cricket. The narratives presented in the two previous sub-sections illustrated that a career in professional cricket can facilitate the development of multiple skills that can help cricketers display competence in multiple life domains (i.e., both performance and personal excellence). Despite the potential to develop LS during a career in cricket, all 12 cricketers stated that LS were identified towards the latter stages of their cricket careers and that it would have been difficult to develop LS without opportunities to employ their skills in non-sport contexts. Alex highlighted the potential difficulties associated with LS development, when he said:

A lot of the skills are learned inherently so you don't go to a course on 'how to' as much. You could go to a course on media training... but a lot of the [*life*] skills are learned through experience rather than anything else. You pick these skills up without realising a lot of the time. You don't get a certificate at the end of it and it doesn't go on your CV.

Alex implied that intrapersonal LS were particularly difficult to develop given that cricketers receive little tuition or feedback on these skills. Furthermore, the narrative provided by all the cricketers indicated that the majority of professional cricketers do not understand the breadth of LS that can be developed in the cricket domain. Joe highlighted this narrative when he stated:

In the modern professional environment, you can develop a whole heap of skills that can help you in the work force. You've got to do spreadsheets, presentations, comprehensive emails; you are promoting yourself like you are your own business. You have to deal with agents and selectors and if things don't go your way you take the criticism and seek help to get better. All of these situations lead to skills that can transfer really really well into other areas of their lives.

In addition, Rory suggested that many cricketers failed to understand how the skills learned in cricket might help them outside the cricket domain when he said, "I think they understand that those are key skills for performance, but I don't think they are very good at developing them and applying them in different environments." To explain this position, he referred back to a lack of "confidence, get-up-and-go, and motivation" to engage in experiences outside cricket that are likely to develop these LS:

A lot of professional cricketers have spent their teenage years chasing the cricket dream and, assuming they perform well, it is a pretty comfortable life style once they get here. Once you are established, it's easy to be confident in the cricket environment but you fail to understand what it's like in jobs outside sport. You also get remunerated reasonably well for large portions of the year so there isn't anything driving you to develop yourself in other ways... until you realise that your time in sport is running out.

Finally, Ian suggested that players would be more likely to develop LS if there was more education. He suggested that LS education:

...has got to be compulsory. When you enter into a professional cricket team your sole focus is doing well as a cricketer. But often your success comes from having that life balance and having direction alongside your cricket. That's where life skills come in. I think there needs to be a lot more education around the skills and opportunities that can go alongside cricket to give you that balance and that perspective as well.

## **Study One: Discussion**

The purpose of Study One was to identify the LS needs of professional cricketers and to inform the development of a LS programme for promoting performance excellence and personal excellence in this athletic population. These findings contribute to the extant athletic career development literature and LS literature by: (i) providing insight on LS development in a professional sporting context; and (ii) generating knowledge concerning LS development in a specific population to inform the development of a LS programme for professional cricketers. By detailing the lived experiences of adult professional cricketers, the findings afforded conceptual and practical knowledge concerning the types of LS that cricketers develop (or can develop) during their cricket careers, highlighted the processes through which professional cricketers learn and apply their LS, and indicated the existing level of LS knowledge in professional cricketers from New Zealand.

### **The Need for a Life Skills Programme**

The 12 cricketers in this study demonstrated knowledge of a number of LS that were developed during the latter stages of their careers by engaging in opportunities for personal growth and learning from their experiences. However, many of these cricketers believed that other cricketers fail to recognise the application of their skills beyond the sport context or find it difficult to apply the skills that made them successful in cricket to other life domains. Elite athletes have previously indicated that they prefer performance-focused services (e.g., strength and conditioning support, nutrition advice) and tend not to consider future-focused support (e.g., personal development support) (Ryan & Thorpe, 2013). The findings from this study support the conclusion that many athletes have a limited awareness and enthusiasm to explore the types of LS that can be developed during their sporting careers (e.g., Roberts et al., 2015; Ryan, 2013). Furthermore, athletes have tended to display increased awareness of the types of LS that are potentially developed through sport following their retirement from sport (e.g., Lally, 2007). The findings from Study One support calls for increase personal

development services and dual-career pathways for younger athletes (Ryba, Stambulova, Ronkainen, Bundgaard, & Selänne, 2015).

### **Life Skills Developed During a Career in Cricket**

This study highlighted four main themes representing the types of LS that appear to be developed during a career in professional cricket. These LS were: (a) communication; (b) self-regulation; (c) motivation; and (d) problem-solving. In line with existing definitions of LS, these four main themes can be broadly categorised into interpersonal LS (i.e., communication) and intrapersonal LS (i.e., self-regulation, motivation, problem-solving) (Danish et al., 2004; Gould & Carson, 2008; Jones & Lavallee, 2009). Contemporary LS researchers have previously highlighted that interpersonal skills can be both implicitly and explicitly developed within the sport context and can be transferred to other life domains (e.g., Camiré et al., 2009; Camiré et al., 2010; Holt et al., 2008, 2009; Jones, 2009). For example, Holt et al. (2008) highlighted that communication skills were a central part of LS development in adolescent soccer players. The ability to interact with others in competitive, goal-focused situations is considered an important skill that can be readily transferred to non-sport contexts (Camiré et al., 2009; Goudas, 2010; Gould & Carson, 2008). Building on existing literature, the findings from Study One also provided insight into a number of transfer contexts where communication skills could be used in the sport and non-sport domains (e.g., public speaking, information seeking, and teamwork).

The participants in Study One indicated that intrapersonal LS were valuable for helping professional athletes display competence in sport and non-sport contexts. All 12 cricketers highlighted self-regulation, motivation, and problem-solving as frequently used LS. To date, there has been equivocal support for the development of intrapersonal LS through participating in sport (Camiré et al., 2012). The findings from this study support the position that some adolescent athletes may not have sufficient self-awareness to report the LS they have learned and/or had the opportunity to deploy their intrapersonal LS in other life domains

(Danish et al., 1993). To elaborate, youth sport athletes are more likely to articulate the worth of interpersonal skills based on the immediate feedback from significant others (e.g., positive reinforcement from the coach concerning communication skills or leadership skills). Whereas, adult athletes are better equipped to express their use of intrapersonal skills due to higher levels of self-awareness that are cultivated by increased levels of cognitive functioning, maturity, and emotional intelligence (Baltes, 1984). The increased emphasis on intrapersonal LS in this study provides a valuable contribution to the LS literature. These findings provide further evidence of the value of intrapersonal skills (e.g., self-regulation) for adult athletes (e.g., Lavallee, 2005) and encourage practitioners to assist professional athletes with intrapersonal skill development.

### **Strategies for Developing Life Skills During a Career in Cricket**

Narrative thematic analysis revealed three main themes that represented cricketers' perceptions of LS development during their careers in professional cricket. The processes that underpinned the development of LS were labelled 'experiential learning', 'openness to experience', and 'preparing for life after cricket'. Experiential learning has previously been associated with LS development in youth sport athletes (Hayball & Jones, 2016; Pierce et al., 2016). Experiential learning is a process whereby knowledge is created through the transformation of experience (Kolb, 1984). The cricketers in this study reported becoming more reflective as their careers developed and explained that reflection was central to understanding their LS. Reflective practice is the process of 'thinking about what you are doing, whilst you are doing it' (reflecting-in-action) or recalling an experience after the event has occurred (reflecting-on-action) (Anderson, Knowles, & Gilbourne, 2004; Schön, 1987). Both reflection-in-action and reflecting-on-action can promote increased self-awareness and self-understanding; underlying processes associated with experiential learning (see Knowles, Gilbourne, Cropley, & Dugdill, 2014 for more detail).

Pierce and colleagues (2016) recommended reflective practice as one of seven strategies to help coaches explicitly develop LS in their athletes. These researchers encouraged coaches to use questions concerning the skills learned in sport (e.g., what skills have I practised during training and competition in the last week?) and LS development experiences (e.g., what LS have I applied in multiple areas of my life in the last week?) to promote LS development. The findings from Study One highlight LS development as an ongoing process of experiential learning that can be enhanced through reflection. Future researchers and practitioners might investigate and apply reflective practice as a technique for enhancing LS development in their athletes (see Jones et al., 2011 for an example).

Openness to experience, associated with seeking challenges and opportunities to apply sport-based skills to other contexts, was perceived to facilitate experiential learning and, subsequently, LS development in professional cricketers. The findings from Study One highlighted that behaviours consistent with being open to experience were integral to developing LS which could then be successfully deployed in other life domains. Those players who were open to experience engaged in developmental experiences both inside and outside sport and gained confidence in their LS through engaging in these experiences. Whilst the term ‘openness to experience’ has not been previously used within the LS literature, researchers have indicated that individual agency (i.e., ability to set and achieve goals) is central to athletes developing LS (Danish et al., 2004; Larson & Angus, 2011). Specifically, those athletes pursuing multiple goals in various developmental domains are likely to explore and utilise a number of LS.

In addition to being open to experience and engaging in the process of experiential learning, these cricketers perceived that an awareness of and preparing for their life after cricket promoted LS development. The developmental literature has highlighted the impact of critical life events on psychological processes and behavioural change (e.g., Baltes, 1987; Erikson, 1966). Individuals who experienced or were anticipating a critical life event (e.g.,

retirement from sport) have been shown to invest in their personal development and experience more successful transitions in multiple life domains (Stambulova, 1994; Wylleman & Lavallee, 2004). Athletes who engage in personal development tend to undergo self-analysis and self-exploration as they consider the application of their skills to future situations (Brewer & Petitpas, 2017; Grove et al., 1997; Murphy et al., 1996); a process that was discussed by the cricketers in Study One. These findings reiterated the importance of LS education early in athletes' careers. Athletes who acquire knowledge about the types of LS that are applicable to multiple contexts are more likely to experience positive psychological development in both athletic and non-athletic life domains (Wylleman & Stambulova, 2014).

Experiential learning, being open to experience, and preparing for life after cricket represent internal factors that acted as a catalyst for LS development for the participants in this study. In contrast to previous LS literature, these participants did not report the influence of the motivational climate or coaches' philosophy on their psychological development (e.g., Camiré & Kendellen, 2016; Camiré et al., 2009; Chinvok & Holt, 2016; Holt et al., 2008; Holt et al., 2009; Jones & Lavallee, 2009). In the only existing LS study conducted with adult athletes, Chinvok and Holt (2016) explored Brazilian jiu-jitsu (BJJ) athletes' perceptions of LS development. These athletes perceived their involvement in BBJ helped them to develop LS and had changed their lives through the acquisition of values and characteristics (e.g., respect for others, perseverance, self-confidence) and suggested the atmosphere created by instructors and peers facilitated implicit LS development. Whilst both studies shared similarities concerning the types of LS developed through implicit LS development, the participants in Study One did not mention the influence of significant others (e.g., coach) on life skills development.

One explanation might be that cricket is considered an individual sport within a team setting that, in comparison to many other team-based sports, requires limited interaction between teammates (Barker & Cotterill, 2013; Bull et al., 2005). Brazilian jiu-jitsu, whilst an individual sport, has a culture and tradition of teaching ‘life lessons’ that are facilitated by the coach (Chinkov & Holt, 2016). These differences highlight the requirement for a specific understanding of sporting populations and contexts, as well as the importance of conducting needs-analysis to provide athlete-specific information for LS programmes targeting specific populations (e.g., Jones & Lavalley, 2011). Further research is required to better understand the differences in distinct athletic populations and provide relevant information for purposefully-designed interventions.

The findings from the present study indicate that implicit LS development can occur beyond the youth sport context and throughout a career in professional sport. Consistent with previous literature exploring the youth sport context, professional cricket also provides a context for interpersonal LS development. However, there was an increased emphasis on the importance of intrapersonal skills to promote on-field success (i.e., performance excellence) and off-field success (i.e., personal excellence). Following Pierce and colleagues (2016) recent recommendations for strategies that promote LS development, practitioners and coaches might encourage athletes to reflect on their experiences both inside and outside sport to generate an awareness of LS and, subsequently, enhance competence in multiple life domains. The use of self-reflective journals to appraise the types of demands, cognitions, emotions, psychological strategies, and behaviours that athletes experience in multiple contexts has previously been shown as a useful tool for facilitating experiential learning in elite sport (Hanton et al., 2012; Miles et al., 2016; Neil et al., 2016). Furthermore, previous researchers have used rational emotive behaviour therapy as a strategy for promoting openness to experience via rational thinking in cricketers (Barker & Turner, 2014). Such



techniques might be integrated as part of LS programmes that promote skills associated with both personal excellence and performance excellence in the early stages of cricketers' careers.

### **Limitations and Future Research Directions**

The purpose of this study was to offer naturalistic conclusions about the population under investigation rather than obtain empirical generalisability about LS development in a wide range of professional athletes. The participants in Study One were experienced professional cricketers whose careers had spanned 10 years and several of the participants had already established a secondary occupation. The reader should consider the nature of professional cricket in New Zealand (i.e., many cricketers obtain 7-month contracts each year) when considering the naturalistic conclusions from this study. While Study One lacks empirical generalisability, the findings provide the athletic career development literature with knowledge regarding LS development in a population that has previously received little research attention. Nevertheless, researchers are encouraged to examine LS in other groups of male and female athletes from different sports, levels of sport, and age groups to gain a thorough understanding of the LS needs of their target population.

The findings from Study One were derived from single, one-off interviews with each of the cricketers. Researchers are encouraged to adopt multiple qualitative research methods (e.g., interviews, focus groups) with a variety of social agents (e.g., coaches, parents) to provide a more comprehensive account of the socially constructed nature of LS (e.g., Jones & Lavalley, 2009; Forneris et al., 2012) and to explore the types of LS that athletes develop across their lifespan (see Wylleman and Lavalley, 2004). Enhancing the number of interviews conducted with the cricketers and other social agents associated with the cricketers was considered for Study One. However, the geographic position of the participants in relation to the researcher and the congested nature of their cricket schedule during the data collection period prohibited a larger number of interviews. Researchers who conduct interviews with athletes across an array of age groups (e.g., adolescence, emerging adulthood, adulthood)

from the same sport (e.g., cricket) and who engage with multiple social agents will likely provide a broader perspective on LS development throughout an athletic career.

Results from the current study indicated that cricketers can implicitly develop LS during a career in cricket. In preparation for a life after cricket, the cricketers in this study were able to develop LS using behaviours associated with experiential learning and being open to experience. These findings provide a unique contribution to the sport psychology literature by highlighting the experiences of adult male, professional cricketers and by reinforcing the notion that athletes who are active agents in their own development can implicitly develop LS through participating in sport (Camiré et al., 2009; Jones & Lavallee, 2009; Turnnidge et al., 2014). Advocating the need for continued athlete support programmes, these cricketers believed that current professional cricketers have a limited awareness of their potential LS until the latter stages of their career. Coaches and practitioners are encouraged to assess the growth tendencies of the individual athletes with whom they work and to promote LS experiences early within athletes' careers.

## **Conclusion**

The purpose of Study One was to identify the LS needs of professional cricketers and to inform the development of a LS programme for promoting performance excellence and personal excellence in this population. Twelve experienced professional cricketers demonstrated knowledge of a number of LS that were developed during the latter stages of their careers by engaging in opportunities for personal growth and by learning from their experiences. Narrative thematic analysis revealed four main themes associated with communication, self-regulation, motivation, and problem-solving; skills that could be integrated into a preventative, strength-based LS programme for professional cricketers. Furthermore, the cricketers highlighted the need for a LS programme to promote positive psychological development in professional cricketers during the early stages of their athletic careers.

## CHAPTER FIVE

### STUDY TWO: A PROCESS-IMPROVEMENT EVALUATION

The findings from Study One highlighted that professional cricketers in New Zealand would likely benefit from a purposefully designed life skills (LS) programme. The findings also revealed a number of potential LS and LS development strategies that were used by experienced professional cricketers. These LS and LS development strategies informed the intervention methodology for a LS programme designed to promote performance excellence and personal excellence in professional cricketers. A detailed overview of *The Performance and Personal Excellence Programme (PPEP)* and the conceptual framework and the intervention methodology underpinning the PPEP is forwarded at the start of this chapter. The research process and findings from Study Two, a process-improvement evaluation to examine the instrumental and conceptual processes associated with delivering the PPEP, are then discussed.

#### **The Performance and Personal Excellence Programme**

The conceptual frameworks and intervention methodologies of LS programmes for both performance excellence and personal excellence have rarely been explained in detail within the LS literature (see Holt et al., 2013; Weiss et al., 2013 for exceptions). To develop and deliver robust LS programmes, researchers are required to: (i) establish a conceptual framework that demonstrates the process of positive psychological development and behavioural change; and (ii) determine an intervention methodology that details the content and guides the delivery of the LS programme (Hodge et al., 2012).

The LS programme developed in this research project was named ‘The Performance and Personal Excellence Programme’ (PPEP) based on the suggestion that athletes should develop LS that promote both performance excellence and personal excellence (Anderson, 2012; Danish et al., 1993; Miller & Kerr, 2002). The findings from Study One were combined with knowledge from existing athletic career development and LS programme literatures, peer-supervision, and New Zealand Cricket’s Core Mental Skills (New Zealand Cricket, 2015) to inform the development of the PPEP. The following section provides an overview of the PPEP and provides a rationale for: (a) the conceptual framework underpinning the programme; and (b) the intervention methodology employed.

**Conceptual framework.** As the old axiom says, ‘there is nothing more practical than a good theory [model]’ (Lewin, 1952; Vansteenkiste & Sheldon, 2006). One of the most important practical outcomes of using a theory or model to develop psychological interventions and programmes is that researchers can target key psychological mechanisms that affect positive psychological development. As previously discussed in Chapter Two, many researchers have developed LS programmes using the Life Development Intervention (LDI) conceptual framework. The LDI conceptual framework uses an holistic, lifespan approach to understand the process of positive change and an intervention methodology based on a cognitive-behavioural technique and a psychoeducation model (Baltes et al., 1980). The main aim of the LDI conceptual framework is to enhance individuals’ personal competence by developing LS using goal-directed learning (Danish et al., 1993).

By combining the LDI conceptual framework with concepts related to Basic Needs Theory, Hodge and his colleagues (2012, 2016) forwarded ‘the life development intervention/basic needs theory life skills (LDI/BNT LS) model’ to maximise the potential of LS programmes for promoting positive psychological development and affecting behavioural change. The LDI/BNT LS model extends the LDI conceptual framework to highlight the process of positive psychological development and behavioural change through psychological

need satisfaction (need-satisfaction). Life skills programmes developed using the LDI/BNT LS model are designed to satisfy the participants' psychological needs (i.e., autonomy, competence, and relatedness) through LS teaching (Ryan & Deci, 2017). Participants whose psychological needs are satisfied are more likely to generalise LS to a number of different life contexts (Hodge et al., 2012) (see Chapter Two, pp. 57-61 for more detail)

*Need-satisfaction via need-support.* Hodge and colleagues (2012) suggested that programme leaders who support participants' psychological needs will enhance need-satisfaction and the potential for LS to be generalised to multiple life domains. To generate a need-supportive motivational climate, the LS programme leader should carefully monitor their behaviours to ensure that they are providing participants with choice and a rationale for tasks; are acknowledging the participants' feelings about the LS sessions, exercises, and activities; are providing participants opportunities to show initiative, leadership, and independent work; and are delivering non-controlling competence feedback (Ntoumanis, Quested, Reeve, & Cheon, 2017; see Table 6).

The skills associated with counselling psychology can be employed to underpin many of the need-supportive communication strategies that were forwarded by Ntoumanis and colleagues (2017). The fundamental counselling skills of listening and attending behaviours have been shown to be useful for building rapport, showing empathy, and generating congruence between the researcher and the athlete-participant (Table 7; Ivey, Ivey, & Zalaquett, 2014). Practitioners who implement these listening and attending behaviours are more likely to enhance participants' perceptions of need-support and promote need-satisfaction. The training of LS programme leaders is an important aspect of LS programme development and fundamental counselling skills are necessary to help promote participant engagement and, subsequently, LS development and psychological development.

Table 6

*Examples of need-supportive and need-thwarting communication styles (adapted from Ntoumanis et al., 2017).*

Need Supportive	Need Thwarting
<ul style="list-style-type: none"> <li>• Encourages initiative</li> </ul>	<ul style="list-style-type: none"> <li>• Discourages initiative and questions from others</li> </ul>
<ul style="list-style-type: none"> <li>• Allows participation in decision making</li> </ul>	<ul style="list-style-type: none"> <li>• Trivialises and dismisses others' input and views</li> </ul>
<ul style="list-style-type: none"> <li>• Provides meaningful explanations for task-engagement</li> </ul>	<ul style="list-style-type: none"> <li>• Uses excessive monitoring and surveillance</li> </ul>
<ul style="list-style-type: none"> <li>• Acknowledges any negative feelings</li> </ul>	<ul style="list-style-type: none"> <li>• Uses a coercive communication to impose a preconceived way of thinking and behaving.</li> </ul>
<ul style="list-style-type: none"> <li>• Communicates perspective taking statements</li> </ul>	<ul style="list-style-type: none"> <li>• Uses intimidating behaviours (e.g., yelling, physical punishment)</li> </ul>
<ul style="list-style-type: none"> <li>• Offers choices that are relevant to others' goals and values</li> </ul>	<ul style="list-style-type: none"> <li>• Uses praise in an attempt to control others' behaviours and feelings</li> </ul>
<ul style="list-style-type: none"> <li>• Gives specific and constructive feedback</li> </ul>	<ul style="list-style-type: none"> <li>• Deprives others of opportunities to develop their potential</li> </ul>
<ul style="list-style-type: none"> <li>• Takes personal interest in others</li> </ul>	<ul style="list-style-type: none"> <li>• Isolates or rejects others</li> </ul>

Table 7

*Fundamental skills in the basic listening sequence and attending behaviours (adapted from Ivey et al., 2014)*

Basic Listening Sequence	Attending behaviours
<ul style="list-style-type: none"> <li>• Reflect feelings</li> </ul>	<ul style="list-style-type: none"> <li>• Eye contact</li> </ul>
<ul style="list-style-type: none"> <li>• Encourage</li> </ul>	<ul style="list-style-type: none"> <li>• Mirroring body language</li> </ul>
<ul style="list-style-type: none"> <li>• Paraphrase</li> </ul>	<ul style="list-style-type: none"> <li>• Sophisticated vocal qualities</li> </ul>
<ul style="list-style-type: none"> <li>• Summarise</li> </ul>	
<ul style="list-style-type: none"> <li>• Effective observation</li> </ul>	
<ul style="list-style-type: none"> <li>• Advanced questioning</li> </ul>	

**Intervention methodology.** The term *intervention methodology* describes the components involved in the development and delivery of programmes (Danish et al., 1993). Descriptions of intervention methodologies used for LS programmes have typically included information concerning: (i) the LS addressed (i.e., the content); (ii) the psychological techniques and psychological strategies employed to affect positive psychological development (e.g., psychological skills) and behavioural change; and (iii) the intervention structure (Hodge et al., 2012).

**Life skills addressed.** Study One revealed four themes relating to professional cricketers' perceptions of the types of LS that were developed during their cricket careers. These themes were: (a) communication; (b) self-regulation; (c) motivation; and (d) problem-solving. The suitability of the skills identified in Study One were assessed as part of a peer-review process with the researcher's supervisor and the lead mental skills trainer from the New Zealand Cricket High Performance Unit. The peer-review process took into consideration the findings from Study One along with the existing athletic career development and LS programme literatures, and the New Zealand Cricket Core Mental Skills (New Zealand Cricket, 2015) (see Table 8, p. 136).

The LS identified in Study One were deemed worthy for inclusion in the PPEP based on a strength-based, positive psychology approach. Researchers who adopt a positive psychology approach focus on individuals' strengths and attempt to help these individuals flourish and thrive, rather than focusing on individuals' weaknesses and viewing these weaknesses as problems that can be fixed (Fredrickson, 2001; Seligman & Csikszentmihalyi, 2014). Therefore, it was deemed appropriate to focus on psychological skills that would likely be familiar to the PPEP participants (i.e., the LS identified by their peers) as opposed to focusing on psychological skills that might not be as applicable to performance excellence in cricket. The LS identified in Study One were viewed as an opportunity to further develop the participants' LS for performance excellence and to help the participants demonstrate

competence in non-sport domains (Csikszentmihalyi, 2014; Kobau et al., 2011; Fredrickson & Kurtz, 2011).

Table 8

*New Zealand Cricket's Core Mental Skills (adapted from New Zealand Cricket, 2015)*

Categories	Sub-Categories
Lifestyle/Career	<ul style="list-style-type: none"> <li>Understanding their sport identity</li> <li>Understanding their self-identity</li> <li>Understanding the two identities are linked</li> </ul>
3 Ps – Preparation, Presence and Pressure	<ul style="list-style-type: none"> <li>Understanding Ideal Performance State (IPS)</li> <li>Understanding how to achieve IPS</li> <li>Understanding how to maintain present moment</li> <li>Understanding actions required to manage pressure and bounce back from disappointment</li> </ul>
Self-Leadership (Professionalism)	<ul style="list-style-type: none"> <li>Understanding positive culture and principles of positive culture</li> <li>Commitment to professional self</li> <li>Positive communication</li> </ul>
Integration of MST in Skill Acquisition or Learning	<ul style="list-style-type: none"> <li>Understanding approaches to facilitate their decision-making and anticipation</li> <li>Understanding approaches to implicit and explicit learning</li> <li>Understanding approaches to skill recovery</li> </ul>



The findings from Study One indicated that experienced professional cricketers used interpersonal skills (e.g., communication) and intrapersonal skills (e.g., self-regulation, motivation, problem solving) to assist their performance in cricket and display competence in other life domains. Prior to the development of the PPEP, all professional cricketers in New Zealand had recently participated in a communication skills workshop as part of the New Zealand Cricket Players Association Personal Development Programme. Thus, the researcher and his colleagues chose not to include communication skills as part of the PPEP. From the remaining intrapersonal skills, self-regulation skills were viewed as important for cricketers' psychological development in line with the NZC Core Mental Skills (New Zealand Cricket, 2015) and existing literature (e.g., Miles et al., 2016; Thelwell et al., 2007).

*Self-regulation.* Self-regulation is any effort undertaken by individuals to manage their cognitions, emotions, and behaviours in the pursuit of desired goals, values, or ideals (Baumeister, Heatherton, & Tice, 1994). Self-regulation is fundamental to successful learning and behaviours in multiple life domains and requires a set of strategies that allow individuals to demonstrate initiative, direct their efforts, and focus their attention (Bandura, 1991; Baumeister, Vohs, & Tice, 2007; Jonker, Elferink-Gemser, & Visscher, 2011; Zimmerman, 2002).

Two cognitive processes are involved in effective self-regulation: metacognition and self-control. Metacognition is broadly defined as thinking about thinking (Flavell, 1979) and is developed through self-monitoring and self-reflection activities (Zimmerman, 2002). Self-control has traditionally been linked with overriding counterproductive response tendencies (i.e., cognitions, emotions, and behaviours). Yet, more recently, self-control has been associated with increased psychological flexibility (i.e., acceptance of counterproductive cognitions and commitment to a present moment focus), rather than attempting to avoid or block counterproductive responses (see Hayes, 2004 for more detail). Self-aware individuals are more likely to exhibit psychological flexibility, commit to behaviours associated with a

present moment task-focus, and demonstrate competence in multiple life domains (e.g., in cricket, at home, in a secondary occupation) (Jonker et al., 2011; Zimmerman, 2002).

Whilst metacognition and self-control promote proactive and self-directed behaviours in numerous situations, self-regulation is unlikely to occur without motivation (Zimmermann & Schunk, 2008). The goals that individuals value within various contexts have been shown to determine their behaviour (Deci & Ryan, 2008; ). For example, professional athletes tend to place a higher value on goals associated with their sporting performance compared to goals in other life domains (Lavalley, 2000; Ryan, 2013; Stambulova & Ryba, 2013). Subsequently, professional athletes typically possess self-regulation skills for use in sporting performance, yet often fail to implement these skills in other life domains (Anderson, 2002; Roberts et al., 2015). Professional athletes who fail to develop self-regulation skills for use in life domains outside sport are less likely to engage in developmental opportunities, more likely to experience athletic identity foreclosure, and have an increase probability of experiencing a problematic transition out of sport (Brewer & Petitpas, 2017).

Given the importance of self-regulation skills for sporting performance, the lead mental skills trainer and his colleagues who were working with professional cricketers in New Zealand had previously developed a schematic diagram of self-regulation, labelled 'The Performance Supply Chain', as a teaching resource (see Appendix F). The Performance Supply Chain was extended in line with previous interventions associated with identity development (see Petitpas et al., 1997) and concepts associated with self-regulation of cognitions and emotions (see Lazarus, 2000) (See Revised Performance Supply Chain; Figure 5, p. 139). The structure of the PPEP included a series of tasks that were developed in line with the Revised Performance Supply Chain to enhance self-awareness, identity exploration, goal identification, and self-regulation in multiple life domains.

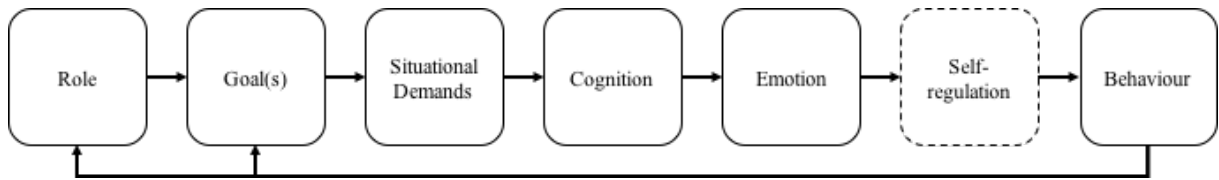


Figure 5. Revised Performance Supply Chain

**Psychological techniques.** Life skills programmes underpinned by the LDI conceptual framework use an intervention methodology based on cognitive-behavioural techniques and a psychoeducation model (e.g., Jones et al., 2011; Lavallee, 2005). Cognitive-behavioural techniques have been successfully used to develop psychological skills associated with performance excellence and personal excellence in athletes (see Brown & Fletcher, 2017 for a review). The primary focus of cognitive-behavioural techniques is to promote positive psychological development and to strengthen positive behaviours towards a desired goal using psychological strategies (Beck, 2011). Self-regulation is considered the fundamental goal of cognitive-behavioural techniques (Keijsers, Schaap, & Hoogduin, 2000; Ryska, 1998). Individuals attempting to enhance their goal-directed behaviours are required to regulate their existing cognitive, emotional, and behavioural responses in line with the given situation or task (Behncke, 2004). Subsequently, a cognitive-behavioural technique was used in the PPEP.

**Psychological strategies.** The findings from Study One highlighted that experienced professional cricketers developed their LS from being open to experience and learning from experience (i.e., experiential learning). Being open to experience, associated with seeking challenges and opportunities to apply sport-based skills to other contexts, was perceived to facilitate experiential learning and, subsequently, LS development in professional cricketers. Experiential learning has been defined as the process whereby knowledge is created through the transformation of experience (Kolb, 1984). One psychological strategy that has been shown to promote an openness to experience and experiential learning is reflective practice (Faull & Cropley, 2009; Hanrahan, Pedro, & Cerin, 2009).

*Reflective practice.* Reflective practice is the process of ‘thinking about what you are doing, whilst you are doing it’ (reflecting-in-action) or recalling an experience after the event has occurred (reflecting-on-action) (Schön, 1987). Both reflecting-in-action and reflecting-on-action can promote increased self-awareness; an underlying process associated with self-regulation (Marsick, 1988; Zimmerman, 2002). The process of reflective practice has been informed by several models of reflection (e.g., Dewey, 1933; Gibbs, 1988; Mezirow, 1991; Schön, 1987). In many of these models, the first stage of reflective practice involves describing a disruption to usual practice (i.e., a critical event). This tends to happen in complex or non-routine situations where the individual’s ‘knowing-in-action’ and/or habitual actions are inadequate to achieve their goals (Schön, 1983). Schön (1987), using his theory of reflective practice, encouraged individuals to examine their experiences and to explore the effect of their cognitions and emotions on their behaviours. Those participants who engage with reflective practice strategies begin to understand that knowledge is embedded in their experiences. Consequently, those individuals use their past experiences to foster self-awareness and consider the influence of their cognitions and emotions on their behaviours in multiple domains (Amulya, 2004; Flemming, 2007).

Reflective practice was recently suggested as one of seven strategies to help coaches explicitly develop LS in athletes (Pierce et al., 2016) and has previously been used as a strategy for developing psychological skills in athletes during one-to-one interventions (Faull & Cropley, 2009; Hanrahan et al., 2009; Neil, Cropley, Wilson, & Faull, 2013; Richards, Collins, & Mascarenhas, 2012) and in LS programmes (Jones et al., 2011). Reflection can promote behavioural change as participants begin to make sense of difficult and complex situations by creating links between the situation, their cognition and emotions, their self-regulation skills, and their behaviours (Anderson, Knowles, & Gilbourne, 2004). Athletes who use reflection to gain an awareness of their self-regulation skills in multiple contexts are more likely to perceive themselves as capable and competent in multiple domains (Jones et

al., 2011; Pierce et al., 2016). Given that individuals who engage in reflective practice are able to better connect with their cognitions and emotions, questions typically associated with cognitive-behavioural techniques can be incorporated into reflective practice tasks and included as part of LS programmes (e.g., Jones et al., 2011). The tasks used in cognitive-behavioural techniques to develop individuals' awareness of their cognitions, emotions, and behaviours can be embedded within a reflective framework (see Neil et al., 2013 for an example with a cricketer). Thus, reflective practice was used as the primary psychological strategy in the PPEP.

**Structure.** Programmes grounded in the LDI conceptual framework have ranged in length from three sessions (e.g., Lavalley, 2005) to 30 sessions (e.g., Bean et al., 2014), with each of these programmes generating an increase in knowledge and beliefs about LS. The length of LS programmes has been measured in weeks (e.g., Petitpas et al., 2004), sessions (e.g., Danish, 2002), hours (e.g., Goudas et al., 2006), and in a combination of sessions and hours (e.g., Bean et al., 2014). In addition, participants are sometimes required to complete take-home tasks as part of some LS programmes (e.g., Jones et al., 2011). Researchers who report on LS programmes that require participants to engage in both class-room and take-home task activities have been encouraged to record the total time that participants engage in all aspects of the programme (Bean et al., 2014).

The structures of LS programmes have generally been based on a psychoeducation model and have included a number of sessions that lasted between 20 and 60 minutes (Danish et al., 2004). These sessions have often been delivered in classroom or physical activity settings and have typically been facilitated by a programme leader who combines multiple teaching methods (e.g., brief lectures, small group tasks, games) to promote LS development. Life skills development has often been supported by using LS workbooks that contain tasks associated with targeted LS.

*Structure of the Performance and Personal Excellence Programme.* Prior to the development of the PPEP, the researcher, his supervisory committee, New Zealand Cricket, and the New Zealand Cricket Players Association agreed that the programme would be delivered to members of the New Zealand Cricket Winter Training Squad (NZCWTS) as part of the NZCWTS Mental Skills Training Programme. The members of the NZCWTS attended five, five-day camps that were scheduled each month between May and September, 2016. The introduction to the PPEP was scheduled for Camp One (May 2016) with the main PPEP sessions scheduled for the camps in June, July, and August, 2016. In line with the allocated time for the Mental Skills Training Programme, there were two 60-minute sessions during each camp. Thus, the length of the PPEP was pre-determined by the NZCWTS programme and was set at six, 60-minute sessions.

The total time that the participants were engaged in the PPEP was extended with the inclusion of take-home tasks. These take-home tasks were designed to encourage participants to reflect on various aspects of the Performance Supply Chain (see Figure 5, p.139) and set goals to influence future behaviours. These take-home tasks were designed to help the participants develop self-regulation skills for both sport and non-sport domains. The take-home tasks were designed to last 30-minutes and one take-home task was scheduled to be completed each week between sessions two and three ( $n = 4$ ), sessions four and five ( $n = 4$ ), and following Session Six ( $n = 1$ ). The total time participants were scheduled to engage in the PPEP was 10.5-hours prior to the process-improvement evaluation (Study Two). A detailed overview of the PPEP (i.e., teaching plan and slides) is provided in Appendix G.

## **Evaluating Programme Delivery**

Life skills programme researchers have tended to focus on outcome measures only and have not often included detailed information on ‘how’ programmes were developed and delivered prior to and during outcome evaluations (Bean et al., 2016; O’Hearn & Gatz, 2002; Petitpas et al., 2004). Holt and colleagues (2013) were one of the few research groups to provide insight into the development and delivery of a LS programme. These researchers conducted a process-improvement evaluation using an action research methodology to understand how their youth sport programme was delivered, the challenges encountered, and the changes required to improve the programme. Using reflective practice, the programme facilitators recorded critical incidents to identify problems encountered and to inform the changes required for the following programme implementation (see Holt et al., 2014). The reflections were supported by interviews with participants, teachers, and other social agents (e.g., school board members, coaches) to identify the provisional outcomes and effectiveness of the programme.

Process-improvement evaluations can be used to provide insight into the following aspects of programme development and delivery: (i) the instrumental and conceptual processes associated with delivering programmes (Abramson & Abramson, 2011; Chen, 1996, 2014); (ii) programme fidelity (e.g., delivery methods and staff training); and (iii) components of the programme that influence the overall effectiveness and future replications of the programme (Hodge et al., 2012). As discussed in Chapter Two, Petitpas et al. (2005) provided a framework for developing and delivering LS programmes to promote positive psychological development. The programme context (e.g., programme structure, motivational climate), external assets (e.g., social support, leadership), and internal assets (e.g., types of LS taught) were forwarded as important aspects of LS programmes; aspects that might be used to guide process-improvement evaluations. To date, few researchers have conducted a process-improvement evaluation to examine the programme context, provision of external assets, or

strategies for fostering internal assets during the development and delivery of LS programmes (see Cox et al., 2016; Holt et al., 2013; Weiss et al., 2013 for exceptions).

### **Study Two: Rationale, Purpose, and Research Questions**

Several research groups have discussed pilots of LS programmes (e.g., Cox et al., 2016; Holt et al., 2013; Weiss et al., 2013) and offered frameworks for developing and delivering LS programmes (e.g., Danish et al., 1993; Petitpas et al., 2005), but few researchers have provided empirical data from the early stages of LS programmes delivery. To address these limitations, researchers might report on the delivery of their LS programmes to provide an understanding of ‘what works’ and ‘what does not work’. The knowledge generated from a process-improvement evaluation of the PPEP delivery would likely enhance the potential effectiveness of future replications of the PPEP and might encourage researchers to develop LS programmes for targeted populations.

Study Two was embedded in this multiphase, mixed-methods research project designed to combine multiple types of evaluation to assess the processes and outcomes of a LS programme for promoting performance excellence and personal excellence in professional cricketers. The purpose of Study Two was to examine the instrumental and conceptual processes associated with delivering the PPEP using a process-improvement evaluation. A process-improvement evaluation was conducted with three groups of cricketers during two pilots and the delivery of the PPEP to members of the NZCWTS. The first two evaluations were conducted during pilots of the PPEP and the third evaluation was conducted during the delivery of the PPEP to the target sample for this research project. Knowledge regarding the processes involved in programme delivery was generated from each evaluation to inform the subsequent delivery of the PPEP and future iterations of the PPEP.



**Study Two: Research questions.** The research questions were designed to generate knowledge regarding the processes associated with programme delivery in line with the components of Petitpas et al.'s (2005) framework (i.e., programme context, external assets, and internal assets). Aligned with these components of programme development and programme delivery, the research questions for Study Two were:

1. What was learned about the programme context of the PPEP?
2. What was learned about developing 'external assets' during the delivery of the PPEP?
3. What was learned about the strategies associated with developing the participants' 'internal assets' during the delivery of the PPEP?

### **Study Two: Method**

#### **Methodology**

Programme evaluation research has often been conducted using an action research methodology (e.g., Cox, 2016; Holt et al., 2013). Researchers who adopt an action research methodology focus on solving specific problems through purposeful actions that span four phases of planning, acting, observing, and reflecting (Greenwood & Levin, 1998; Kemmis & McTaggart, 2005; O'Leary, 2004; Stringer & Genat, 2004). In practice, the structured four-phase process associated with action research becomes a far more adaptive and fluid procedure, often with overlapping phases (Kemmis & McTaggart, 2005). The flexible nature of action research has made this methodological approach difficult to define (Gilbourne, 2000; McNiff & Whitehead, 2011).

Action research has often been defined using a number of core components (e.g., Evans, Fleming, & Hardy, 2000; Somekh, 2006). Evans, Fleming, and Hardy (2000) outlined a series of components that form minimal criteria to perform action research. These components were: (a) an intention to improve and/or solve practical problems; (b) a programme; (c) a cycle of critical reflection and action; (d) a committed action that gives rise

to knowledge; (e) a number of recognisable research methods; (f) an explicit awareness of the researcher's own perspective(s); (g) a report of the findings to researchers and practitioners; and (h) a mutually accepted, ethical framework.

The collaborative and practical nature of action research is a consistent theme in action research methodologies (Evans et al., 2000, McNiff & Whitehead, 2011; Somekh, 2006). Furthermore, a high level of reflexivity is required to ensure that researchers explore existing knowledge from multiple sources to promote social change. Prior to implementing action research, researchers have been encouraged to develop an understanding of both their research and practice philosophies (Gilbourne, 2000; McNiff & Whitehead, 2011). Thus, disclosure of the researcher's educational, personal, and biographical background become an increasingly important part of an action research methodology (see Chapter Three, pp. 75-79).

Within the LS programme development literature, Holt and his colleagues (2013) employed an action research methodology to facilitate a process-improvement evaluation of various LS programmes. A series of process-improvement evaluations generated knowledge that informed changes to the programmes that were under investigation. Based on Holt and his colleagues' research and using the series of components that form the minimal criteria to perform action research (Evans et al., 2000), an action research methodology underpinned by a critical realistic paradigmatic stance was employed in Study Two.

## **Participants**

**Pilot One.** Researchers have highlighted the value of conducting pilot interventions with participants who possess a similar demographic profile to the target sample (Clarke, 1999). The participants for Pilot One were cricketers with similar demographic profile to the target sample who participated in the assessment of the PPEP (Study Three). Upon obtaining ethical approval from the university ethics committee, the researcher initially contacted the team management of the major cricket association situated in the researcher's geographic region to gain preliminary access to professional cricketers. With approval from the cricket

team's management, the researcher contacted the professional cricketers via email to explain the study and ask for initial interest in participating in Pilot One. At the time of Pilot One, 15 cricketers were contracted to the major cricket association and received an 'initial interest' email. Four out of the 15 cricketers informally agreed via email to participate in the pilot study.

The researcher met with the four participants in a meeting room at the major cricket association's offices to explain Pilot One in further detail and outline the associated procedures. The researcher also highlighted that involvement in this pilot was voluntary and that the participants had the right to withdraw from the study at any point without any detriment to themselves. Following this overview of Pilot One, the four professional cricketers reviewed an information sheet (Appendix H) and provided written informed consent (Appendix I) to participate in this pilot study. The researcher and the participants then agreed that the PPEP would be delivered on six dates over a three-week period. Subsequently, the sample for Pilot One consisted of four male professional cricketers ( $M^{age} = 22.62\text{yrs}$ ;  $SD^{age} = 2.09\text{yrs}$ ;  $M^{professionalexperience} = 2.54\text{yrs}$ ;  $SD^{professionalexperience} = 1.93\text{yrs}$ ). All four participants attended all of the sessions.

**Pilot Two.** The participants for Pilot Two were amateur adolescent cricketers. Based on discussions amongst the researcher, his supervisory committee, and New Zealand Cricket's lead mental skills trainer, amateur adolescent cricketers were selected using convenience sampling from a local High School (Gratton & Jones, 2010). The researcher initially contacted the high school cricket club's management to gain preliminary access to the cricketers upon obtaining ethical approval from the University ethics committee. With approval from the cricket club's management, the researcher met with the players and two teacher-coaches to explain Pilot Two, highlight the procedures for this pilot study, and ask for initial interest in participating in the pilot study. At the time of this pilot study, 13 cricketers were involved in the high school cricket club's 1<sup>st</sup> XI programme and all 13 cricketers agreed

to participate in the study and signed informed consent. Whilst some of these cricketers were under the age of 16, each cricketer was able to sign the informed consent in the presence of their teacher-coach without requesting consent from their parents or guardians. The sample for the Pilot Two consisted of 13 male amateur cricketers ( $M^{age} = 17.12\text{yrs}$ ;  $SD^{age} = 0.86\text{yrs}$ ;  $M^{recreationalexperience} = 8.32\text{yrs}$ ;  $SD^{recreationalexperience} = 2.67\text{yrs}$ ). One player dropped out of the programme following Week Two. However, the remaining 12 players each attended an average of 5.08 sessions.

**Programme Delivery.** The sample for Programme Delivery was determined by the New Zealand Cricket Players Association personal development manager and New Zealand Cricket's lead mental skills trainer during the 'gaining access' process (see Chapter Three, pp. 70-75). The programme was delivered as part of the NZCWTS camps that took place between May and September, 2016. The members of the NZCWTS 2016 were selected following the end of the 2015-16 season. The members of the NZCWTS were selected based on their potential to represent NZ at international level in the near future. Eight cricketers were offered a 5-month contract to become members of the NZCWTS. Members of the NZCWTS were provided with specialist technical and tactical coaching, strength and conditioning support, physiotherapy, and mental skills training alongside existing support from their major cricket association.

The members of the NZCWTS met once a month for a camp that lasted five days. The five camps consisted of periodised technical/tactical, physical, and mental programmes to prepare the NZCWTS members for the start of their competitive seasons. The intake for the 2016 NZCWTS was eight members. However, one of the members was unable to fully commit to the NZCWTS programme due to an injury. The researcher met with seven members of the NZCWTS at their first camp in May 2016. During this initial meeting, the researcher explained the content and the associated procedures for participating in the PPEP. The members were then asked if they were willing to participate in the programme and all

seven of the NZCWTS members verbally agreed and signed informed consent. The cricketers were also told that they were able to withdraw from the PEPP at any time without any disadvantage to themselves or their membership of the NZCWTS. Six of the seven participants participated in the programme and completed all the data collection procedures ( $M^{age} = 22.00\text{yrs}$ ;  $SD^{age} = 1.83\text{yrs}$ ;  $M^{professionalexperience} = 2.14\text{yrs}$ ;  $SD^{professionalexperience} = 1.21\text{yrs}$ ).

### **Reflective Practice**

Reflective practice has been used to develop skills and knowledge in numerous professions (e.g., Anderson et al., 2004; Cassidy et al., 2016; Mann, Gordon, & MacLeod, 2009). Within sport psychology, reflective practice has been used to generate knowledge from one-to-one consultations (Faull & Cropley, 2009) and during LS programme delivery (Holt et al., 2013). Practitioners can generate technical, practical, and critical knowledge depending on their purpose for using reflective practice (James & Clarke, 1996; Habermas, 1971; Mezirow, 1981; Powell, 1989). Given that the purpose of Study Two was to generate knowledge concerning the processes involved in the delivery of the PPEP, the researcher reflected at a technical level (i.e., he reflected on the delivery of the PPEP in line with the teaching plan) and a practical level (i.e., he reflected on the influence of his own perceptions and experiences during programme delivery).

Reflective practice is a versatile and flexible process. For example, reflections can be planned or spontaneous, written or conversational, and personal or public. Several models of reflection have been proposed within the education and healthcare literature to help practitioners develop their skills and knowledge (e.g., Ghaye, 2001; Gibbs, 1988; Johns, 1994, 2000). Gibb's (1988) six stage cyclical model of reflective practice poses several questions to help practitioners describe a specific situation, assess their cognitions and emotions about this situation, evaluate their responses to the situation, and then formulate an action plan for future practice. Gibbs' model has received a substantial amount of interest within the literature and has been deemed as a practical tool to guide reflection (Knowles et

al., 2014). However, this model has been considered too simplistic for neophyte practitioners engaging in reflective practice and, subsequently, more detailed models with a greater number of questions have been developed (Anderson, 1999; Anderson et al., 2004; Johns, 1994).

Providing a more structured model with an increased number of questions, John's (1994) model included a series of 21 questions that were designed to promote reflections at a practical and technical level. Anderson (1999) adapted and revised the questions in John's (1994) model for use in sport psychology. In adapting and revising John's model, Anderson (1999) rewrote some of the questions to clarify their meaning and increase their relevance for sport psychology and reorganised the structure of the questions to avoid repetition (Anderson et al., 2004). Anderson's (1999) revised model contained nineteen questions that prompted practitioners to describe their experiences, reflect on the consequences of their actions, consider alternative tactics, and summarise their learnings. Based on its application to sport psychology, Anderson's model was employed to guide the reflections during the delivery of the PPEP in Pilot One, Pilot Two, and Programme Delivery (see Appendix J).

## **Procedure**

**Programme leader.** The programme leader was a 26-year-old male graduate student with a Master of Science degree in Applied Sport Psychology. The programme leader was experienced in both counselling and cognitive-behavioural techniques, and had previously delivered group and individual mental skills sessions to athletes from various sports. The programme leader was also an experienced cricket coach who had worked with cricketers of various ages and skill levels. The programme leader had a professional philosophy grounded in an holistic, lifespan approach and a humanistic therapeutic orientation (see Chapter Three, pp. 75-79 for more detail). The programme leader was also the researcher for this research project. Subsequently, the term 'researcher' will be used instead of programme leader for the remainder of this chapter.

**Pilot One.** The first pilot of the PPEP was delivered over a three-week period during March 2016. The six sessions were delivered in a meeting room at the players' major cricket association and lasted approximately one hour each ( $M = 59$  minutes and 19 seconds;  $SD = 3$  minutes, 29 seconds) (see Table 9 for more detail). Each session was delivered in a group setting and was designed to be interactive and to promote an open and honest conversation amongst the participants. The content of the sessions focused on the aspects of the Performance Supply Chain (see Figure 5, p. 139), the relationship between components of the Performance Supply Chain, and the participants' *ideal performance state* (Hodge, 2004). A number of group tasks (e.g., case studies) were included to encourage the participants to discuss various components of the Performance Supply Chain and the LS that could help them achieve their ideal performance state in multiple domains. Participants were initially asked to reflect on their own experiences associated with various components of the Performance Supply Chain and their ideal performance state in life inside and outside sport before discussing their experiences as a group.

Table 9

*Information concerning the delivery of the PPEP during Pilot One*

Week	Session	Date	Time	Part. Absent	Other Attendees	Length	Take-Home Tasks
	Intro	22/02/16	6pm	-	Coach	50min, 43sec	
1	1	01/03/16	6pm	-		59min, 22sec	
	2	03/03/16	6pm	-	Coach	62min, 45sec	1 and 3
2	3	08/03/16	6pm	-		57min, 11sec	
	4	10/03/16	6pm	-		63min, 15sec	5 and 7
3	5	15/03/16	6pm	-	Coach	53min, 56sec	
	6	17/03/16	6pm	-		59min, 22sec	

*Note.* Abbreviations: Introduction (Intro); Participants (Part.); Minutes (min); Seconds (sec)

Participants were also asked to complete four take-home tasks to further promote LS development between Session Two and Session Three (Take-Home Task 1 and Take-Home Task 3), and Session Four and Session Five (Take-Home Task 6 and Take-Home Task 7). These four take-home tasks were selected because they gave the participants opportunity to practice reflecting on situations during performance (labelled ‘on the field’; Take-Home Task 1), within the cricket environment but not during competition (labelled ‘off the field’; Take-Home Task 6), and in life ‘outside cricket’ (Take-Home Task 3 and Take-Home Task 7). The take-home tasks that were excluded from this pilot contained the same content as the four take-home tasks that the participants were asked to complete and were excluded due to time constraints.

Table 10

*Information concerning the delivery of the PPEP during Pilot Two*

Week	Session	Date	Time	Part. Absent	Other Attendees	Length	Take-Home Tasks
	Intro	25/03/16	730am	-	2x Coach- Teacher	45mins, 21sec	
1	1	01/04/16	730am	4	2x Coach- Teacher	49mins, 54sec	
2	2	08/04/16	730am	7, 3	1x Coach- Teacher	43mins 33sec	1 and 3
3	3	15/04/16	730am	7, 9, 12	2x Coach- Teacher	46min, 56sec	
4	4	22/04/16	730am	2	2x Coach- Teacher	52min, 04sec	5 and 7
5	5	29/04/16	730am	5, 6	-	41min, 27sec	
6	6	06/05/16	730am	11	1x Coach- Teacher	48min, 13sec	

*Note.* Abbreviations: Introduction (Intro); Participants (Part.); Minutes (min); Seconds (sec)



Table 11

*Information concerning the delivery of the PPEP during Programme Delivery*

Week	Session	Date	Time	Part. Absent	Other Attendees	Length	Take-Home Tasks
	Intro	10/05/16	2pm	0	MST, Technical Coach	51mins, 43sec	
1	1	14/06/16	530pm	1 (P3)	MST, Conditioning Coach	58mins, 24sec	
1	2	15/06/16	9am	1 (P3)	MST, Technical Coach, 2x Physiotherapist	49mins 35sec	
2 - 5							1 - 4
6	3	20/07/16	315pm	1 (P6)	MST	52min, 41sec	
6	4	21/07/16	9am	1 (P6)	MST, 2x Technical Coaches, 2x Physiotherapist, Performance analyst	56min, 03sec	
7 - 10							5 - 8
11	5	23/08/16	830am	0	MST, Technical Coach, Physiotherapist	51min, 54sec	
11	6	23/08/16	5pm	0	MST, Physiotherapist	53min, 47sec	
12							9

*Note.* Abbreviations: Introduction (Intro); Participants (Part.); Minutes (min); Seconds (sec)

**Pilot Two.** The second iteration of the PPEP was delivered over a six-week period during April and May, 2016. The purpose of the PPEP remained the same; however, revisions to the content and the delivery style were made based on the findings from Pilot One. The six sessions were delivered in a classroom at the participants' high school once a week before school and each session lasted approximately 45-minutes ( $M = 47$  minutes and 01 seconds;  $SD = 3$  minutes and 57 seconds) (see Table 10, p. 152 for more detail). The purpose of the

PPEP remained the same; however, revisions to the content and the delivery style were made based on the researcher's reflections after Pilot One.

**Programme Delivery.** The PPEP was delivered to members of the NZCWTS over a 12-week period from June to August, 2016. The six sessions were delivered in the changing room of the cricket pavilion at the New Zealand Cricket High Performance Unit facilities once a month and each session lasted approximately 50-minutes ( $M = 53$  minutes and 44 seconds;  $SD = 2$  minutes and 57 seconds) (see Table 11, p. 153 for more detail). The purpose of the PPEP remained the same; however, revisions to the content and the delivery style were made based on the findings from Pilot Two. Furthermore, the number of take-home tasks increased from four to nine. The participants were required to complete a take-home task each week during a four-week interval between Session One and Session Two, and Session Four and Session Five. The final take-home task was completed the week following Session Six.

**Reflective process.** The researcher reflected on each of the six sessions delivered during Pilot One, Pilot Two, and Programme Delivery. Three stages of reflection were used following each session. In the first stage of reflection, the researcher made a 'bullet-point' list of *critical events* during each session (e.g., a participant misunderstanding a task). The structure of the PPEP provided intervals for the researcher to document his thoughts regarding the previous section of the PPEP in his research journal (e.g., how did the delivered content compare to the planned content?) whilst the participants engaged in group tasks. These notes informed the reflective process during Stage Two.

Stage Two of the reflective process occurred within 24-hours of each session. The researcher first described his experiences from the session (i.e., the 'where', 'when', and 'what'), the essential factors that contributed to his experience (i.e., the 'why'), and the significant individuals in this experience (i.e., the 'who'). This process provided a detailed description of each critical event from each session. The researcher then assessed the consequences of his experiences and considered the participants' perspective of each critical

event. Each reflection concluded with the researchers' learnings from his experience delivering each session and options for an alternative course of action during the subsequent delivery of the PPEP.

The final phase of the reflective process provided an opportunity to review the notes and to amend the notes as necessary. The final phase occurred 3-days after each session as it enabled the researcher to gain some perspective of the events and review his notes 'with clearer eyes' (Hammersley & Atkinson, 2007). This process has been used in qualitative research to ensure that the individual 'distances' him or herself from the initial analysis and reflection cycles, before they revisit their preliminary ideas and analytical hunches (Parker, 2007; Rock, 2007).

### **Data Analysis**

Once the reflections were documented in the researcher's journal, the researcher read and re-read the reflections to better understand each critical event (Kvale, 2009). Content analysis was employed to systematically categorise the segments of text associated with each critical event and to determine trends and patterns in these text segments (Loffe & Yardley, 2004). Raw categories were identified based on the content of the reflections. The reflections were coded into sub-categories using inductive content analysis, with key components categorised into a Microsoft Excel document (Meyer & Avery, 2009). The reflections were then coded deductively in line with the three main components of Petitpas and colleagues (2005) programme development framework. These codes related to the programme context (e.g., motivational climate), external assets (e.g., leader support, peer support), and internal assets (e.g., opportunities for life skills transfer). The researcher's supervisor then reviewed the raw categories, sub-categories, and main categories as part of an audit trail process.

## **Methodological Rigour**

**Bracketing of prior knowledge to overcome confirmation bias.** The issue of researcher membership plays a direct and intimate role in data collection and data analysis (Dwyer & Buckle, 2009). Whilst being a research insider is likely to enhance the initial understanding of a population beyond that of a research outsider, issues surrounding objectivity, reflexivity, and authenticity can reduce the trustworthiness and credibility of the study (Kanuha, 2000). To address the potential limitations associated with being a research insider, the first author engaged in disciplined bracketing and detailed reflection of the research process, whilst paying particular attention to his own personal biases and perspectives (Dwyer & Buckle, 2009). The first author also attempted to nullify the subjectivity associated with being a research insider and to overcome confirmation bias by remaining open, authentic, honest, and deeply interested in reporting the experiences of the participants.

**Audit trail.** An audit trail was conducted by the researcher's supervisor who had extensive knowledge of, and experience using, qualitative methods. The researcher was required to make a defensible case that the available data supported his classification of quotes, raw categories, sub-categories, and main categories. Only minimal discrepancies were identified in the audit trail and these discrepancies were debated until a mutual consensus was reached between the researcher and his supervisor (Rodgers & Cowles, 1993).

## Study Two: Results

The findings derived from the data analysis represent the researcher's reflections on the delivery of the PPEP to three groups of participants during Pilot One, Pilot Two, and Programme Delivery. Content analysis revealed a total of 39 critical events which were categorised into eight sub-categories and, subsequently, into three main categories. The three main categories were labelled 'programme context', 'internal assets', and 'external assets'. The main categories and sub-categories have been included in Table 12 to highlight the reflections as they emerged following each session of the PPEP (p. 168). The main categories and sub-categories are presented as a narrative alongside quotes to facilitate a contextual understanding of the researcher's experiences (Smith & Sparkes, 2005) and to highlight the adaptations to the PPEP (e.g., Holt et al., 2013).

### Internal Assets

Seventeen of the 39 critical events related to the skills taught and the strategies used to enhance the participants' psychological development during the PPEP. Content analysis revealed three sub-categories that were labelled 'value of life skills', 'teaching strategies', and 'life skills transfer'.

**Value of life skills.** Nine of the 17 critical events were related to each participant's individual need for the skills taught in the programme. Throughout the three iterations of the PPEP, the researcher reflected on whether or not the participants valued the skills being taught. The researcher reflected on the LS needs of the participants following Session Five in Pilot Two and wrote:

One of the participants commented about the use of these skills in other contexts. He suggested that he did not need to use self-regulation as much outside sport as he did during sport. Whilst I accept that some participants might not see the direct link between these skills and different life contexts, it would be useful to find a way to help the participants to understand that these skills will be helpful at some stage across their lifespan.

In an attempt to learn from this critical event, the researcher emphasised the need to reinforce the importance of skills for personal excellence. He wrote: “perhaps I should highlight the types of transitions that occur alongside and at the end of a career in professional cricket. Some of the quotes from Study One would likely help the participants understand that these skills will be applicable at some stage and there is value in practising these skills now.”

The information from the researcher’s reflections on Pilot Two was used to amend the focus of the LS in the PPEP and to emphasise that skills could be used for both personal excellence and performance excellence. Following Session Five during Programme Delivery, the researcher reflected on another critical event that was associated with the value of the LS to the participants. This critical event occurred after the participants clearly described how they could use self-awareness and self-regulation skills to help them manage conflicts with others outside cricket. When the researcher reflected on this situation, he wrote:

The participants were discussing a situation where their life outside cricket influenced their performance in the cricket domain. One of the participants explained that he used to argue with flatmates constantly and go to cricket in a bad mood. He continued to explain that this mood influenced his performance. He suggested that monitoring his thoughts and emotions in the build-up to a potential argument helped him avoid conflict with his house mates, as well as feel more comfortable during cricket trainings and matches. All of the participants agreed that they had been in a similar situation

and that by understanding their thoughts and feelings prior to an event could help them to address the situation without things boiling over.

To consolidate his knowledge at the end of the reflection, the researcher wrote: “providing one detailed example of where the skills can be used outside sport is more important than giving multiple vague examples.” The players seemed to grasp the importance of these skills across domains by relating that experience back to their main goal (cricket performance). The researcher also compared this experience to his experience during Pilot Two. He wrote:

I appreciate that the participants in Pilot Two and Programme Delivery were different ages and that might account for their understanding and application of the skills.

Regardless of the group of participants the programme is delivered to, examples of the transfer context need to resonate with the participants. These transfer contexts are likely to change based on group demographics.

**Teaching strategies.** Five of the 17 critical events associated with internal assets were related to the teaching strategies used in the PPEP for helping the participants acquire knowledge of the LS and to give the participants the confidence to practise the skills in sport and non-sport domains. Reflecting on the teaching strategies employed to develop LS knowledge in participants following Session Two during Pilot Two, the researcher wrote:

The participants’ attention appeared to peak when I gave examples of these skills in action and explained how the skills could actually help them. It [*is*] quite easy to get lost in the explaining [*of*] the skills without giving practical examples. It would be good to develop a sequence of statements that included a practical example to ensure that I remain clear when talking about the skills.

The researcher refined his approach and structure towards teaching LS into a more systematic process throughout the three iterations of the PPEP. Reflecting on a critical event during a later iteration of the PPEP (Session Two, Programme Delivery), the researcher highlighted that using a teaching framework helped him to communicate the value and implications of LS development. Practical examples were included within this teaching framework and the researcher encouraged the participants to use practical examples when they applied the skills to their past experiences. The researcher wrote, “the framework helped me to stay on track and remain very clear with my examples of life skills use. The participants seemed much more engaged throughout”.

**Life skills transfer.** Three of the 17 critical events concerned the participants’ ability to use and practise these skills in non-sport domains. The programme was designed for the participants to put LS into practice in multiple contexts using a number of reflective practice take-home tasks. The researcher described the depth in which the participants were able to reflect and the practicalities of the take-home tasks. Following Session Five during Pilot One, the researcher wrote:

The depth at which the athletes are able to reflect is developing in each session.

Sometimes the information that they include in the take-home tasks is limited, but their ability to explain their thoughts, feelings, and behaviours in multiple life domains has increased as the programme has progressed.

As he attempted to make sense of this situation, he wrote, “... the information that is included in the take-home tasks may be secondary to being able to explain their thoughts and feelings.” From this learning, the researcher stated, “... the more I can guide the participants through the reflections in Session Three and Session Five the better, this will increase the chances of the participants consolidating their knowledge and will hopefully allow them to utilise their self-regulation skills more efficiently.”



A number of additional guided reflection questions were included in the version of the PPEP delivered for Pilot Two. The researcher also reflected on another critical event in Session Five that linked with LS transfer and the practicalities of the take-home tasks. He wrote:

Displaying some hypothetical take-home tasks responses seemed to give the participants a better idea of how to complete the written components of the take-home tasks in more detail. This group has also improved in their ability to articulate LS transfer and the amount of information included in the take-home tasks has progressed between take-home tasks 1 and 4, and take-home tasks 5 and 8.

The researcher concluded, "... taking the time to explain the take-home tasks and reflective practice is more important than feeding the participants with the theoretical aspects of the Performance Supply Chain or reflective practice. There needs to be more of an emphasis on the practical elements of what they do rather than increasing theoretical knowledge."

### **Programme Context**

Fifteen of the 39 critical events related to creating an appropriate environment for LS development. Thematic content analysis revealed three sub-categories associated with the programme context of the PPEP. These three sub-categories were labelled 'participant engagement', 'initiative', and 'group interaction'.

**Participant engagement.** Seven of the 15 critical events relating to the programme context of the PPEP concerned the participants' engagement. These seven critical events were related to the researcher's delivery of the content and, subsequently, the participants engagement in the programme. When reflecting on the first critical event associated with the participants' engagement, the researcher wrote: "when I finally got the participants into the first task, I noticed that 20-minutes had passed. We were almost half way through the first session and I hadn't engaged with the participants" (Session One, Pilot One). The researcher

attempted to understand the consequences of this critical event and the influence on the participants. His reflection continued:

I pitched this programme as a series of sessions that were designed to help [*the participants*] develop skills for sport and non-sport domains in a similar manner to which they develop their physical and technical skills [*in cricket*]. A cricket coach would rarely spend 20-minutes introducing a session. Next time, it needs to be sharper and more concise otherwise I will lose them within the first part of the first session.

The researcher consolidated his learning from this critical event with some suggestions for Session One in Pilot Two. He wrote, “The introduction needs to be short and sharp. I should highlight the key components of the programme and then ask the participants to discuss their experiences of performance excellence and personal excellence within the first five minutes.”

In relation to the critical event in Session One during Pilot One, the researcher also reflected on his experiences during the Session One in Pilot Two. He described his experiences in the following way:

I provided a concise introduction and overview of the programme. I highlighted the importance of skills for life inside and outside sport, and quickly got the participants talking. The participants were more than happy to discuss their understanding of performance excellence and personal excellence and it appeared to act as a good ice-breaker. Subsequently, I felt a lot more composed and clear about the rest of the session.

By promoting participant engagement early in the programme, the researcher believed that the “participants should feel like they are at the centre of the programme, rather than me being at the centre”. He concluded this reflection by writing, “getting the participants talking provides them with more choice and an opportunity to display competence via knowledge-sharing.”

**Initiative.** Five of the 15 critical events related to developing a programme context whereby the participants could display initiative. All five of these critical events prompted reflections concerning whether or not the PPEP provided the participants with choice in the sessions, and whether or not the tasks were challenging and fostered intrinsic motivation. In line with other critical events that were coded to the sub-category ‘value of life skills’, the researcher attempted to foster an environment that encouraged the participants “to think outside the box” in relation to the use of LS in non-sport domains. The researcher provided the most vivid description of the critical events associated with the sub-category ‘initiative’ following Session Four during Pilot Two. He wrote:

The participants appeared very motivated in the tasks that concerned developing psychological skills for performance excellence. There have been several constructive discussions concerning self-regulation and improving performance, with the participants asking multiple questions about these skills. However, there wasn’t the same level of motivation when the group discussed the skills in relation to personal excellence and I need to find a way for the participants to consider how these skills can help them outside sport in the future.

During the delivery of the three iterations of the PPEP, the researcher attempted to encourage initiative and to provide meaningful explanations of personal excellence and LS development. He wrote, “I encouraged the participants to be creative with the situations in which they could apply these skills in their lives outside cricket, rather than trying to convince them that these skills were important”. The researcher attempted to consolidate his learning following a similar experience following Session Three during Programme Delivery. He stated, “Perhaps future programmes should first focus on who the participants are as people, rather than using the performance context as an easy opportunity to get the participants talking. This might encourage an environment where the participants can think more critically about aspects of personal excellence”.

**Group interaction.** A central focus of delivering the PPEP was to promote group interaction, to give the participants an opportunity to discuss each other's experiences and to connect the LS with their past, present, and future experiences. Three of the 15 critical events related to the programme context were associated with the interaction of group members in whole group or small group discussions. Following Session Five in Pilot One, the researcher reflected on a critical event associated the interaction of group members. He wrote:

I witnessed the group really come to life yesterday in Session Five. Prior to this several members of the group had been fairly passive and hadn't contributed to group discussions. We were discussing how cricketers can use self-regulation to focus their attention and, instead of attempting to paraphrase one of the participant's answers, I asked another member of the group to comment. With this, the conversation flowed from one group member to another until all members of the group were contributing in a constructive manner.

The researcher attempted to explain the consequences of this process on the effectiveness of the session when he wrote, "When everyone chipped in and built on each other's ideas, it began to feel more like a team working together to understand these skills rather than several individuals listening and taking direction from me". The researcher summarised his learnings with the goal of promoting a more interactive group during Pilot Two and Programme Delivery. He wrote, "Asking other participants to comment on other group members thoughts would likely promote a more productive discussion and greater opportunity for LS development. Promoting this earlier in the programme would likely encourage participants to contribute more throughout the programme".

## **External Assets**

Seven critical events related to the influence of other individuals on the participants' LS development. Content analysis revealed two sub-categories associated with the external assets available to the participants during the two pilots and Programme Delivery. These two sub-categories were labelled 'researcher and participant relationship' and 'external support'.

**Researcher and participant relationship.** Four of the seven reflections were coded 'researcher and participant relationship' to indicate the extent to which the researcher was able to build rapport with the participants and support the participants' psychological needs within the group setting. The researcher reflected on his ability to build rapport with participants following Session Six during Pilot One. He wrote:

Throughout the programme my ability to connect with all of the participants was hampered by getting caught up in the content and not wanting to interrupt group discussions. I did manage to connect with some participants, but this was more by coincidence rather than using a structured or strategic approach.

The researcher continued to make sense of this process when he wrote:

This programme is concerned with developing the participants as people, not just athletes. It is important to forge meaningful relationships with the participants and understand their experiences outside cricket too. I should take the time to get to know the participants at the start of the programme, rather than hoping the relationships develop organically. I could perhaps do this in the introductory session or in the first session.

The second and third iteration of the PPEP included time for informal interaction with the participants. Following Session Two during Programme Delivery, the researcher reflected on the connection that he had made with the participants. He wrote:

In the opening couple of sessions, I have taken the time to ask the participants about their experiences and commitments during the winter in an informal manner. This gave me an overview of who they were as people. Even though there were a lot of similarities, there were aspects to each individual that were unique. These differences allowed me to show more interest in them before and after sessions, and around the camp.

In an attempt to consolidate this knowledge and inform future iterations of the PPEP, the researcher noted following Session Two during Programme Delivery:

Connecting with the participants reduced the content delivered at the start of the programme, but it will hopefully allow the programme to gain momentum through the middle and to promote in-depth conversations towards the end; as it did in Pilot Two. It appears more rewarding to start slowly rather than to deliver lots of content at the start. In effect, less is more.

**External support.** Three of the seven reflections were coded ‘external support’ and related to the extent to which the coaches and other practitioners engaged with the PPEP. On three occasions, the researcher noted critical events concerning “positive reinforcement from others”. For example, the researcher heard the high school teacher-coach reinforcing a message concerning self-awareness to one of the high school cricketers following Session Five in Pilot Two. The researcher reflected on this critical event and wrote:

It was great to hear one of the players engaging with the coach about the importance of self-awareness and discussing ways to manage anxiety in cricket and during their exam period. The more people who can reinforce the messages from the PPEP in a positive manner, the more effective the programme is likely to be.

The researcher took this learning from Pilot Two and encouraged as many of the support staff at New Zealand Cricket to attend the PPEP sessions during Programme Delivery. The coaches and practitioners were asked to consider how they might incorporate some of the message from the PPEP into their sessions or during interactions with the cricketers. The researcher reflected on a critical event following Session Five during Programme Delivery. In this critical event, the head coach of the Winter Training Squad spoke to the players about reflecting on their performances. When the researcher reflected on this critical event, he wrote:

The head coach reiterated some of the content from Session Five, giving the programme more credibility and helping to reinforce one of the key messages from the session. The more the coaches and practitioners reiterate the messages from the PPEP throughout the camps, the more likely the players are to retain the knowledge and develop LS.

The researcher also noted that “more integration with the coaching team prior to the programme would likely enhance the participants’ skill learning and development” and that “future iterations of the PPEP would likely benefit from the continued external support from significant individuals”.

Table 12

*Categories and sub-categories that emerged from the researcher's reflections on each session of the PPEP*

Session	Pilot One	Pilot Two	Programme Delivery
1	1. Programme context (Participant Engagement) 2. External Assets (R-P Relationship) 3. Programme context (Initiative)	1. Internal Assets (Value of Life Skills) 2. Internal Assets (Teaching Strategies) 3. Programme context (Participant Engagement)	1. Internal Assets (Value of Life Skills) 2. Programme context (Group Interaction)
2	1. Programme context (Participant Engagement) 2. Internal Assets (Teaching Strategies)	1. Internal Assets (Value of Life Skills)	1. External Assets (R-P Relationship) 2. Internal Assets (Teaching Strategies) 3. Programme context (Initiative)
3	1. Programme context (Initiative) 2. Internal Assets (Value of Life Skills) 3. Internal Assets (Value of Life Skills)	1. Internal Asset (Life Skills Transfer) 2. Programme context (Participant Engagement)	1. Programme context (Participant Engagement) 2. Programme context (Initiative)
4	1. External Assets (External Support)	1. Programme context (Initiative) 2. Programme context (Group Interaction)	1. Internal Assets (Value of Life Skills)
5	1. Programme context (Participant Engagement) 2. Programme context (Group Interaction) 3. Internal Assets (Life Skills Transfer)	1. Internal Assets (Life Skills Transfer) 2. Internal Assets (Value of Life Skills) 3. External Assets (R-P Relationship)	1. Internal Assets (Value of Life Skills) 2. Internal Assets (Teaching Strategies) 3. External Assets (External Support)
6	1. Internal Assets (Teaching Strategies) 2. External Assets (R-P Relationship)	1. External Assets (External Support)	1. Programme context (Participant Engagement) 2. Internal Assets (Value of Life Skills)

*Note.* Abbreviation: Researcher and Participant Relationship (R-P Relationship)



## **Study Two: Discussion**

The purpose of Study Two was to examine the instrumental and conceptual processes associated with delivering the PPEP using a process-improvement evaluation. The findings from Study Two contribute to the extant athletic career development literature by: (i) providing insight into the delivery and development of a LS programme; (ii) utilising reflective practice to illuminate the researcher's experiences of delivering a LS programme; and (iii) assessing programme implementation in line with Petitpas and colleagues (2005) framework for planning LS programmes. By detailing the lived experiences of the researcher whilst delivering the PPEP, the findings afforded conceptual and practical knowledge concerning several aspects of programme delivery and programme development.

### **Internal Assets**

Analysis of the researcher's reflections showed that almost half of the critical events concerned the development of internal assets in the participants. This is perhaps not surprising given that LS programmes are designed "to teach important life skills in a systematic manner" and "contain clear strategies to foster generalisability of these skills to other domains" (Petitpas et al., 2005, p. 70). The findings from this study highlight three sub-categories labelled 'value of life skills', 'teaching strategies', and 'life skills transfer' that were associated with developing internal assets.

The most cited sub-category, 'value of life skills', was associated with the perception that the participants valued the skills for performance excellence, yet failed to see the impact that these skills could have on personal excellence. This perception was based on the observation of increased participant engagement (e.g., active listening, task-focused conversation) during the aspects of the programme related to performance excellence, and decreased participant engagement during the aspects of the programme related to personal excellence. Researchers have previously identified that athletes are more likely to be stimulated during the sport-specific components of programmes and have encouraged

individuals to consider strategies for fostering participant engagement with non-sport components (Danish et al., 2004; Hellison, 2011; Petitpas et al., 2005). Pierce and colleagues (2017) recently highlighted a number of processes that could influence an individual's engagement with the LS development process. In particular, individuals are required to understand the benefits of using each LS in multiple contexts. The findings from this study reiterated that participants need to value the LS transfer context and to understand the practicalities of the skills beyond the sport domain (Petitpas et al., 2005; Pierce et al., 2017). Practitioners delivering future iterations of the PPEP might use empirical findings to demonstrate the relationship between the skills (e.g., self-regulation) and life outcomes (e.g., health).

Teaching strategies were also a recurring sub-category associated with developing internal assets. The researcher reflected on his experiences delivering concepts associated with self-awareness and self-regulation and noted that practical examples enhanced the participants' engagement. The researcher reflected on the importance of having a teaching framework that enabled him to facilitate the learning experience. Such teaching frameworks might include information to explain the resemblance between the learning context and the transfer context, directing the participants' attention to their underlying goal structures in multiple contexts, and encouraging the participants to explain the practicalities of the skills in their own words (Billing, 2007; Leberman, McDonald, & Doyle, 2006).

The researcher used these strategies more frequently during the second and third iterations of the PPEP, helping him to promote a more stimulating learning environment. Within both the education and the LS literature, the value of promptly engaging participants in activities rather than delivering large amounts of information has previously been highlighted (Danish et al., 1993; Hellison, 2011). However, the findings from this study and other sport psychology literatures emphasise the importance of refining a number of teaching strategies to ensure that researchers deliver meaningful and practical information during

interactive, group-based sessions (Collins, Evans-Jones, & O'Connor, 2013; Cropley, Hanton, Miles, & Niven, 2007; Holt & Streat, 2001).

### **Programme Context**

One of the most important factors associated with the programme context is the motivational climate created by the programme leader (Bean et al., 2016; Hodge et al., 2012; Pierce et al., 2016). Analysis revealed fifteen critical events associated with the motivational climate created during programme delivery. The design of the programme, the programme leader's delivery of the programme, and the interaction between participants determines the type of motivational climate that exists in the programme setting and often dictates the participants' level of motivation and behaviours during the programme (Ntoumanis, 2001; Reinboth, Duda, & Ntoumanis, 2004; Sarrazin, Guillet, & Cury, 2001). To engage the participants with the programme content, programme leaders have been encouraged to display behaviours associated with a need-supportive motivational climate (Hodge et al., 2012). Such behaviours ensure that the participants understand the expectations of the programme, associate the programme context with psychological safety, and experience opportunities to demonstrate initiative (Petitpas et al., 2005). In line with recommendations from Petitpas et al. (2005), the three sub-categories that emerged from the main category 'programme context' were labelled 'participant engagement', 'initiative', and 'group interaction'.

The researcher highlighted participant engagement and group interaction as important factors for creating a need-supportive motivational climate during the delivery of the PPEP. The sub-category 'group interaction' emphasised the value of using open-questions to promote knowledge-sharing and interaction between the participants. The use of open-questions has previously been associated with a mastery motivational climate (i.e., task-oriented rather than ego-oriented behaviours) and increased psychological need-support (Hodge et al., 2016; Ntoumanis et al., 2017). Over the course of the three deliveries of the PPEP, the researcher carefully monitored his approach in line with need-supportive

behaviours (Ntoumanis et al., 2017) and his use of listening and attending behaviours (Ivey et al., 2014). The findings highlighted that need-supportive behaviours enhanced the overall engagement and interaction of the participants in the latter iterations of the PPEP. These findings further emphasise the value of a participant-centred approach, in which the researcher (programme leader) facilitates conversation between the participants and carefully guides each session towards the intended session outcomes. These strategies, previously deemed as valuable in the sport psychology literature (e.g., Hodge et al., 2016; Ntoumanis et al., 2017), have received limited discussion within the LS programme literature.

### **External Assets**

External assets were used to reinforce the content of the programme and to encourage the participants to practise the skills taught during the PPEP. Two sub-categories were related to the main category 'external assets' and were labelled 'researcher and participant relationship' and 'external support'. The sub-category 'researcher and participant relationship' emerged from several critical events related to the interaction between the researcher and the participants. Whereas, the sub-category 'external support' emerged from critical events linked with the participants' interactions with significant social agents in the cricket domain and the influence of these interactions on the participants' LS development. Both of these categories have previously been discussed in relation to the delivery of the LS programme to adolescent athletes (Petitpas et al., 2005; Weiss et al., 2013), yet few researchers have acknowledged the importance of 'external assets' for adult, professional athletes.

During Study Two, the researcher acknowledged that building relationships in an authentic manner was more important than delivering lots of information to the participants. The content of the programme was revised to allow the researcher to develop authentic relationships within the sessions. By developing authentic relationships, more detailed conversations emerged between the researcher and the participants in the latter stages of the programme. Within the sport psychology literature, the process of developing rapport and trust with participants has been considered as essential for effective practice (e.g., Friesen & Orlick, 2011; Sharp & Hodge, 2014). The findings from this study highlight the importance of structuring time for the researcher (programme leader) to interact with the participants prior to starting the core content of the programme.

External support outside the programme environment has previously been encouraged by positive youth development researchers (e.g., Fraser-Thomas et al., 2005; Petitpas et al., 2004). These researchers have encouraged teachers and parents to engage with the content of LS programmes and to reinforce the messages of these programmes in other life domains (e.g., at home) (Bean et al., 2016; Petitpas et al., 2004; Weiss et al., 2013). The sub-category ‘external support’ related to the involvement of coaches and other practitioners working with the cricketers in the sport context and in life outside sport. The coaches and practitioners were in the most frequent contact with the participants and had the most opportunity to reinforce messages from the programme. In professional sport, the head coach is often best-placed to influence the athletes and, therefore, to reiterate the messages from LS programme for performance excellence and personal excellence (e.g., by demonstrating authentic interest in the athletes’ ability to display competence in life outside of cricket) (Cassidy et al., 2016). There is likely greater opportunity for LS development to occur should the head coach and other support staff reinforce the message from the programmes (Camiré et al., 2012; Gould et al., 2007). Furthermore, athletes’ propensity to change their behaviours can also be determined by sociocultural cultural norms associated with members of the team. Senior

members of the team who engage in LS programmes are also well-placed to influence the behaviours of other members of the team. The findings from Study Two indicate the value of integrating multiple social agents into the delivery of the programme to ensure that the programme has maximum opportunity to affect behavioural change.

### **Programme Fidelity**

A process-improvement evaluation was implemented in Study Two to provide insight into the delivery and development of the PPEP. Researchers might consider various processes associated with developing internal assets, promoting a need-supportive context, and utilising external support to reinforce the main teaching points from their programmes. Whilst adapting and improving various aspects of the programme is essential to enhancing programme outcomes, it is important for researchers to balance programme fidelity with programme adaptation (Durlak & Dupre, 2008). Specifically, Durlak and Dupre (2008) outlined that programmes should include both core and non-core components. Core components include the underpinning conceptual framework or intervention methodology on which programmes are developed (e.g., psychological skills and psychological strategies). Whereas, non-core components include aspects of programme delivery such as timings, researcher (programme leader)-participant interaction, and interaction between programme participants. Within this study, the non-core components were adjusted and adapted in line with each iteration of the PPEP and, subsequently, did not compromise programme fidelity. However, the findings highlight the importance of training researchers (programme leaders) prior to outcome evaluations, providing multiple opportunities to pilot programmes, and developing programme delivery manuals and guidelines (see Appendix G for an example).

## **Limitations and Future Research Directions**

The findings from this study are to be treated as a description of one researcher's experiences of delivering a LS programme, rather than findings with empirical generalisability. To provide a more robust methodology for future replications of this process-improvement evaluation, a participatory action research approach whereby the researcher triangulates his reflections with the perceptions and experiences of other social agents (e.g., participants, coaches, practitioners) might be considered. This approach has been successfully utilised to enhance LS programmes (e.g., Holt et al., 2013) and parent-education programmes (e.g., Thrower, Harwood, & Spray, 2017). A participatory action research approach would enhance the trustworthiness and credibility of the critical events listed by the researcher by verifying these critical events with others' experiences. In addition, other social agents might provide alternative adaptations to non-core components of the programme, which could further enhance the effectiveness of the programme.

The trustworthiness and credibility of analysing reflections has previously been questioned within the academic literature (e.g., Smith & McGannon, 2017). To avoid confirmation bias and to enhance the methodological rigour in this study, the author engaged in detailed bracketing of his knowledge and experiences prior to this study (see Chapter Three, pp. 75-79). Furthermore, the researcher's supervisor conducted an audit trail to assess the main categories and sub-categories that emerged from content analysis. The researcher's supervisor challenged the researcher on several sub-categories until a mutual agreement was reached.

## **Conclusion**

The purpose of Study Two was to examine the instrumental and conceptual processes associated with delivering the PPEP using a process-improvement evaluation. To generate knowledge associated with the instrumental and conceptual processes associated with the PPEP, the researcher reflected on the delivery of three iterations of the PPEP during two pilots and the delivery of the PPEP to members of the NZCWTS. Content analysis revealed three main categories and eight sub-categories from the researcher's reflections on 39 critical events. The three main categories ('internal assets', 'programme context', and 'external assets') and their associated sub-categories highlighted the importance of: (i) developing a clear teaching structure with practical tasks and examples that encourages participant engagement; (ii) fostering relationships with the participants and promoting a need-supportive motivational climate; and (iii) utilising external support to reinforce the main teaching points from the programme. These findings are intended to provide guidance for neophyte practitioners during programme the design, delivery, and development of LS programmes.



## **CHAPTER SIX**

### **STUDY THREE: ASSESSING THE PROCESSES AND OUTCOMES OF THE PERFORMANCE AND PERSONAL EXCELLENCE PROGRAMME**

The purpose of this research project was to develop, deliver, and assess a life skills (LS) programme for promoting performance excellence and personal excellence in professional cricketers. A needs-analysis (Study One), conducted to inform the development of the Performance and Personal Excellence Programme (PPEP), was discussed in Chapter Four. Study Two, a process-improvement evaluation to examine the instrumental and conceptual processes associated with delivering the PPEP, was forwarded in Chapter Five. Study Three, which contained multiple types of evaluation procedures to assess the processes and outcomes of the PPEP, is discussed in this chapter.

#### **Evaluating the Processes and Outcomes of Life Skills Programmes**

Given the equivocal support and limitations of existing career assistance programmes for elite athletes (see Chapter Two, pp. 39-41), a purposefully designed LS programme, underpinned by a conceptual framework and an intervention methodology, was developed as an alternative intervention for promoting performance excellence and personal excellence in professional athletes. The outcomes of existing LS programmes have typically been evaluated using randomised controlled trial designs in which participants were assigned to either experimental or control conditions by a pre-existing group (e.g., school class) before the LS programme was delivered (Goudas et al., 2006; Goudas & Giannoudis, 2008; Kolovelonis et al., 2006; O’Hearn & Gatz, 1999, 2002; Papacharisis et al., 2005). The effectiveness of these programmes has typically been measured using self-report LS measures. However, these self-report measures merely assume that psychological development has occurred because of participating in the LS programme. Researchers who have adopted these self-report measures

have provided no indication that either the knowledge can be applied or that the self-beliefs resulted in actual behaviour change (Hodge et al., 2012).

Evaluating the processes and outcomes of the PPEP, which was developed using the life development intervention/basic needs theory life skills (LDI/BNT LS) model, provides an opportunity to extend existing research that has evaluated LS programmes using superficial or indirect measures of LS outcomes rather than measuring the psychological mechanisms that affect LS development. Given that programmes developed using the LDI/BNT LS model are designed to satisfy participants' psychological needs during the process of LS acquisition, researchers are encouraged to measure psychological need support (need-support), psychological need satisfaction (need-satisfaction), and LS acquisition. Measuring multiple variables would provide a more detailed understanding of the psychological development that occurred as a result of the PPEP.

The PPEP was designed to promote LS acquisition and positive psychological development in athletes and to subsequently help athletes successfully negotiate transitions in both sport and non-sport domains. Research findings presented in the athletic career development literature highlight that athletes' level of commitment to their athletic identity can also influence their ability to acquire LS and hinder positive psychological development. Programmes designed to enhance both LS acquisition and identity exploration would likely result in enhanced psychological well-being (Brewer & Petitpas, 2017; Miller & Kerr, 2002). Thus, measuring identity development as part of LS programme evaluations would likely provide further evidence that psychological development occurred as a result of the participating in the programme. Programme evaluation researchers who combine multiple measures of psychological development (e.g., need-satisfaction, athletic identity commitment) and measure LS acquisition over a prolonged period of time are more likely to provide insight into the effectiveness of LS programmes on sustainable, long-term behavioural change (Pierce et al., 2017).

## **Programme Fidelity**

Programmes developed using conceptual frameworks and intervention methodologies provide researchers with the opportunity to obtain important information about ‘how’ to adapt, modify, and improve aspects of their LS programmes (Hodge et al., 2012). Programme evaluation researchers have been encouraged to start with the question ‘does the programme work?’ (i.e., knowledge gained from outcome-assessment evaluations), and move towards questions concerning ‘why the programme works?’ (i.e., knowledge acquired from outcome-improvement evaluations) and ‘how the programme works?’ (i.e., knowledge obtained from process-assessment evaluations). These questions are all related to the issue of programme fidelity. From a LS programme fidelity perspective, it is essential to assess the influence of both the content of the LS programme and the context surrounding the individuals participating in the LS programme (Gould & Carson, 2008; O’Hearn & Gatz, 2002).

Few LS programme researchers have provided information concerning aspects of programme fidelity during evaluation studies (see Bean et al., 2014; O’Hearn & Gatz, 2002 for exceptions). Multiple types of programme evaluation can be used to obtain information on programme fidelity (Century et al., 2010). Outcome-improvement evaluations are useful when programmes contain several components (e.g., a number of LS) and when researchers seek to understand which components influence the overall outcome of the programme. In addition, this type of evaluation provides information on which components should be used in future iterations of a programme. The knowledge generated from outcome-improvement evaluations can inform programme fidelity. In addition, process-assessment evaluations can be employed to judge the implementation of programmes. This type of evaluation is viewed as a quality-checking procedure for the delivery of programmes and can also provide information regarding programme fidelity.

### **Study Three: Rationale, Purpose, Research Questions, and Hypotheses**

The majority of existing programmes for personal excellence (e.g., career assistance programmes, LS programmes) have typically used descriptive measures (e.g., a percentage of participants enrolled in programmes) or outcome measures only (e.g., acquisition of knowledge and of skills) to assess programme effectiveness (Lavalley, 2000). To conduct the most robust LS programme evaluations, several limitations associated with the extant LS programme evaluation literature should be addressed. In particular, LS programme evaluations have been limited by: (i) a failure to measure the underlying psychological development that has occurred from participating in programme; (ii) no indication that either knowledge about LS can be applied in other life domains or that the self-beliefs about LS resulted in actual behaviour change; and (iii) a scarcity of longitudinal studies exploring LS development over a prolonged period of time (see Chapter Two, pp. 57-64 for more detail).

To address these limitations, researchers have recommended collecting data relating to both LS development in athletes and the underlying psychological development that has occurred from participating in LS programme, and to aspects of programme fidelity (e.g., the motivational climate associated with the LS programme, the most effective components of the programme) (Gould & Carson, 2008; Hodge et al., 2012; Petitpas et al., 2005; Pierce et al., 2016). In line with these recommendations, researchers have also been encouraged to combine multiple types of evaluation to better understand various components of programmes (e.g., Cox et al., 2016; Holt et al., 2013; Weiss et al., 2013). Thus, a study that included multiple types of programme evaluation was conducted to assess various processes and outcomes associated with the PPEP. An explanatory-sequential, mixed-methods design with two embedded designs was employed in Study Three, which was part of an overarching multiphase, mixed-methods design. The purpose of Study Three was to assess the processes and outcomes of the PPEP for promoting performance excellence and personal excellence in professional cricketers.

**Study Three: Research questions.** Research questions were formulated for the various evaluations that were conducted in Study Three. The research questions for the outcome-assessment evaluation were:

1. Did participating in the PPEP influence LS acquisition?
2. Did participating in the PPEP influence athletic identity commitment?
3. Did participating in the PPEP influence need-satisfaction?

The research questions for the outcome-improvement evaluation were:

1. What did the participants learn from the PPEP?
2. How did the PPEP influence the participants' ability to display performance excellence?
3. How did the PPEP influence the participants' ability to display personal excellence?
4. How will the PPEP influence the participants' future behaviours?
5. What were the participants favourite aspects of the PPEP?
6. What were the participants least favourite aspects of the PPEP?
7. What aspects of the PPEP could be improved?
8. Who would benefit from participating in the PPEP?

The research questions for the process-improvement evaluation was:

Did the motivational climate created during the PPEP support the participants' psychological needs?

**Study Three: Hypotheses.** A number of hypotheses were developed in line with the outcome-assessment evaluation of the PPEP. It was hypothesised that:

1. The PPEP would increase participants' LS in the intervention phase and the post-intervention phase, in comparison to the pre-intervention phase.
2. The PPEP would decrease participants' athletic identity in the intervention phase and post-intervention phase, in comparison to the pre-intervention phase.

3. The PPEP would increase need-satisfaction in the intervention phase and the post-intervention phase, in comparison to the pre-intervention phase.

### **Study Three: Method**

#### **Methodology**

A sample of eight professional cricketers was predetermined prior to the development of the PPEP (see Chapter Three [pp. 70-75] and Chapter Five [pp. 148-149] for more detail). This sample was reduced to six participants as one participant became injured and could not attend the New Zealand Cricket Winter Training Squad camps and one participant did not attend all of the sessions or complete all the take-home tasks. Small samples can be evaluated using single-case research designs, as opposed to the large samples that are associated with group designs (Gast, 2010). Whilst large group experimental research designs (e.g., randomised controlled trials) remain the gold standard for evaluating the effectiveness of interventions, single-case research designs are considered a valuable alternative for researchers working in real world settings with low-inference populations (e.g., small groups of professional athletes) (Barker et al., 2013; Jones et al., 2011).

Single-case research designs (SCDs) have been used to assess change within participants over time and have demonstrated high internal validity and high external validity via the replication of programme effects across settings, participants, and outcomes (Gast, 2010; Morgan & Morgan, 2008). Pre-intervention (baseline) data on one or more variables is collected from participants prior to the introduction of an intervention. The effects of the intervention are then determined from the change in data between baseline, intervention, and post-intervention phases. As each individual acts as their own control in SCDs, the influence of inter-individual variability on the results is reduced. The power of single-case research design studies is determined by collecting multiple data points in the baseline phase, the intervention phase, and the post-intervention phase (Gage & Lewis, 2013).

A strength of SCDs, in comparison to large group experimental designs, is the continuous and extended measurement of one or more dependent variables (Morgan & Morgan, 2008). The continuous and extended measurement of dependent variables enables researchers to measure both psychological constructs and behaviours over time, rather than providing a single 'snapshot' of individuals' psychological and behavioural profiles prior to and after interventions. By measuring dependent variables over a continuous and prolonged period, researchers are more likely to reduce variability in data and can assess behavioural change over time (Gage & Lewis, 2013). Thus, SCDs are a rigorous alternative method of intervention evaluation compared to traditional experimental designs (Barlow, Nock, & Hersen, 2008; Horner et al., 2005; Kratochwill & Levin, 2010), and have previously been used to evaluate LS programmes in small samples of athletes (e.g., Jones et al., 2011).

An A<sup>1</sup>BA<sup>2</sup> single-case research design was employed based on the understanding that eight professional cricketers would be included in New Zealand Cricket Winter Training Squad (NZCWTS). An ABA design was employed rather than a staggered multiple-baseline design because the intervention was delivered as a group (rather than on a one-one basis) and, subsequently, the intervention phase started at the same time. A1BA2 SCDs measure dependent variables throughout pre-intervention baseline (A<sup>1</sup>), intervention (B), and post-intervention (A<sup>2</sup>) phases (Gast, 2010). This design allows researchers to compare the data collected across baseline, intervention, and post-intervention phases. Whilst the measures taken during the intervention are integral to evaluating the immediate effects of the intervention, post-intervention measures are equally important as they show whether the intervention has had lasting effects (Gast, 2010). A<sup>1</sup>BA<sup>2</sup> SCDs have been deemed appropriate for observing changes on a wide range of dependent variables including measures of performance variables and psychological constructs (Gage & Lewis, 2013).

## Participants

The participants were male professional cricketers from New Zealand. From the outset of this research project, New Zealand Cricket determined that the participants for Study Three would be members of the 2016 NZCWTS. Subsequently, the participants for this study were eight male professional cricketers ( $M^{\text{age}} = 22.00\text{yrs}$ ;  $SD^{\text{age}} = 1.83\text{yrs}$ ) who had been playing cricket for between 13 and 19 years ( $M^{\text{experience}} = 15.86\text{yrs}$ ;  $SD^{\text{experience}} = 2.19\text{yrs}$ ) and who had been contracted to their major cricket association between one and four years ( $M^{\text{professionalexperience}} = 2.14\text{yrs}$ ;  $SD^{\text{professionalexperience}} = 1.21\text{yrs}$ ). Seven of the cricketers identified as being New Zealand European and one cricketer identified as being New Zealand Asian ethnicity. Six of the eight participants had a full-time or part-time secondary occupation. Four of these six participants were full-time or part-time students. The other two participants had part-time roles in the private sector. The remaining two participants were full-time cricketers.

Prior to the initial ‘gaining access’ process (see Chapter Three, pp. 70-75), ethical approval was obtained from the university ethics committee. All participants were asked to provide informed consent (Appendix K) following a verbal explanation of the study and after reading an information sheet (Appendix L). It was made clear both verbally and in writing that their participation was voluntary and that they could withdraw from the study at any point without detriment to themselves or their membership of the NZCWTS. All participant data, including questionnaire responses and contact details, were placed directly into a password-protected database (the University of Otago-accredited ‘Syncplicity’). The lead researcher was the only person who had access to this database. Six of the eight participants participated in the programme and completed all the data collection procedures.



## Measures

**Outcome-assessment evaluation.** The outcome-assessment was conducted using an explanatory-sequential, mixed-methods design. The quantitative data were collected using Qualtrics (the university's accredited online survey platform). Online questionnaires were preferred to in-person, pen-and-paper methods due to the geographic locations of the participants between each of the NZCWTS camps and to minimise participant burden (Patel, Doku, & Tennakoon, 2003). However, all participants were offered the opportunity to receive a pen and paper questionnaire. None of the participants requested this alternative format and, therefore, all of the questionnaires were distributed and completed online. The questionnaires were used to assess the programmes influence on personal excellence and shortened questionnaires were used to minimise participant burden (performance excellence was not measured here because it was out of season and to minimise intervention burden). The researcher showed the participants the online questionnaires during the introductory session and demonstrated the process of completing the questionnaire. Participants were offered the opportunity to ask any questions about the data collection procedures during the introductory session and were encouraged to contact the researcher at any stage during the study should they have any questions. The participants received the questionnaire on nine occasions across baseline, intervention, and post-intervention phases (Appendix M). The scale order was automatically randomised each week to minimise practice effects (Shaughnessy, Zechmeister, & Zechmeister, 2014).

**Life skills acquisition.** The purpose of the PPEP was to promote positive psychological development via the teaching of life skills (LS). During six sessions and nine take-home tasks, the participants were provided the opportunity to develop LS associated with self-regulation (i.e., self-awareness, goal identification, and identity exploration). Numerous studies have previously measured participants knowledge and beliefs about LS (e.g., O'Hearn & Gatz, 2002) or LS experiences (e.g., Bean et al., 2016). The Knowledge of Goal Setting

Skills Index was used to assess changes in participants' knowledge about Goal Setting (O'Hearn & Gatz, 2002), whilst other researchers have employed variations of Youth Experiences Survey (YES) 2.0 (e.g., Bean et al., 2015; Jones et al., 2011). The YES 2.0 (Hansen & Larson, 2005) was originally designed to assess the experiences of youth participating in different extracurricular activities and youth programmes focusing on examining various domains of psychological development. It should be noted that the YES 2.0 does not test whether LS learning actually occurs, only whether participants report experiences that are related to its occurrence.

The YES 2.0 consists of 17 subscales and has a total of 70 items. Adapted versions of the YES 2.0 have been used in line with programme objectives (e.g., Bean et al., 2015) and with young adults (e.g., Jones et al., 2011). Given the limited number of LS development questionnaires available at the time of Study Three, an adapted version of the YES 2.0 was employed for this study. To align with the purpose of the PPEP (i.e., promoting experiences that develop LS), the participants were asked to rate whether they had engaged in various *developmentally-appropriate experiences* in the last week. The participants responded to a total of 19 items on 4-point Likert scales (1 = *not at all*; 4 = *yes, definitely*). These items were categorised into three sub-scales labelled 'basic LS experiences' (four items; e.g., "learned that my emotions affect how I perform"; i.e., self-regulation skills), 'initiative experiences' (11 items; e.g., "learned to find ways to achieve my goals"; i.e., goal setting), and 'identity experiences' (four items; e.g., "started thinking more about my future"; identity exploration). The scores for each sub-scale were totalled to give a score for basic LS experiences (range from four to 16), initiative experiences (range from 11 to 44), and identity experience (range from four to 16), with higher scores relating to a greater number of basic LS experiences, initiative experiences, and identity experiences. Psychometric testing has indicated that the YES 2.0 has adequate goodness of fit indices ( $\chi^2/df = \leq 2.0$ , SRMR =  $\leq .08$ , CFI =  $\geq .90$ , and RMSEA =  $\leq .10$  (Hansen, Larson, & Dworkin, 2003)).

***Athletic identity.*** Athletes who are less reliant on their athletic identity are more likely to engage in developmental opportunities than those athletes who are foreclosed to their athletic identity (e.g., Alfermann et al., 2004; Stambulova et al., 2007). To measure individuals' levels of athletic identity commitment, Brewer and Cornelius (2001) developed the Athletic Identity Measurement Scale (AIMS) (also see Visek, Hurst, Maxwell, & Watson, 2008). The AIMS is a seven-item scale that consists of three dimensions: (a) social identity (three items measure the strength to which one identifies with the athletic role); (b) exclusivity (two items measure the extent to which the athlete role is the most important one); and (c) negative affect (two items measure the extent to which negative affect is experienced when sport performance would be hindered). Upon completing the AIMS, participants responded to items on a seven-point Likert scale ranging from one (*strongly disagree*) to seven (*strongly agree*). Aggregate scores of social identity (three items; e.g. "I consider myself an athlete"), exclusivity (two items; e.g. "sport is the most important part of my life"), and negative affect (two items; e.g. "I feel bad about myself when I do poorly in sport") were calculated to show each participant's level of commitment to their athletic identity. The scores range from seven (*low commitment to athletic identity*) to 49 (*high commitment to athletic identity*). Validation of the AIMS has shown adequate goodness of fit for the first-order factors (i.e., social identity, exclusivity, and negative affect) subordinate to one higher-order athletic identity factor ( $\chi^2/df = 32.61$ ; SRMR = .05; CFI = .96; RMSEA = .07) (Visek et al., 2008).

***Psychological need satisfaction.*** Given that the PPEP was grounded in the LDI/BNT LS model, measuring psychological need satisfaction (need-satisfaction) was central to establishing whether psychological development had occurred as a result of the PEPP. Given that the PPEP was designed to promote both performance excellence and personal excellence, context-free need-satisfaction was measured using The Balanced Measure of Psychological Needs (BMPN) scale (Sheldon & Hilpert, 2012). The BMPN scale is an 18-item scale that

assessed need-satisfaction (nine items) and need-dissatisfaction (nine-items) and included items relating to components of autonomy (six items), competence (six items), and relatedness (six items). Each item was answered on a five-point Likert scale (1 = *no agreement* to 5 = *much agreement*). Aggregate scores of total need-satisfaction (nine items; e.g., “I felt a sense of contact with people who care for me and whom I care for”) and total need-dissatisfaction (nine items; e.g., “I felt unappreciated by one or more important people”) were calculated (range from -36 to 36) to show each participant’s level of need-satisfaction or need-dissatisfaction (need-frustration); positive scores reflected need-satisfaction and negative scores reflected need-dissatisfaction (need-frustration). Research has shown the BMPN scale to have adequate goodness of fit indices for  $\chi^2/df = \leq 2.0$ , SRMR =  $\leq .08$ , CFI =  $\geq .90$ , and RMSEA =  $\leq .10$  to assess model fit (Sheldon & Hilpert, 2012).

***Qualitative follow-up.*** A qualitative follow-up was conducted as part of the explanatory-sequential design used for the outcome-assessment evaluation to explore both personal and performance excellence. A narrative methodology, grounded in a critical realist paradigmatic stance, was used to gather, analyse, and interpret the interview data.

***Interview guide.*** A semi-structured interview guide was developed following a literature review on interrelated topics of LS development (e.g., Danish et al., 2004), need-satisfaction (Deci & Ryan, 2008; Ryan & Deci, 2017), and athletic identity (e.g., Brewer et al., 1993). A semi-structured interview guide that encouraged the use of a conversational approach (i.e., the interviewer adopts the role of an active listener) was constructed. A conversational approach can be used to facilitate open-ended conversation, to explore newly emerging themes, and to gain greater understanding of the participants’ experiences (Patton, 2002). Moreover, qualitative researchers have advocated this type of interview guide to enable participants to talk freely, tell stories, and change topics when appropriate (Smith, 2010; Sparkes & Partington, 2003).

The interview guide was divided into three sections to address the outcome-assessment research questions. The researcher designed section one of the interview guide to explore the participants' experiences between May and September, 2016 (i.e., the cricket 'off-season'; the baseline phase and the intervention phase) and section two to explore the participants' experiences between October 2016 and March 2017 (i.e., during the cricket season; post-intervention phases). The questions in the first two sections were used to understand developmental issues that were perceived as important to each of the participants during the data collection period for Study Three. The questions were used to encourage the participants to discuss their experiences in relation to their need-satisfaction and identity commitments. The researcher created section three of the interview guide to explore the participants' use of the taught LS in relation to their experiences during the 'off-season' and during the cricket season. All three sections were used to generate information that could be integrated with the quantitative findings during data analysis (Creswell, 2011) (see Appendix N).

*Pilot interviews.* Two formal pilot interviews were conducted with two professional cricketers to gain experience with the interview guide and to provide an opportunity to refine the questions. The first pilot interview enabled the researcher to become familiar with the type of responses provoked by the open-ended questions (Flick et al., 2004). A debriefing session with the cricketer after the first pilot interview resulted in to some minor adjustments to a small number of questions and the inclusion of several new probes (e.g., 'I'm not entirely sure what you mean, could you please go over that again?'). The revised interview guide was piloted with a second professional cricketer to ensure that the amendments strengthened the interview guide. No further amendments were made to the interview guide following the second pilot interview.

*Main interviews.* Face-to-face, semi-structured interviews were conducted in March 2017 at a time and location that was convenient to each of the six cricketers. The interview time ranges from 41 minutes and 22 seconds to 52 minutes and 47 seconds ( $M = 44$  minutes and 24 seconds;  $SD = 7$  minutes and 29 seconds) and amounted to 3185 lines of double-spaced verbatim transcript data (see Appendix O for an example transcript).

**Outcome-improvement evaluation.** An outcome-improvement evaluation was embedded within the multiphase, mixed-methods research design to provide information on both personal and performance excellence. Social validation procedures have often provided qualitative data to supplement quantitative, outcome evaluation data and have generated information for future iterations of interventions by exploring participants' perspectives of the components of intervention methodologies (e.g., Holt et al., 2013; Jones et al., 2011). These procedures measure the social importance of interventions and are often conducted using questionnaires or interviews (Page & Thelwell, 2013; Wolf, 1978). Despite the continued use of social validation procedures, data are often omitted from intervention literature making it difficult to determine the potential effectiveness of these procedures (e.g., Baker & Jones, 2006). A more thorough consideration of social validation procedures could add greater value to the understanding of single-case protocols (Page & Thelwell, 2013; Wolf, 1978). Recommendations for the use of social validation procedures include the use of both questionnaires and semi-structured interviews for data collection, the use of content analysis for data analysis, and through reporting social validation results (Page & Thelwell, 2013). Subsequently, an outcome-improvement evaluation underpinned with social validation procedures were used in Study Three. The social validation procedures included a questionnaire and two follow-up interviews.

***Social validation questionnaire.*** Each of the six participants completed a social validation questionnaire following the final session of the PPEP. The questionnaires consisted of eight open-ended questions regarding the components of the PPEP (see Appendix P). The questions were tailored to generate information regarding the components of the PPEP in relation to the effects on performance excellence and personal excellence. Data from the social validation questionnaire was collected using the Qualtrics online survey platform.

***Interview guide one.*** The researcher used the data from each open-ended questionnaire to create an individualised interview guide for each of the participants (see Appendix Q for an example). A follow-up semi-structured interview was conducted with each of the participants to further explore their perceptions of the PPEP one-month following the programme.

***Interview one.*** Face-to-face, semi-structured interviews were conducted during Winter Training Squad Camp Five in September 2016. The interviews were conducted in a meeting room at the New Zealand Cricket High Performance Centre at a time that was convenient to each of the cricketers. The interview time ranged from 23 minutes and 11 seconds to 34 minutes and 47 seconds ( $M = 29$  minutes and 48 seconds;  $SD = 3$  minutes and 6 seconds) and amounted to 1884 lines of double-spaced verbatim transcript data (see Appendix R for an example transcript).

***Interview guide two.*** A second individualised semi-structured interview guide was developed for a six-month social validation interview (see Appendix S). The purpose of this second social validation interview was to explore the participants' memories of the PPEP and to compare these findings with the previous social validation data.

***Interview two.*** A second face-to-face, semi-structured interview was conducted with each of the six participants in March 2017. The interviews were conducted at a time and location that was convenient to each of the participants. The interview time ranged from 16 minutes and three seconds to 25 minutes and 52 seconds ( $M = 22$  minutes and 15 seconds;  $SD$

= 2 minutes and 34 seconds) and amounted to 1406 lines of double-spaced verbatim transcript data (see Appendix T for an example transcript).

**Process-assessment evaluation.** A process-assessment evaluation was embedded within the multiphase, mixed-methods research design. Few evaluation studies evaluating the effectiveness of LS programmes have accounted for the critical issue of programme fidelity (see O’Hearn & Gatz, 2002, and Bean et al., 2016 for exceptions). By measuring programme fidelity, researchers can begin to understand why, how, and under what conditions LS programmes work (Hodge et al., 2012). To examine one aspect of programme fidelity and to help explain ‘why’ and ‘how’ LS programmes work, the extent to which the programme leader had created a need-supportive motivational climate was assessed.

**Learning Climate Questionnaire.** The Learning Climate Questionnaire (LCQ) has previously been adapted to measure the extent to which participants perceived their psychological needs to be supported in a range of sporting contexts (e.g., Bean et al., 2016; Standage, Duda, & Ntoumanis, 2005). The LCQ has been validated in a physical education setting (Standage et al., 2005) and with young adult athletes (Hodge & Lonsdale, 2011), and has been shown to have adequate goodness of fit ( $\chi^2 [539] = 1560.47$ ; SRMR = .06; CFI = .93; RMSEA = .05; Standage et al., 2005). The LCQ contains 24 items that measure autonomy-support (15 items), competence-support (four items), and relatedness-support (five items).

A process-assessment evaluation was conducted with an adapted version of the LCQ in this study. Responses to all items were preceded by the stem “In the PPEP...” and were made on a seven-point Likert scale anchored from one (*strongly disagree*) to seven (*strongly agree*). Example items include: “we feel that [researcher’s name] provides us with choices and options” (autonomy-support), “[researcher’s name] makes us feel like we are able to do the activities in the PPEP” (competence-support), and “we feel that [researcher’s name] encourages us to work together in the PPEP activities” (relatedness-support). Scores from



these three subscales were totalled and used as indicators for the latent factor need-support. The scores ranged from 24 to 168, with higher values indicating perceptions of a more need-supportive motivational climate. The LCQ was integrated into the outcome-assessment questionnaire and was completed in the week following the end of the intervention (see Appendix U).

### **Procedure**

Study Three consisted of six stages that were implemented between May 2016 and March 2017. These stages were labelled: (1) gaining access; (2) introductory session; (3) baseline data collection phase; (4) intervention data collection phase; (5) post-intervention data collection phase; and (6) qualitative follow-up phase.

**Gaining access.** The researcher informally contacted New Zealand Cricket (NZC) and the New Zealand Cricket Players Association (NZCPA) about this research project at the outset of his Doctor of Philosophy candidature. Personnel from NZC (i.e., the lead mental skills trainer) and the NZCPA (i.e., the lead personal development manager) showed initial interest in the research project and the researcher formally contacted these stakeholders when the research project had been accepted and granted ethical approval by the university ethics committee (see Chapter Three, p. 70-75 for more detail). The lead mental skills trainer was responsible for overseeing the NZCWTS Mental Skills Programme and contacted the eight members of the NZCWTS prior to their first camp. The lead mental skills trainer informed the players about the PPEP and associated evaluation procedures. The players informally agreed to participate and meet the lead researcher at the introductory session.

**Introductory session.** The researcher met with the members of the NZCWTS players and coaches at Camp One in May 2016. The introductory session was used to build rapport with the players and present an overview of the PPEP and the associated evaluation procedures. The researcher provided an overview of the programme using a PowerPoint presentation and encouraged the members of the NZCWTS to ask questions throughout the

overview. The players were also provided with an information sheet (Appendix K) and informed consent forms (Appendix L).

After securing written informed consent, the researcher demonstrated the process for completing the questionnaires in baseline, intervention, and post-intervention phases on the Qualtrics platform. This process enabled the researcher to explain that each data collection point related to their experiences that week. The researcher explained that each questionnaire should be completed at the end of the week and that he would send the questionnaire on Friday, which would be followed with a reminder email and text on Sunday. This process provided the players with an opportunity to ask questions relating to the content of the questionnaires and, therefore, enhanced the trustworthiness of the data collection process.

**Baseline data collection phase.** The baseline data collection phase lasted five weeks and consisted of three data collection points (i.e., data collection points one, two, and three). The players were sent their first questionnaire during Week One (the week of Camp One; commencing 9<sup>th</sup> May 2016), during Week Three (commencing 23<sup>rd</sup> May 2016), and during Week Five (commencing 6<sup>th</sup> June 2016). The questionnaire pack consisted of 44 items from three questionnaires measuring life skills acquisition, athletic identity commitment, and need-satisfaction.

**Intervention data collection phase.** The intervention phase started during Camp Two for the NZCWTS (commencing 13<sup>th</sup> June 2016) and culminated the week following Camp Four (commencing 29<sup>th</sup> August 2016). The intervention phase consisted of six sessions, nine take-home tasks, and three data collection points (i.e., data collection points four, five, and six). Two sessions (Session One and Session Two) were delivered during Camp Two, Camp Three (commencing 18<sup>th</sup> July, 2016; Session Three and Session Four), and Camp Four (commencing 22<sup>nd</sup> August 2016; Session Five and Session Six). Each session lasted for approximately 50-minutes and involved a number of group discussions and small group discussions. There was a four-week interval between camps two and three, and between

camps three and four. The players were sent a take-home task each week between these three camps (i.e., take-home tasks one to eight) and sent a final take-home task following Camp Four (i.e., Take-Home Task Nine) (see Chapter Five, Table 11, p. 153).

The intervention phase spanned a 12-week period and the players received a questionnaire every fourth week. The first two questionnaire packs that were distributed during the intervention phase contained the same questionnaires as the baseline data collection phase. However, the questionnaire pack for the sixth data collection point also contained the Learning Climate Questionnaire and the social validation questionnaire for the process-assessment and outcome-improvement evaluations. This questionnaire pack contained 76 items and eight open-ended questions.

**Post-intervention data collection phase.** The post-intervention data collection phase spanned a six-month period from 5<sup>th</sup> September 2016 to 20<sup>th</sup> February 2017. The first social validation interviews were conducted during Camp Five (commencing 12<sup>th</sup> September 2016). The participants also completed the questionnaire pack four-weeks (commencing 3<sup>rd</sup> October 2016), 12-weeks (commencing 28<sup>th</sup> November 2016), and 24-weeks following the intervention phase (commencing 20<sup>th</sup> February 2017) (i.e., data collection points seven, eight, and nine). The questionnaire pack contained the same three questionnaires as data collection points one to five.

**Qualitative follow-up phase.** A qualitative follow-up interview and the second social validation interview was conducted with all six participants following the post-intervention phase. Each of the participants were interviewed at a time and location that was convenient during a four-week period in March 2017.

## Data Analysis

**Outcome-assessment evaluation: Quantitative data.** Participants completed nine questionnaire packs over a 42-week period. The questionnaire packs included self-report measures of LS acquisition, athletic identity commitment, and need-satisfaction. The LS acquisition questionnaire consisted of three subscales, which were analysed separately. The athletic identity commitment and need-satisfaction questionnaires also contained three subscales. The three sub-scales for athletic identity commitment were combined to provide an overall measure for athletic identity commitment and the three sub-scales for need-satisfaction were combined to provide an overall measure for need-satisfaction. The three LS experiences subscales combined with the athletic identity commitment questionnaire and the need-satisfaction questionnaire resulted in five scores for each participant (i.e., basic LS experiences, initiative experiences, identity experiences, athletic identity commitment, and need-satisfaction) from each data collection point. Following single-case research design procedures, visual analysis was used to ascertain intervention effects (Barker et al., 2011).

**Visual analysis.** Visual analysis was used to assess if the PPEP intervention had an effect on any of the variables (Hrycaiko & Martin, 1996). When examining the effects of an intervention upon a dependant variable(s), greater confidence can be assured when the following criteria are satisfied: (a) baseline data is stable or trending in the opposite direction to that predicted for the intervention; (b) there is an immediacy of change; (c) there are few overlapping data points between baseline and intervention; (d) there is large effect size between the intervention phase and the baseline phase; (e) an effect is replicated within and across participants; and (f) the results are consistent with existing data and accepted theory (Gast, 2010; Hrycaiko & Martin, 1996). To assess the data in line with these criteria, raw scores for each dependant variable were plotted on a graph, along with the means and standard deviations for each dependant variable from baseline, intervention, and post-intervention phases.

**Stability.** A critical assumption when using single-case research designs to assess intervention effects is to achieve a stable and non-variable baseline, with no clear upward or downward trend (Barker et al., 2011). There is a lack of clear consensus regarding the methods that should be used to check these assumptions. Based on the recommendations of Hrycaiko and Martin (1996) and Parsonson, Baer, Kratochwill, and Levin (1992), variability was assessed by counting the number of individual baseline data points that fell above or below one standard deviation of the baseline mean. One standard deviation of the baseline mean was plotted on the graph as error bars to assist with visual analyses procedures. If two of the data points fell outside this range, the data were considered unstable and precluded any firm conclusions being made regarding intervention effect.

**Effect size.** Effect size was used to assess the magnitude of any intervention effects, between baseline and intervention phases, and baseline and post-intervention phases. Effect sizes “serve the primary goal of establishing a functional relationship between intervention and behaviour” (Parker, Vannest, & Brown, 2009, p. 136) and reduce the chance of researcher bias (Barker et al., 2011). Furthermore, the calculation of effect sizes has been recommended by the American Psychological Association (APA) publication manual to facilitate interpretation of intervention outcomes for single-case research design studies (APA, 2011). Two effect sizes were calculated to supplement the visual analysis procedures. These effect sizes were calculated using Standard Mean Difference (SMD) (Cohen, 1988; Sawilowsky, 2009) and Percentage of Non-Overlapping Data Points (PND) (Mastropieri & Scruggs, 2001).

Similar convergence of effect sizes has been used previously in the sport and exercise psychology literature (e.g., Westlund, Stewart, & Hall, 2017). Each effect size has advantages and disadvantages, and the utility of each effect size is dependent on the pattern of data that is obtained (Cohen, 1988). For example, PND is useful for those cases without variation in the baseline data, which means that SMD cannot be calculated. Standard Mean Difference is

useful when there is a negative effect, which cannot be expressed by PND. Therefore, the two effect sizes were used to draw conclusions about the data.

*Standard Mean Difference.* Standard Mean Difference was used as a measure of mean difference between baseline and intervention phases, and baseline and post-intervention phases, and was used as the primary measure for intervention effectiveness. Standard Mean Difference has been advocated as being a useful and appropriate measure of effect size for single case research designs (Olive & Jones, 2005). An advantage of using SMD is that it is useful for comparing overall phase means to ascertain an overall effect of the intervention. Standard Mean Difference is disadvantaged by a reliance on variability within the baseline data and, without variability in the baseline data, SMD effect size cannot be calculated. Standard Mean Difference was calculated by dividing the difference between the baseline mean and the intervention mean (post-intervention) mean by the standard deviation of the baseline mean. Cohen's (1988) definition of small (0.2), medium (0.5), and large (0.8) effect sizes have typically been used to calculate intervention effect sizes. More recently, Sawilowsky (2009) addressed Cohen's (1988) recommendation that his effect sizes should be treated with flexibility by introducing a broader range of effect sizes (Table 13). Despite the value-laden labels attached to Sawilowsky's (2009) effect sizes, this broader range of effect sizes has been used in this study.

Table 13

*Descriptions of magnitude for effect size*

Effect Size	<i>d</i>
Huge negative effect	<-2.00
Very large negative effect	-1.21 – -2.00
Large negative effect	-0.81 – -1.20
Medium negative effect	-0.51 – -0.80
Small negative effect	-0.21 – -0.50
Very small negative effect	-0.01 – -0.20
No effect	0
Very small positive effect	0.01 – 0.20
Small positive effect	0.21 – 0.50
Medium positive effect	0.51 – 0.80
Large positive effect	0.81 – 1.20
Very large positive effect	1.21 – 2.00
Huge positive effect	> 2.00

*Percentage of non-overlapping data.* Percentage of non-overlapping data (PND) is a method of assessing differences between data points within two phases and was used as a secondary measure of effect size. Percentage of non-overlapping data is calculated by counting the number of intervention (post-intervention) data points that exceed the highest baseline (intervention) data point and calculating the proportion of non-overlapping data points to total number of intervention data points, expressed as a percentage (Morgan & Morgan, 2008). Percentage of non-overlapping data is expressed as a percentage is advantageous because it is easy to calculate and interpret (Barker et al., 2011). A disadvantage of using PND is that the presence of just one extreme data point in the baseline can impact heavily on the resulting PND figure. For example, just one particularly high data point in the baseline would mean that all post-intervention data points would be compared to that one extreme data point, resulting in a decreased PND. In addition, PND cannot account for negative effects, which are expressed as being equivalent to no effect (0%). Mastropieri

and Scruggs (2001) suggested criteria for assessing intervention effectiveness using PND: >90% (very effective); 70-90% (effective); 50-75% (questionable results); and below 50% (ineffective). Based on the percentages available in this study, Mastropieri and Scruggs (2001) criteria were adapted to: >90% (very effective); >66% (effective); >33% (questionable results); and 0% (ineffective).

*Combining standard mean difference and percentage of non-overlapping data.* The changes in the phase means between the baseline, intervention, and post-intervention phases were first assessed using SMD. Standard Mean Difference provided an indication of the intervention effect (e.g., large positive effect). This effect size was then critiqued against PND. Analysis of the PND provided an indication of effectiveness and, subsequently, a level of confidence with which the SMD results could be treated. The PND criteria was therefore converted into a confidence statement: >90% (full confidence); >66% (moderate confidence); >33% (partial confidence); and 0% (limited confidence).

**Outcome-assessment: Qualitative follow-up data.** All the interviews were transcribed verbatim and the interviewer listened to the audio files and read the transcripts several times in an attempt to immerse himself in the data (Holt & Sparkes, 2001). This process, also known as indwelling, was accompanied by notes that represented the interviewer's initial impressions of the data (Maykut & Morehouse, 1994). Each transcription was then subjected to narrative thematic analysis, allowing the researcher to engage with the participants' biographical, historical, and cultural experiences (Riessman, 2008). During this process, raw themes were identified, and quotes were extracted from the text based on the three research questions for this outcome-assessment evaluation. Alongside the raw themes and quotes that were identified and extracted from the text, the researcher also kept analytical memos to establish preliminary connections between the cricketers' narratives and the theoretical concepts of LS acquisition, identity commitment, and need-satisfaction. The raw themes for each participant were categorised into sub-themes and then grouped into main



themes in line with each of the research questions. These findings were shaped into preliminary case reports that were: (a) sent to each participant for member checking procedures; and (b) used in the audit trail process.

**Outcome-assessment evaluation: Replication of intervention effects.** Whilst single-case research design procedures are typically used to examine participants independently, it is also useful to assess the intervention effects using cross-case analyses. Multiple participants allow replication of data to be shown across participants and, if similar effect sizes are found across participants, researchers can conclude that the intervention had some effect on dependant variables (Barker et al., 2011). Thus, replication of the data during the intervention and post-intervention phases was assessed against the data from the baseline phase. Replication was described as a percentage of the participants who demonstrated the same effects. For this study, full replication was deemed to have occurred if all six participants demonstrated the same intervention effects, moderate replication was deemed to have occurred if five from six participants demonstrated the same intervention effects, and partial replication was deemed to have occurred if four from six participants demonstrated the same intervention effects. Equivocal effects occurred if 50% of the participants demonstrated a positive effect and 50% of the participants demonstrated a negative effect.

**Outcome-assessment evaluation: Concurrent changes among variables.** The data were analysed for concurrent changes amongst variables. It was hypothesised that need-satisfaction would facilitate LS development and decrease the participants' self-reported levels of athletic identity commitment. Although causal relationships between variables could not be inferred, evidence that change co-occurred amongst variables provides an indicative association between these variables.

**Outcome-improvement evaluation: Social validation.** Based on recommendations from Page and Thelwell (2013), the social validation questionnaires and interviews were subjected to content analysis. The researcher read and re-read the questionnaires and interviews to better understand each critical event (Kvale, 2009) and used content analysis to systematically categorise the segments of text to determine trends and patterns in the text segments (Loffe & Yardley, 2004). During this process, raw categories were identified and quotes were extracted from the text based on the eight social validation questions included in this study. The raw categories were then categorised into sub-categories and shaped into preliminary case reports that were sent to each cricketer for member checking procedures. Following member-checking procedures, the sub-categories from each of the six participants were analysed collectively and grouped into main categories, before being subjected to an audit trail process.

**Process-assessment evaluation: Learning Climate Questionnaire.** Descriptive statistics (mean and standard deviation) were calculated to determine the extent to which the participants psychological needs were supported during the PPEP.

### **Study Three: Case Study Results**

Data from the outcome-assessment evaluation of the PPEP are presented as a case study for each participant. For each individual case study, the quantitative data were subjected to visual analysis procedures to determine the changes in the dependent variables between baseline, intervention, and post-intervention phases. Descriptive statistics were calculated for each variable for all three phases (Table 14, p. 206). A graph was plotted for each dependent variable using the raw data for each of the nine data collection points and the descriptive statistics from each phase. 'Error bars' ( $\pm 1 SD \bar{x}$ ) were also calculated and plotted on each graph to highlight baseline stability (see Figures 6 to 11). Standard Mean Difference (SMD) and the Percentage of Non-Overlapping Data Points (PND) were then calculated to determine effect sizes between baseline and intervention phases, and baseline and post-intervention

phases (Table 15, p. 207). Qualitative findings highlighting the participants' experiences during the intervention phase and the post-intervention phase are then presented. Narrative thematic analysis revealed several main themes for each participant during the intervention and post-intervention phases. These main themes are presented as a narrative to highlight each participants' experiences in relation their ability to utilise LS in multiple domains, their identity commitments, and their psychological well-being (i.e., need-satisfaction).

### **Participant One: Case Study**

**Basic life skills experiences.** Participant One (P1) reported an increase in his basic life skills experiences (BLSEX) from the baseline phase ( $\bar{x}^B = 9.00$ ) to the intervention phase ( $\bar{x}^{Int.} = 12.67$ , an increase of 40.74%), and a decrease in his BLSEX from the intervention phase ( $\bar{x}^{Int.} = 12.67$ ) to the post-intervention phase ( $\bar{x}^{P-Int.} = 12.00$ , a decrease of 5.26%). However, there was an overall increase of 33.00% in P1's BLSEX between the baseline phase ( $\bar{x} = 9.00$ ) and the post-intervention phase ( $\bar{x}^{P-Int.} = 12.00$ ). Effect size based on SMD represented a very large positive effect between the baseline phase and the intervention phase ( $d = 1.39$ ) and a large positive effect size occurred from the baseline phase to the post-intervention phase ( $d = 1.13$ ). The very large positive SMD effect size indicating a very large increase in P1's BLSEX during the intervention phase was supported with confidence based on PND effect size of 100%. Whereas the large positive SMD effect size demonstrating a large increase in P1's BLSEX in the six-months following the intervention was supported with moderate confidence (PND = 66.66%).

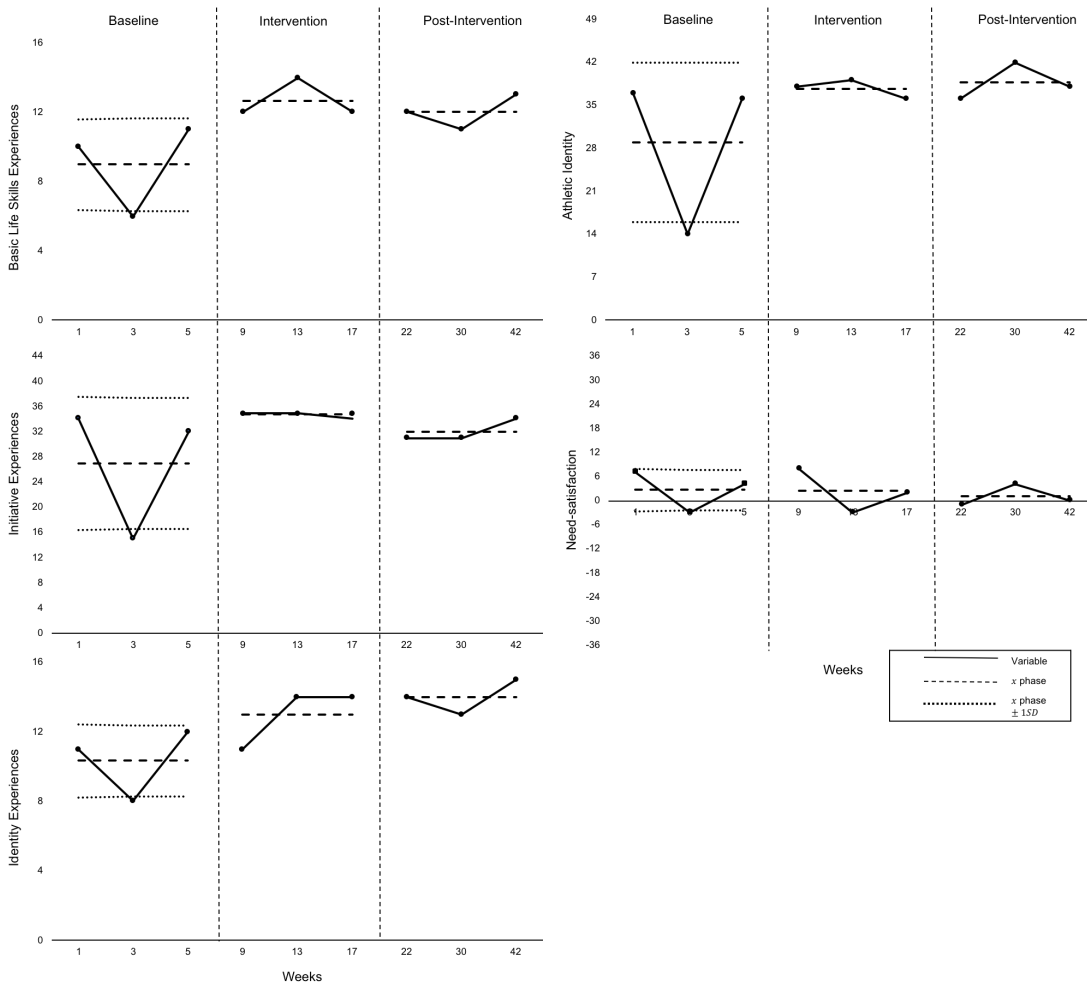


Figure 6. Levels of self-reported basic life skills experiences, initiative experiences, identity experiences, athletic identity, and need-satisfaction during baseline, intervention, and post-intervention phases for Participant One.

**Initiative experiences.** Participant One reported an increase in his initiative experiences (INEX) from the baseline phase ( $\bar{x}^B = 27.00$ ) to the intervention phase ( $\bar{x}^{Int.} = 34.67$ , an increase of 28.40%), and a decrease in his INEX from the intervention phase ( $\bar{x}^{Int.} = 34.67$ ) to the post-intervention phase ( $\bar{x}^{P-Int.} = 32.00$ , a decrease of 7.69%). However, there was an overall increase of 18.52% in P1's INEX between baseline ( $\bar{x}^B = 27.00$ ) and post-intervention ( $\bar{x}^{P-Int.} = 32.00$ ). Effect size based on SMD represented a medium positive effect between the baseline phase and the intervention phase ( $d = 0.73$ ) and there was a small positive effect size from the baseline phase to the post-intervention phase ( $d = 0.48$ ). The medium positive SMD effect size indicating a medium increase in P1's INEX during the

intervention phase was supported with moderate confidence based on PND effect size of 66.66%. Whereas the small positive SMD effect size demonstrating a small increase in P1's INEX in the six-months following the intervention was supported with partial confidence (PND = 33.33%).

**Identity experiences.** Participant One reported an increase in his identity experiences (IDEX) from the baseline phase ( $\bar{x}^B = 10.33$ ) to the intervention phase ( $\bar{x}^{Int.} = 13.00$ , an increase of 25.81%), and reported a further increase in his IDEX from the intervention phase ( $\bar{x}^{Int.} = 13.00$ ) to the post-intervention phase ( $\bar{x}^{P-Int.} = 14.00$ , an increase of 7.69%). This resulted in an overall increase of 35.48% in P1's IDEX between the baseline phase ( $\bar{x}^B = 10.33$ ) and the post-intervention phase ( $\bar{x}^{P-Int.} = 14.00$ ). Effect size based on SMD represented a very large positive effect between the baseline phase and intervention phase ( $d = 1.28$ ). A very large positive effect size remained from the baseline phase to the post-intervention phase, and the effect size increased to  $d = 1.76$ . The very large positive SMD effect size indicating a very large increase in P1's IDEX during the intervention phase was supported with moderate confidence based on PND effect size of 66.66%. Whereas the very large positive SMD effect size demonstrating a very large increase in P1's IDEX in the six-months following the intervention was supported with confidence based on PND effect size of 100.00%.

Table 14

*Means and standard deviations for dependent variables (life skills acquisition, athletic identity, and need-satisfaction) across all phases and percentage change relative to baseline for all six participants.*

Dependent Variable	Sub-Scale	Part.	Baseline (A <sup>1</sup> )	Intervention (B)		Post-intervention (A <sup>2</sup> )		
			$\bar{x}$ (SD)	$\bar{x}$ (SD)	% Change (A <sup>1</sup> – B)	$\bar{x}$ (SD)	% Change (B – A <sup>2</sup> )	% Change (A <sup>1</sup> – A <sup>2</sup> )
Life skills acquisition	BLSEX	1	9.00 (2.65)	12.67 (1.15)	40.74	12.00 (1.00)	-5.26	33.33
		2	11.33 (2.52)	13.33 (0.58)	17.65	11.00 (2.00)	-17.50	-2.94
		3	9.67 (0.58)	11.33 (1.53)	17.24	12.33 (1.53)	8.82	27.59
		4	10.67 (1.53)	12.67 (2.08)	18.75	10.67 (0.58)	-15.79	0.00
		5	13.00 (2.65)	12.33 (0.58)	-5.13	8.67 (2.52)	-29.73	-33.33
		6	6.33 (1.53)	9.00 (1.00)	42.11	8.67 (0.58)	-3.70	36.84
	INEX	1	27.00 (10.44)	34.67 (0.58)	28.40	32.00 (2.31)	-7.69	18.52
		2	29.00 (1.00)	34.33 (0.58)	18.39	32.67 (0.58)	-4.85	12.64
		3	36.33 (2.31)	35.67 (2.52)	-1.83	30.33 (6.00)	-14.95	-16.51
		4	30.00 (4.36)	30.33 (2.31)	1.11	29.00 (2.65)	-4.40	-3.33
		5	31.00 (3.61)	30.00 (2.00)	-3.23	23.33 (4.73)	-22.22	-24.73
		6	26.33 (2.08)	30.33 (2.08)	15.19	28.00 (3.00)	-7.69	6.33
	IDEX	1	10.33 (2.08)	13.00 (1.73)	25.81	14.00 (1.00)	7.69	35.48
		2	12.67 (1.53)	14.67 (1.15)	15.79	13.67 (2.31)	-6.82	7.89
		3	12.33 (2.08)	13.00 (0.00)	5.41	12.00 (1.73)	-7.69	-2.70
		4	10.33 (0.58)	11.67 (2.08)	12.90	11.33 (1.53)	-0.16	1.73
		5	7.67 (1.15)	6.67 (2.08)	-13.04	7.67 (2.89)	15.00	0.00
		6	9.00 (1.73)	10.00 (1.00)	11.11	10.67 (0.58)	6.67	18.52
AI	1	29.00 (13.00)	37.67 (1.53)	37.67	38.67 (3.06)	2.65	33.33	
	2	31.33 (1.53)	34.33 (2.89)	9.57	36.00 (3.61)	4.85	14.89	
	3	35.33 (1.15)	33.67 (2.52)	-4.72	33.33 (3.06)	-0.99	-5.66	
	4	37.00 (2.00)	37.33 (2.08)	0.90	31.00 (5.57)	-16.96	-16.22	
	5	35.33 (1.15)	37.00 (2.65)	4.72	32.00 (7.55)	-13.52	-9.43	
	6	31.00 (10.58)	31.33 (11.59)	1.08	39.67 (1.15)	26.60	27.96	
N-S	1	2.67 (5.13)	2.33 (5.51)	-12.50	1.00 (2.65)	-57.14	-62.50	
	2	19.00 (10.39)	19.67 (2.08)	3.51	14.33 (7.37)	-27.12	-24.56	
	3	9.00 (4.36)	6.67 (2.08)	-25.93	12.00 (4.58)	80.00	33.33	
	4	7.67 (3.79)	2.00 (13.45)	-73.91	7.00 (5.57)	250.00	-8.70	
	5	12.00 (6.24)	10.67 (2.52)	-11.11	8.33 (8.96)	-21.88	-30.56	
	6	18.00 (5.57)	-3.67 (10.21)	-120.37	7.00 (3.61)	-290.91	-61.11	

*Note.* Abbreviations: Participant (Part.); Baseline (A<sup>1</sup>); Intervention (B); Post-Intervention (A<sup>2</sup>); Basic Life Skills Experiences (BLSEX); Initiative Experiences (INEX); Identity Experiences (IDEX); Athletic Identity (AI); Need-Satisfaction (N-S)

Table 15

*Effect sizes for all dependant variables (life skills acquisition, athletic identity, and need-satisfaction) from the baseline phase to the post-intervention phase for all six participants.*

Variable	Statistic	Part. 1		Part. 2		Part. 3		Part. 4		Part. 5		Part. 6		
		A <sup>1</sup> – B	A <sup>1</sup> – A <sup>2</sup>	A <sup>1</sup> – B	A <sup>1</sup> – A <sup>2</sup>	A <sup>1</sup> – B	A <sup>1</sup> – A <sup>2</sup>	A <sup>1</sup> – B	A <sup>1</sup> – A <sup>2</sup>	A <sup>1</sup> – B	A <sup>1</sup> – A <sup>2</sup>	A <sup>1</sup> – B	A <sup>1</sup> – A <sup>2</sup>	
Life skills acquisition	BLSEX	SMD ( <i>d</i> )	1.39	1.13	0.79	-0.13	2.89	4.62	1.31	0.00	-0.25	-1.64	1.75	1.53
		PND (%)	100.00	66.66	0.00	0.00	33.33	66.66	33.33	0.00	0.00	0.00	66.66	66.66
	INEX	SMD ( <i>d</i> )	0.73	0.48	5.33	3.67	-0.29	-2.60	0.08	-0.23	-0.28	-2.13	1.92	0.80
		PND (%)	66.66	33.33	100.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	66.66	33.33
	IDEX	SMD ( <i>d</i> )	1.28	1.76	1.73	0.87	0.32	-0.16	2.31	1.73	-0.87	0.00	0.58	0.96
		PND (%)	66.66	100.00	33.33	66.66	0.00	0.00	33.33	33.33	0.00	33.33	0.00	0.00
AI	SMD ( <i>d</i> )	0.67	0.74	1.96	3.06	-1.44	-1.73	0.17	-3.00	1.44	-2.89	0.03	0.82	
	PND (%)	0.00	0.00	0.00	0.00	33.33	0.00	0.00	33.33	0.00	66.66	33.33	0.00	
N-S	SMD ( <i>d</i> )	-0.06	-0.32	0.06	-0.45	-0.54	0.69	-1.50	-0.18	-0.21	-0.59	-3.89	-1.98	
	PND (%)	33.33	0.00	0.00	0.00	0.00	66.66	33.33	0.00	0.00	0.00	0.00	0.00	

*Note.* Abbreviations: Participant (Part.); Baseline (A<sup>1</sup>); Intervention (B); Post-Intervention (A<sup>2</sup>); Basic Life Skills Experiences (BLSEX); Initiative Experiences (INEX); Identity Experiences (IDEX); Athletic Identity (AI); Need-Satisfaction (N-S)

**Athletic identity.** Participant One reported an increase in his athletic identity (AI) commitment from the baseline phase ( $\bar{x}^B = 29.00$ ) to the intervention phase ( $\bar{x}^{Int.} = 37.67$ , an increase of 37.67%), and reported a further increase in AI commitment from the intervention phase ( $\bar{x}^{Int.} = 37.67$ ) to the post-intervention phase ( $\bar{x}^{P-Int.} = 38.67$ , an increase of 2.65%). This resulted in an overall increase of 33.33% in P1's AI between the baseline phase and the post-intervention phase. Effect size based on SMD represented a medium positive effect between the baseline phase and intervention phase ( $d = 0.67$ ). A medium positive effect size remained from the baseline phase to the post-intervention phase and increased to  $d = 0.74$ . The medium positive SMD effect size indicating a medium increase in P1's AI commitment during the intervention phase and the medium positive SMD effect size demonstrating a medium increase in P1's AI commitment in the six-months following the intervention were both viewed with limited confidence based on PND effect sizes of 0.00%.

**Need-satisfaction.** Participant One reported a decrease in his need-satisfaction (N-S) from the baseline phase ( $\bar{x}^B = 2.67$ ) to the intervention phase ( $\bar{x}^{Int.} = 2.33$ , a decrease of 12.50%), and reported a further decrease in his N-S from the intervention phase ( $\bar{x}^{Int.} = 2.33$ ) to the post-intervention phase ( $\bar{x}^{P-Int.} = 1.00$ , a decrease of 57.14%). This resulted in an overall decrease of 62.50% in P1's N-S between the baseline phase and the post-intervention phase. Effect size based on SMD represented a very small negative effect between the baseline phase and intervention phase ( $d = -0.06$ ). A small negative effect size occurred from the baseline phase to the post-intervention phase ( $d = -0.32$ ). The very small negative SMD effect size indicating a very small decrease in P1's N-S during the intervention phase was supported with partial confidence based on a PND effect size of 33.33%. Whereas the small negative SMD effect size demonstrating a very small decrease in P1's N-S in the six-months following the intervention was viewed with limited confidence (PND = 0.00%).



**Qualitative data.** Participant One was a second-year member of the New Zealand Cricket Winter Training Squad (NZCWTS) and he had been a professional cricketer for two years. Having started a full-time degree after leaving high school, P1 had been studying part-time since he gained his first contract as a professional cricketer. Narrative thematic analysis of the follow-up interview with P1 revealed four main themes associated with his ability to utilise LS in multiple domains for both performance and personal excellence, his identity commitments, and his psychological well-being. The following narrative highlights these four themes that emerged during the intervention phase (May to September 2016; i.e., the ‘off-season’) and the post-intervention phase (October 2016 to March 2017; i.e., during the cricket season).

**Intervention phase.** Two main themes emerged from P1’s experiences during the ‘off-season’. These main themes were labelled ‘cricket commitments’ and ‘study commitments’. In line with these commitments, P1 provided some insight into his use of the skills learned in the PPEP for performance excellence and personal excellence. He first highlighted that the NZCWTS environment provided him with an opportunity to understand his behaviours in the cricket domain:

Developing self-awareness allowed me to find out where I was going wrong. I began to notice aspects of the chain [*performance supply chain*] and, across the winter, I began to understand how my minds made up and how I make my decisions. It’s the same decision-making process in cricket and life but you have a lot more thoughts in the cricket environment. So, you need a process that allows you to use the logical side of your brain more and if you are more rational and logical then you are going to be better off.

Participant One explained that he was also completing university papers throughout the intervention phase. He stated that he used self-awareness and self-regulation skills whilst studying:

I used self-regulation to lower my stress levels and stick to my routine, and it gave me the best chance of getting a good mark in tests and assignments. If you can recognise that you are panicking, it's a lot easier to stick to your plan and make sure you take something from each study session.

Whilst P1 had both cricket and study commitments during the intervention phase, his narrative largely concerned cricket. He emphasised the importance of getting fit for the upcoming cricket season to avoid injury and give himself the best chance of performing well. He stated that increasing his cricket support network made it easier to commit to the requirements of the professional cricket role:

The biggest part of the winter was being part of the winter squad; working on my cricket skills and my strength and conditioning... The main difference this year is that I worked one-on-one with [*name of conditioning coach*]. That was so much better than going to a team training or training on my own.

In addition to the increased support with his strength and conditioning, P1 also moved into a flat with two other professional cricketers and viewed his new living situation as positive for his cricket development:

That was a significant move because we were on the same programme and living the same lifestyle. You try to eat properly, sleep properly, and you get up and go to the gym at the same time. That transition made things a lot easier to get things done because it was normal for all of us. If you compare living in a flat full of guys who are doing different things and living different lifestyles, then it's easy to see how it helped.

Participant One's experiences during the intervention phase provided him the opportunity to deploy LS in the cricket domain and in life outside cricket (e.g., during study). However, his narrative revealed an increased commitment to the athletic role by gaining additional support from the conditioning coach and moving in with other professional cricketers.

***Post-intervention phase.*** During the post-intervention phase, P1 spent the majority of his time in the cricket environment. Two main themes emerged that might have influenced his ability to deploy the LS learned in the PPEP, his AI commitment, and his psychological well-being. These main themes were labelled 'perceived poor performance' and 'injury'.

Participant One perceived that, in relation to his performance expectations, he started the season poorly. He declared that this situation made him feel "disappointed" and made him reconsider his use of self-awareness and self-regulation:

After having a good winter, I felt like I had ticked all of the boxes and I was excited to have a good season and then, all of a sudden, my expectations went up quite a bit. I had improved for the last two seasons, I had an even better winter, and I was hoping for an even better summer. I started the season with high expectations; I wanted to take wickets every ball, [*but*] I was way below where I wanted to be, and it was very disappointing.

He continued to state that this process allowed him to utilise his self-awareness skills and self-regulation skills, and made him reconsider his approach towards his performances. Specifically, he said "I became really aware of when I was getting ahead of myself and I took the expectation off." In line with this change of approach, his performances began to increase (i.e., he began to demonstrate performance excellence. He explained how the use of reflective practice helped this process:

I have used reflection in a more informal, subconscious way compared to the take-home tasks that we had in the workshops, So, I would always reflect on my training and try to understand how I could make it more purposeful and ask myself “what am I working on today?” Or, I reflected on the mental state that I was in for the game and then linked it with performances and realised that I was focusing on things that were out of my control.

Participant One became injured at the start of January and missed several games during the second half of the season. The injury proved to be a tough period for P1 but, during this time, he claimed to have found some perspective about his role as a professional cricketer:

Mentally I took myself out of being a cricketer and that was quite different, and it was quite scary for me... That time away from cricket you gain a bit of perspective and you realise that you actually have to enjoy cricket whilst you can, because an injury can happen just like that.

Furthermore, the time away from cricket provided P1 with some time to consider how his AI influenced his lifestyle:

It was a mental shift going from seeing myself as a cricketer to a normal 23-year-old... One thing I noticed was weekdays had a meaning and when you are in the cricket season a Monday can be a Saturday and they mean the same thing.

**Participant One: Summary.** Participant One demonstrated an increase in BLSEX, INEX, IDEX, and AI commitment between the baseline phase and the intervention phase, and the baseline phase and the post-intervention phase. Qualitative data supported a number of BLSEX and INEX associated with achieving performance excellence in the cricket context and displaying personal excellence in an academic context. Qualitative data revealed that IDEX were largely restricted to the cricket domain during the intervention phase and the post-intervention phase, and might have contributed to the overall increase in P1’s AI. Need-

satisfaction decreased between the baseline phase and the intervention phase, and the baseline phase and the post-intervention phase. Changes in BLSEX, INEX, and IDEX should be treated with moderate confidence based on PND. Whilst changes in AI and N-S should be viewed with limited confidence based on PND.

### **Participant Two: Case Study**

**Basic life skills experiences.** Participant Two (P2) reported an increase in his BLSEX from the baseline phase ( $\bar{x}^B = 11.33$ ) to the intervention phase ( $\bar{x}^{Int.} = 13.33$ , an increase of 17.65%), and a decrease in his BLSEX from the intervention phase ( $\bar{x}^{Int.} = 13.33$ ) to the post-intervention phase ( $\bar{x}^{P-Int.} = 11.00$ , a decrease of 17.50%). Subsequently, there was an overall decrease of 2.94% in P2's BLSEX between baseline ( $\bar{x}^B = 11.33$ ) and post-intervention ( $\bar{x}^{P-Int.} = 11.00$ ). Effect size based on SMD represented a medium positive effect between the baseline phase and intervention phase ( $d = 0.79$ ). However, a very small negative effect occurred from the baseline phase to the post-intervention phase ( $d = -0.13$ ). The medium positive SMD effect size indicated a medium increase in P2's BLSEX during the intervention phase. The small negative SMD effect size demonstrating a small decrease in P2's BLSEX in the six-months following the intervention were viewed with limited confidence based on PND effect size of 0.00%.

**Initiative experiences.** Participant Two reported an increase in his INEX from the baseline phase ( $\bar{x}^B = 29.00$ ) to the intervention phase ( $\bar{x}^{Int.} = 34.33$ , an increase of 18.39%), and a decrease in INEX from the intervention phase ( $\bar{x}^{Int.} = 34.33$ ) to the post-intervention phase ( $\bar{x}^{P-Int.} = 32.67$ , a decrease of 4.85%). However, there was an overall increase of 12.64% in P2's INEX between baseline ( $\bar{x}^B = 29.00$ ) and post-intervention ( $\bar{x}^{P-Int.} = 32.67$ ). Effect size based on SMD represented a huge positive effect between the baseline phase and intervention phase ( $d = 5.33$ ), and a huge positive effect size remained from the baseline phase to the post-intervention phase ( $d = 3.67$ ). The huge SMD effect size indicating a huge increase in P2's INEX during the intervention phase and the huge positive SMD effect size demonstrating a

huge increase in P2's INEX in the six-months following the intervention were both supported with confidence based on PND effect sizes of 100.00%.

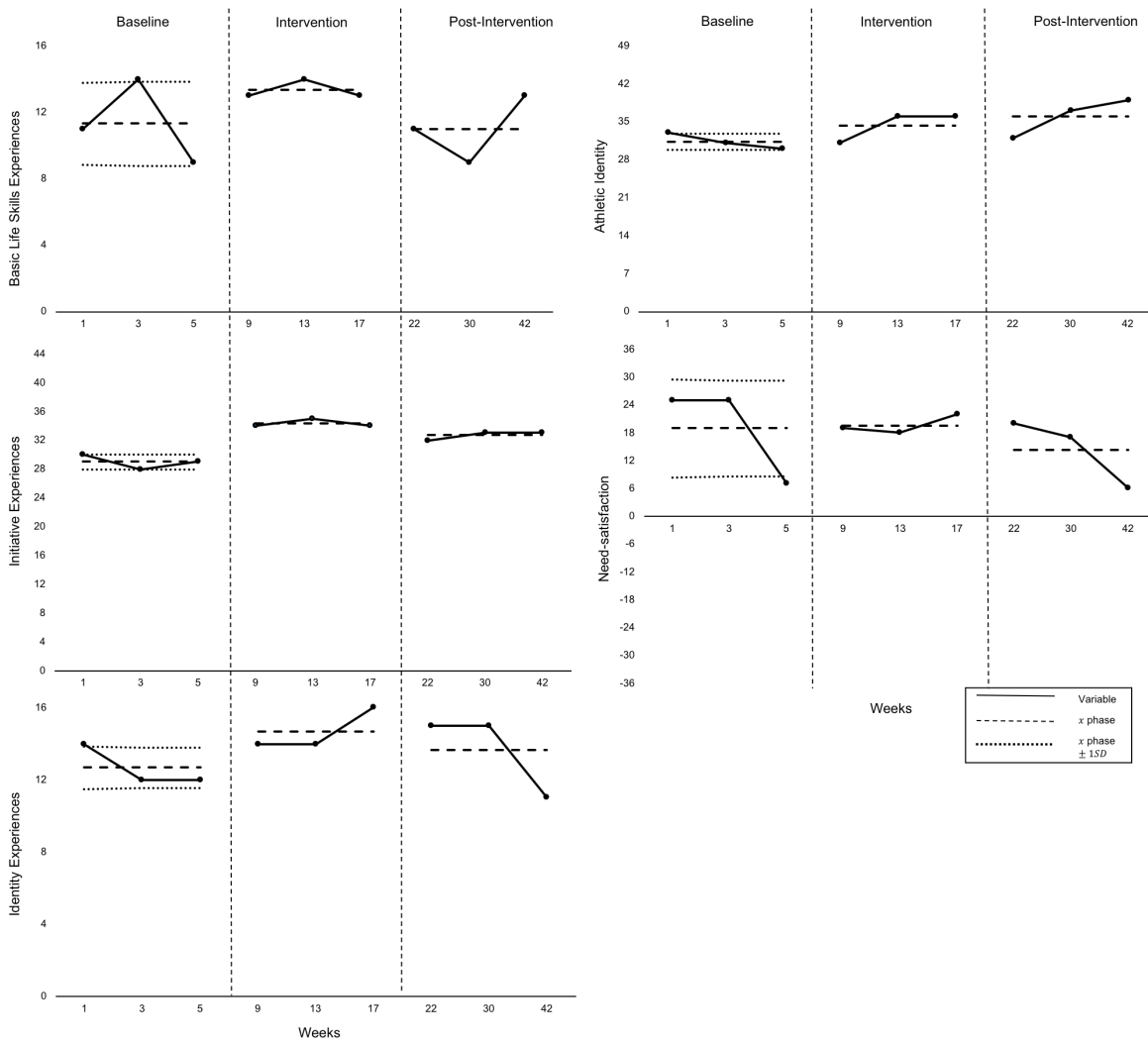


Figure 7. Levels of self-reported basic life skills experiences, initiative experiences, identity experiences, athletic identity, and need-satisfaction during baseline, intervention, and post-intervention phases for Participant Two.

**Identity experiences.** Participant Two reported an increase in his IDEX from the baseline phase ( $\bar{x}^B = 12.67$ ) to the intervention phase ( $\bar{x}^{Int.} = 14.67$ , an increase of 15.79%), and a decrease in his IDEX from the intervention phase ( $\bar{x}^{Int.} = 14.67$ ) to the post-intervention phase ( $\bar{x}^{P-Int.} = 13.67$ , a decrease of 6.82%). This resulted in an overall increase of 7.89% in P2's IDEX between the baseline phase ( $\bar{x}^B = 12.67$ ) and the post-intervention phase ( $\bar{x}^{P-Int.} = 13.67$ ). Effect size based on SMD represented a very large positive effect between the baseline phase and intervention phase ( $d = 1.73$ ), and a large positive effect size occurred from the baseline phase to the post-intervention phase ( $d = 0.87$ ). The large positive SMD effect size indicating a large increase in P2's IDEX during the intervention phase was supported with partial confidence based on a PND effect size of 33.33%. Whereas the large positive SMD effect size demonstrating a large increase in P2's IDEX in the six-months following the intervention was supported with moderate confidence (PND = 66.66%).

**Athletic identity.** Participant Two reported an increase in AI commitment from the baseline phase ( $\bar{x}^B = 31.337$ ) to the intervention phase ( $\bar{x}^{Int.} = 34.33$ , an increase of 9.57%), and a further increase in AI commitment from the intervention phase ( $\bar{x}^{Int.} = 34.33$ ) to the post-intervention phase ( $\bar{x}^{P-Int.} = 36.00$ , an increase of 4.85%). This resulted in an overall increase of 14.89% in P2's AI between the baseline phase and the post-intervention phase. Effect size based on SMD represented a very large positive effect between the baseline phase and intervention phase ( $d = 1.96$ ), and a huge positive effect size occurred from the baseline phase to the post-intervention phase ( $d = 3.06$ ). The large positive SMD effect size indicating a large increase in P2's AI commitment during the intervention phase and the large positive SMD effect size demonstrating a large increase in P2's AI commitment in the six-months following the intervention were both viewed with limited confidence based on PND effect sizes of 0.00%.

**Need-satisfaction.** Participant Two reported an increase in his N-S from the baseline phase ( $\bar{x}^B = 19.00$ ) to the intervention phase ( $\bar{x}^{Int.} = 19.67$ , an increase of 3.51%), and a decrease in his N-S from the intervention phase ( $\bar{x}^{Int.} = 19.67$ ) to the post-intervention phase ( $\bar{x}^{P-Int.} = 14.33$ , a decrease of 27.12%). This resulted in an overall decrease of 14.33% in P2's N-S between the baseline phase and the post-intervention phase. Effect size based on SMD represented a very small positive effect between the baseline phase and intervention phase ( $d = 0.06$ ), and a small negative effect size occurred from the baseline phase to the post-intervention phase ( $d = -0.45$ ). The very small positive SMD effect size indicating a small increase in P2's N-S during the intervention phase and the small negative SMD effect size demonstrating a small decrease in P2's N-S in the six-months following the intervention were both viewed with limited confidence based on a PND effect sizes of 0.00%.

**Qualitative data.** Participant Two was a first-year member of the NZCWTS and he had been a professional cricketer for four years. He also had a graduate level qualification and was studying part-time on a distance learning course at the start of the intervention. Narrative thematic analysis of the follow-up interview with P2 revealed four main themes associated with his ability to utilise LS in multiple domains, his identity commitments, and his psychological well-being. The following narrative highlights these main themes that emerged during the intervention phase (May to September, 2016; i.e., the 'off-season') and the post-intervention phase (October 2016 to March 2017; i.e., during the cricket season).

**Intervention phase.** Two main themes emerged from P2's experiences during the 'off-season'. These main themes were labelled 'professionalism' and 'study'. During the 'off-season', P2 highlighted that he moved home to avoid some of the distractions associated with living in the city with his friends. When explaining his reasons for moving home with his parents, he said:



I went home and lived at home because I wanted to focus on my cricket and getting fitter and stronger rather than socialising. It was really good to get away from [*name of city*] and it allowed me to focus on my cricket a bit more. I made pretty big gains in terms of my fitness and well-being.

Participant Two's decision to move home reflected an increased commitment to his cricket identity. His commitment to his cricketing identity was reinforced each week through strength and conditioning sessions and skill development sessions at the NZCWTS camps.

In relation to the LS acquired during the PPEP, P2 highlighted that each camp provided him with an opportunity to deploy these skills to enhance his cricket performance:

We did the mental skills work between the camps and that helped me get in the fight during the camps and it became more natural. We were put under a lot of pressure facing the short ball and that enabled me to practice the self-regulation skills. I was able to progress those skills through the reflection tasks. Even when you reflect on the most trivial things from throughout the day it can often help you understand why you behaved as you did and what you can do better next time.

He then went on to explain how his experiences during the winter enabled him to employ some of the skills learned from the PPEP. In particular, he said that the skills helped him to more frequently communicate with his parents:

I find conversations with parents a chore; having to talk to them all the time and recall everything that happened. Now I am starting to understand why I acted that way and understanding that I was being pretty selfish. It comes back to that self-awareness and getting an understanding of why I act in certain ways. I use self-awareness and self-regulation to get in a good space before I speak with them, so I am not short or blunt.

***Post-intervention phase.*** Two main themes also emerged from P2's experiences during the season. These main themes were labelled 'domestic to international transition' and 'behaviours outside of cricket'. During the post-intervention phase, P2 spent the majority of his summer switching between his domestic team and the international team. This was P2's first experience of international cricket and he explained that it was a very rewarding, but stressful experience:

I was in a position where I was in and out of the team. Whereas when I am with the [major cricket association] I am playing all the time. So, you become a fringe player [with the international team] and you don't know if you are going to play...

He explained how the skills learned in the PPEP helped him perform at various stages during the season as he made the step-up from domestic to international cricket:

As a young player, you have ups and downs like crazy, but I'm trying to stay level. For instance, if I wasn't self-aware then I would go searching [with my bowling] and I would get whacked [concede runs]. When I was self-aware and used self-regulation skills, I stuck to my job... I often used self-talk to grow my confidence. Especially when I was playing against the best in the world I needed something to boost my confidence, get me up for the challenge, and to make sure I didn't take the soft option.

Overall, P2 was very grateful for the opportunity to play international cricket, but the lifestyle took some toll on his work-life balance. He explained:

I was based everywhere. One minute I was with the [international team] carrying drinks and the next minute I was back with the [major cricket association]. I was flying around everywhere... They [family] come to games and I managed to catch up with them a couple of times when I was back home. Although a lot of the time I wanted to see my mates, so it was hard trying to work that balance.

Through this experience, P2 was able to reflect on his experiences and better understand his behaviours both inside and outside cricket. He said:

I'm pretty happy with my self-awareness in cricket, but I've often been less aware of how I behave towards other people. I noticed that I get a little bit selfish, so when I was back in town I made the effort to see my mates and do things with them. I try to do that to be a good friend and not be purely focused on cricket. When I became a [*member of the international team*] all the attention was back on me and all the lads will talk about it, but I often forgot to ask about them. So, more recently, I've been trying to talk about them.

**Participant Two: Summary.** Participant Two demonstrated an increase in INEX, IDEX, and AI commitment between the baseline phase and the intervention phase, and the baseline phase and the post-intervention phase. Qualitative data supported the use of INEX for performance excellence in the cricket context and for personal excellence during interactions with family. Basic life skills experiences and N-S increased during the intervention phase, but decreased during the post-intervention, representing an overall decrease in these two variables. Qualitative data revealed that P2 was transitioning between his international and domestic cricket teams during the post-intervention phase which might explain his decreased N-S. However, changes in basic LS experiences, AI, and N-S should be treated with limited confidence based on PND. Whilst changes in IDEX should be viewed with moderate confidence and INEX should be viewed with confidence based on PND effect sizes.

### **Participant Three: Case Study**

**Basic life skills experiences.** Participant Three (P3) reported an increase in his BLSEX from the baseline phase ( $\bar{x}^B = 9.67$ ) to the intervention phase ( $\bar{x}^{Int.} = 11.33$ , an increase of 17.24%), and a further increase in his BLSEX from the intervention phase ( $\bar{x}^{Int.} = 11.33$ ) to the post-intervention phase ( $\bar{x}^{P-Int.} = 12.33$ , an increase of 8.82%). Subsequently, there was an overall increase in BLSEX of 27.59% between baseline ( $\bar{x}^B = 9.67$ ) and post-intervention ( $\bar{x}^{P-Int.} = 12.33$ ). Effect size based on SMD represented a huge positive effect between the baseline phase and intervention phase ( $d = 2.89$ ), and between the baseline phase and the post-intervention phase ( $d = 4.62$ ). The huge positive SMD effect size indicating a huge increase in P3's BLSEX during the intervention phase was supported with partial confidence based on a PND effect size of 33.33%. Whereas the huge positive SMD effect size demonstrating a huge increase in P3's BLSEX in the six-months following the intervention was supported with moderate confidence (PND = 66.66%).

**Initiative experiences.** The number of INEX reported by P3 decreased between the baseline phase ( $\bar{x}^B = 36.33$ ) and the intervention phase ( $\bar{x}^{Int.} = 35.67$ , a decrease of 1.83%), and further decreased between the intervention phase ( $\bar{x}^{Int.} = 35.67$ ) to the post-intervention phase ( $\bar{x}^{P-Int.} = 30.33$ , a decrease of 14.95%). There was an overall decrease of 16.51% in P3's INEX between baseline ( $\bar{x}^B = 36.33$ ) and post-intervention ( $\bar{x}^{P-Int.} = 30.33$ ). A small negative effect size occurred between the baseline phase and intervention phase ( $d = -0.29$ ). A huge negative effect size occurred from the baseline phase to the post-intervention phase ( $d = -2.60$ ). The small negative SMD effect size indicating a small decrease in P3's INEX during the intervention phase and the huge negative SMD effect size demonstrating a huge decrease in P3's INEX in the six-months following the intervention were both supported with partial confidence based on PND effect size of 33.33%.

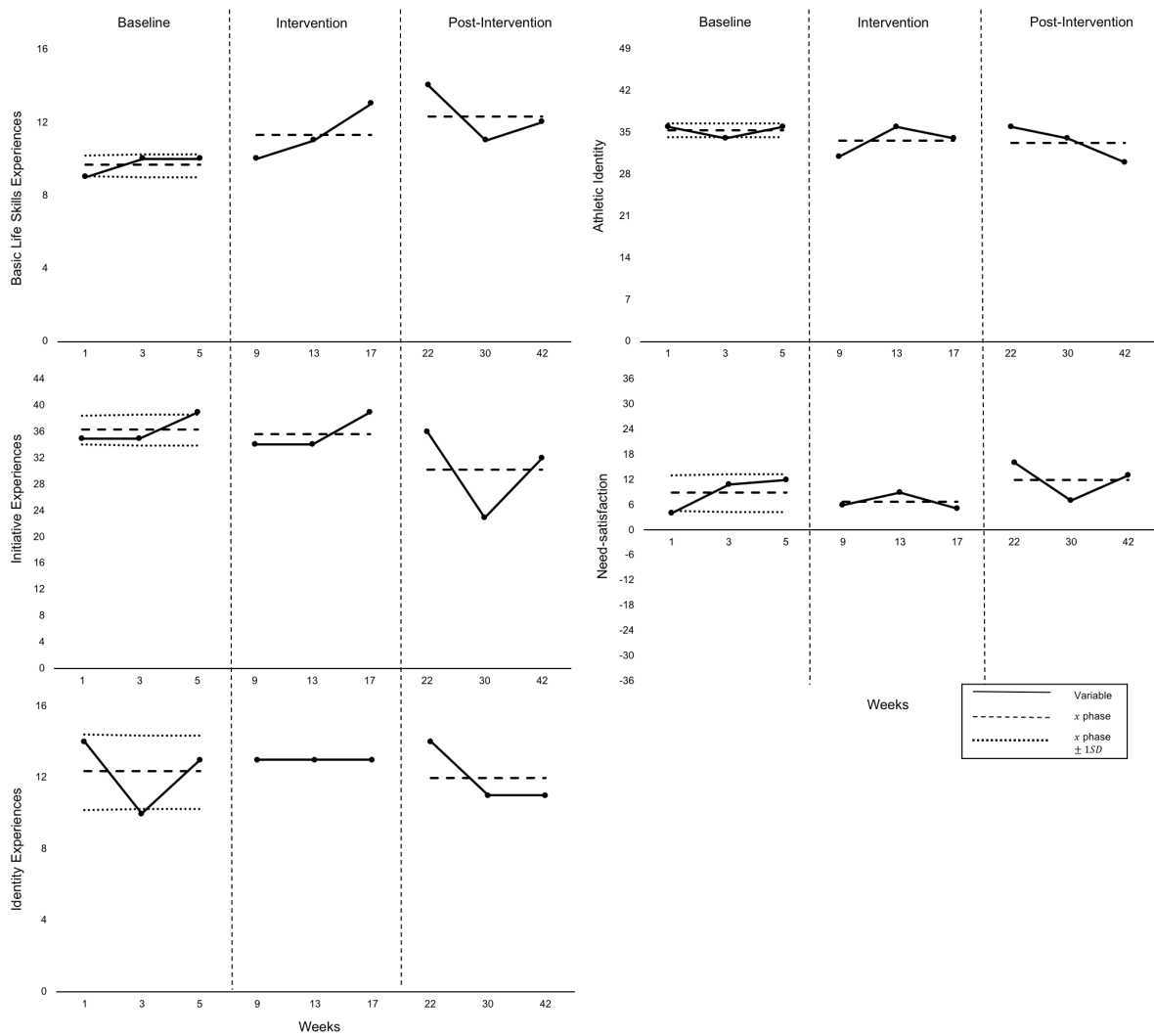


Figure 8. Levels of self-reported basic life skills experiences, initiative experiences, identity experiences, athletic identity, and need-satisfaction during baseline, intervention, and post-intervention phases for Participant Three.

**Identity experiences.** Participant Three reported an increase in his IDEX from the baseline phase ( $\bar{x}^B = 12.33$ ) to the intervention phase ( $\bar{x}^{Int.} = 13.00$ , an increase of 5.41%), and a decrease in his IDEX from the intervention phase ( $\bar{x}^{Int.} = 13.00$ ) to the post-intervention phase ( $\bar{x}^{P-Int.} = 12.00$ , a decrease of 7.69%). This resulted in an overall decrease of 2.70% in P3's IDEX between the baseline phase ( $\bar{x}^B = 12.33$ ) and the post-intervention phase ( $\bar{x}^{P-Int.} = 12.00$ ). Effect size based on SMD represented a small positive effect between the baseline phase and the intervention phase ( $d = 0.32$ ). This effect size was reduced to a very small

negative effect ( $d = 0.16$ ) from the baseline phase to the post-intervention phase. The small positive SMD effect size indicating a small increase in P3's IDEX during the intervention phase and the very small negative SMD effect size demonstrating a very small decrease in P3's IDEX in the six-months following the intervention was viewed with limited confidence based on PND effect size of 0.00%.

**Athletic identity.** Participant Three reported a decrease in AI commitment from the baseline phase ( $\bar{x}^B = 35.33$ ) to the intervention phase ( $\bar{x}^{Int.} = 33.67$ , a decrease of 4.72%), and a further decrease in AI commitment from the intervention phase ( $\bar{x}^{Int.} = 33.67$ ) to the post-intervention phase ( $\bar{x}^{P-Int.} = 33.33$ , a decrease of 0.99%). This resulted in an overall decrease of 5.66% in P3's AI between the baseline phase and the post-intervention phase. Effect size based on SMD represented a very large negative effect between the baseline phase and the intervention phase ( $d = -1.44$ ). There was also a very large negative effect ( $d = -1.73$ ) from the baseline phase to the post-intervention phase. The very large negative SMD effect size indicating a very large decrease in P3's AI commitment during the intervention phase was supported with partial confidence based on a PND effect size of 33.33%. Whereas the very large negative SMD effect size demonstrating a very large decrease in P3's AI commitment in the six-months following the intervention was viewed with limited confidence based (PND = 0.00%).

**Need-satisfaction.** Participant Three reported a decrease in his N-S from the baseline phase ( $\bar{x}^B = 9.00$ ) to the intervention phase ( $\bar{x}^{Int.} = 6.67$ , a decrease of 25.93%), and an increase in his N-S from the intervention phase ( $\bar{x}^{Int.} = 6.67$ ) to the post-intervention phase ( $\bar{x}^{P-Int.} = 12.00$ , an increase of 80.00%). This resulted in an overall increase of 33.33% in P3's N-S between the baseline phase and the post-intervention phase. Effect size based on SMD represented a medium negative effect between the baseline phase and intervention phase ( $d = -0.54$ ). However, there was a medium positive effect ( $d = 0.69$ ) from the baseline phase to the post-intervention phase. The medium negative SMD effect size indicating a medium decrease

in P3's N-S during the intervention phase was viewed with limited confidence based on a PND effect size of 0.00%. Whereas the medium positive SMD effect size demonstrating a medium increase in P3's N-S in the six-months following the intervention was supported with moderate confidence (PND = 66.66%).

**Qualitative data.** Participant Three was a first-year NZCWTS member, he had been a professional cricketer for one year, and he was in the final year of an engineering degree at the start of the PPEP. Narrative thematic analysis of the follow-up interview with P3 revealed five main themes associated with his ability to utilise LS in multiple domains, his identity commitments, and his psychological well-being. The following narrative highlights these five themes that emerged during the intervention phase (May to September, 2016; i.e., the 'off-season') and the post-intervention phase (October 2016 to March 2017; i.e., during the cricket season).

**Intervention phase.** Two main themes emerged from P3's experiences during the 'off-season'. These main themes were labelled 'study commitments' and 'cricket commitments'. When asked about the importance of these commitments, P3 said:

University was the most important because it was my final year and if I would have gone part-time it would have taken me another two or three years to complete and I wanted to make sure that I finished it...

Participant Three studied four papers in both Semester One and Semester Two. He continued to highlight the workload associated with his final year at university and some of the difficulties related to balancing full-time study and cricket:

A lot of my papers were not exam-based so I was required to do projects throughout the semester. There was a constant workload throughout the semester as I had to work in groups or partners as opposed to just going to lectures and then having exams at the end. This created a bit of pressure with regard to managing my time between the winter [*training*] squad and with my studies. The university were not overly

accommodating as it's an academic institution and I didn't want to commit to part-time study, so I sucked it up and got on with it.

Whilst study was the most important aspect of P3's life during the intervention phase, he was also committed to his cricket. His winter consisted of conditioning sessions several mornings each week, with the gradual introduction of skill development sessions. The skill development sessions enabled him to utilise some of the skills taught during the PPEP. In particular, he gained a more detailed understanding of his ideal performance state:

I began to understand my physical and emotional state when I am in the zone; "am I someone who is calm or am I someone who is fizzed up?" It allowed me to understand what state gives me the best chance of performing well. In training, I noticed when I was overexcited or when I wasn't amped up enough. I could then use self-regulation to help me get somewhere close to the zone.

Despite the application of these skills in performance context, P3 failed to see the practicalities of the skills learned in the PPEP in relation to personal excellence in other life domains. He explained:

I like to keep my life outside cricket and life in cricket quite separate. When I am outside cricket I quite like to park everything that I've learned. Obviously, I can apply some of this to my university work, but more often than not I am quite in control and there aren't so many surprises. So, I don't think I really used those skills outside cricket.

***Post-intervention phase.*** Following P3's university exams, the majority of the post-intervention phase consisted of cricket-related training, matches, travel, and recovering from injuries. Subsequently, the main themes that emerged from P3's narrative were labelled 'exams', 'mixed performances', and 'injuries'. Participant Three was completing his exams at the start of the cricket season and, subsequently, missed the first competitive match for his major cricket association. He reconsidered his use of reflection, self-awareness, and self-



regulation in non-cricket domains during his university exams. Specifically, he illustrated the use of self-regulation when he said:

At the end of the [*academic*] year I needed to make sure I was focused, applied myself, and didn't procrastinate with my study and exams. That's where self-awareness came in and helped me to get things done. For example, when I was studying in the library and I had three days left to study, I noticed myself trying to procrastinate and started to break large tasks and projects down into smaller chunks. If you understand and break things down like you do with cricket it doesn't make things as gruelling.

Following P3's exams, his involvement in cricket and performances fluctuated. He explained, "it's been a mixed season. I've had good and bad periods. Times when I've felt really good and times when I've felt like crap." Participant Three continued to explain that the start of the twenty-twenty competition, which commenced in November 2016, was a particular highlight. However, he then "injured [his] calf at the end of the Super Smash [*twenty-over cricket competition*] and was out for a good three or four weeks". He commented that his return to the one-day competition in January 2017 "was pretty average".

Participant Three then injured his hand and missed a further two games in February 2017. During the periods of non-selection and injury, P3 made the most out of the summer break by playing golf and relaxing. He commented that the summer was fairly quiet apart from cricket and that he "did not have much else going on". Participant Three's time away from cricket enabled him to reflect on his experiences of using self-awareness and self-regulation. He said:

I started really well with my processes but, when I got injured, I reflected, and I thought that I didn't need them as much to do well, because when I was playing my best I was just batting and not worrying about my process. However, when I got injured the second time, I thought I might as well go back to it. I realised that my good performances had been a result of being self-aware and having a process.

**Participant Three: Summary.** Participant Three demonstrated an increase in BLSEX and IDEX during the intervention phase. However, only his BLSEX increased during the post-intervention phase. Initiative experiences, AI commitment, and N-S decreased during the intervention phase, and INEX and AI commitment also decreased further during the post-intervention phase. Need-satisfaction increased during the post-intervention phase and showed an overall increase from baseline to post-intervention. Qualitative data supported a number of BLSEX and INEX for performance excellence in the cricket context but did not indicate that these experiences occurred in the non-cricket context during the intervention phase. Changes in BLSEX, INEX, and AI commitment from the intervention phase should be treated with partial confidence based on PND. Whilst BLSEX and N-S from the post-intervention phase should be viewed with moderate confidence based on PND effect sizes.

#### **Participant Four: Case Study**

**Basic life skills experiences.** Participant Four reported an increase in his BLSEX from the baseline phase ( $\bar{x}^B = 10.67$ ) to the intervention phase ( $\bar{x}^{Int.} = 12.67$ , an increase of 18.75%). However, his BLSEX returned to baseline level in the post-intervention phase ( $\bar{x}^{P-Int.} = 10.67$ ), a decrease of 15.79% from the intervention phase ( $\bar{x}^{Int.} = 12.67$ ). These figures represented no overall change in BLSEX between the baseline phase baseline ( $\bar{x}^B = 10.67$ ) and the post-intervention phase ( $\bar{x}^{P-Int.} = 10.67$ ). Effect size based on SMD represented a very large positive effect between the baseline phase and intervention phase ( $d = 1.31$ ). However, there was no effect ( $d = 0.00$ ) from the baseline phase to the post-intervention phase. The very large positive SMD effect size indicating a very large increase in P4's BLSEX during the

intervention phase was supported with partial confidence based on PND effect size of 33.33%. Whereas the SMD effect size of zero that demonstrating no change in P4's BLSEX in the six-months following the intervention was viewed with limited confidence (PND = 0.00%).

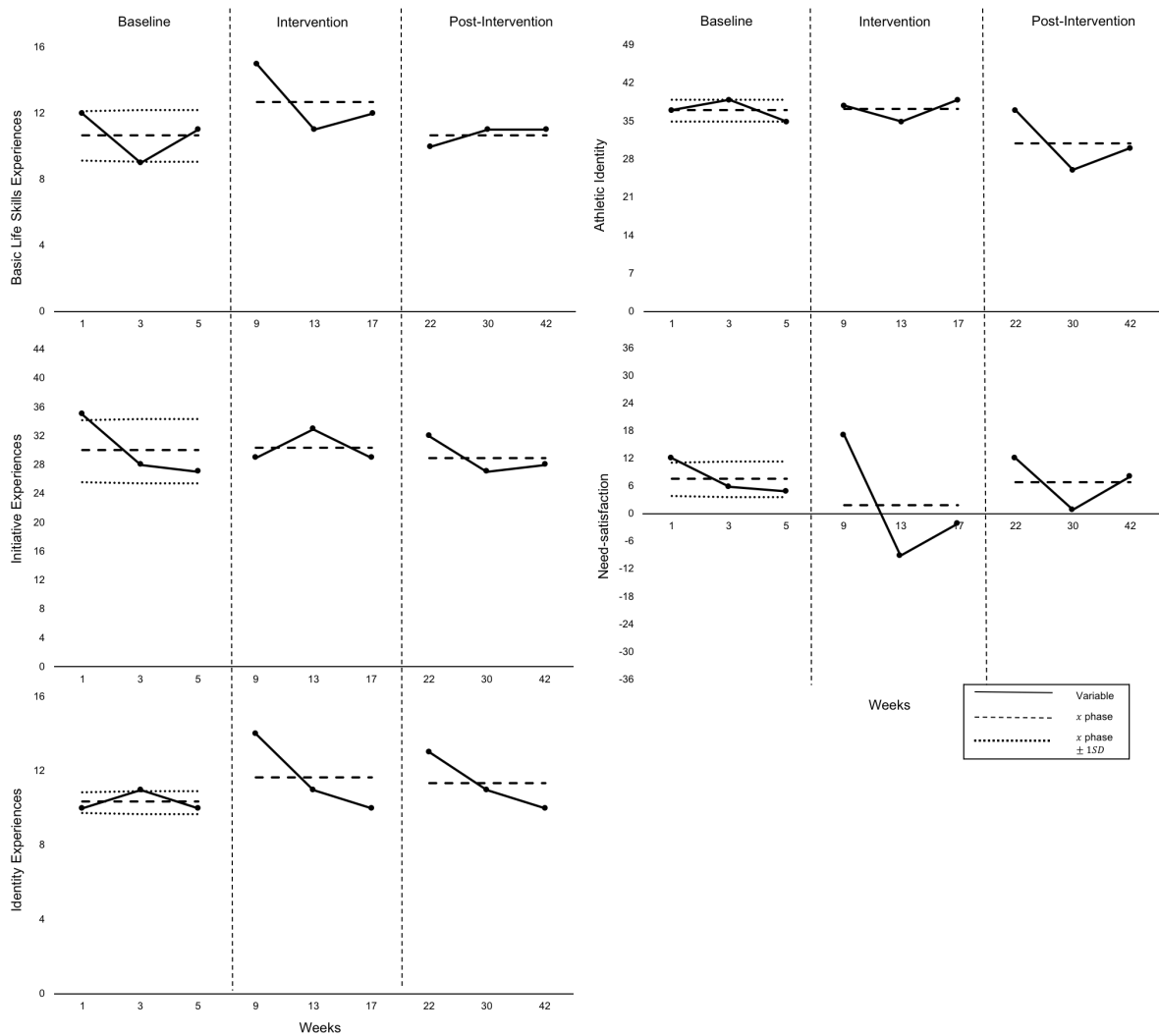


Figure 9. Levels of self-reported basic life skills experiences, initiative experiences, identity experiences, athletic identity, and need-satisfaction during baseline, intervention, and post-intervention phases for Participant Four.

**Initiative experiences.** Participant Four reported an increase in his INEX from the baseline phase ( $\bar{x}^B = 30.00$ ) to the intervention phase ( $\bar{x}^{Int.} = 30.33$ , an increase of 1.11%), and a decrease in INEX from the intervention phase ( $\bar{x}^{Int.} = 30.33$ ) to the post-intervention phase ( $\bar{x}^{P-Int.} = 29.00$ , a decrease of 4.40%). This resulted in an overall decrease of 3.33% in P4's INEX between baseline ( $\bar{x}^B = 30.00$ ) and post-intervention (29.00). Effect size based on SMD represented a very small positive effect between the baseline phase and the intervention phase ( $d = 0.08$ ). However, a small negative effect size occurred from the baseline phase to the post-intervention phase ( $d = -0.23$ ). The very small positive SMD effect size indicating a very small increase in P4's INEX during the intervention phase and the small negative SMD effect size demonstrating a small decrease in P4's INEX in the six-months following the intervention were both viewed with limited confidence based on a PND effect size of 0.00%.

**Identity experiences.** Participant Four reported an increase in his IDEX from the baseline phase ( $\bar{x}^B = 10.33$ ) to the intervention phase ( $\bar{x}^{Int.} = 11.67$ , an increase of 12.90%), and a decrease in his IDEX from the intervention phase ( $\bar{x}^{Int.} = 11.67$ ) to the post-intervention phase ( $\bar{x}^{P-Int.} = 11.33$ , a decrease of 0.16%). This resulted in an overall increase of 1.73% in P4's IDEX between the baseline phase and the post-intervention phase. Effect size based on SMD represented a huge positive effect between the baseline phase and intervention phase ( $d = 2.31$ ), and a very large positive effect size occurred from the baseline phase to the post-intervention phase ( $d = 1.73$ ). The huge positive SMD effect size indicating a huge increase in P4's IDEX during the intervention phase and the large positive SMD effect size demonstrating a large increase in P4's IDEX in the six-months following the intervention was supported with partial confidence based on PND effect size of 33.33%.

**Athletic identity.** Participant Four reported an increase in AI commitment from the baseline phase ( $\bar{x}^B = 37.00$ ) to the intervention phase ( $\bar{x}^{Int.} = 37.33$ , an increase of 0.90%), and a decrease in AI commitment from the intervention phase ( $\bar{x}^{Int.} = 37.33$ ) to the post-intervention phase ( $\bar{x}^{P-Int.} = 31.00$ , a decrease of 16.96%). This resulted in an overall decrease of 16.22% in P4's AI commitment between the baseline phase and the post-intervention phase. Effect size based on SMD represented a very small positive effect between the baseline phase and the intervention phase ( $d = 0.17$ ). However, a huge negative effect size ( $d = -3.00$ ) occurred between the baseline phase and the post-intervention phase. The very small positive SMD effect size indicating a very small increase in P4's AI commitment during the intervention phase was support with limited confidence based on a PND effect size of 0.00%. Whereas the huge negative SMD effect size demonstrating a huge decrease in P4's AI commitment in the six-months following the intervention was supported with partial confidence (PND = 33.33%).

**Need-satisfaction.** Participant Four reported a decrease in his N-S from the baseline phase ( $\bar{x}^B = 7.67$ ) to the intervention phase ( $\bar{x}^{Int.} = 2.00$ , a decrease of 73.91%), and an increase in his N-S from the intervention phase ( $\bar{x}^{Int.} = 2.00$ ) to the post-intervention phase ( $\bar{x}^{P-Int.} = 7.00$ , an increase of 250.00%). This resulted in an overall decrease of 8.70% in P4's N-S between the baseline phase and the post-intervention phase. Effect size based on SMD represented a very large negative effect between the baseline phase and intervention phase ( $d = -1.50$ ). A very small negative effect size occurred between the baseline phase and the post-intervention phase ( $d = -0.18$ ). The very large negative SMD effect size indicating a very large decrease in P4's N-S during the intervention phase was supported with partial confidence based on a PND effect size of 33.33%. Whereas the very small negative SMD effect size demonstrating a small decrease in P4's N-S in the six-months following the intervention was viewed with limited confidence (PND = 0.00%).

**Qualitative data.** Participant Four was a first-year NZCWTS member, he had been a professional cricketer for three years, and was a part-time student studying commerce.

Narrative thematic analysis of the follow-up interview with P4 revealed seven main themes associated with his ability to utilise LS in multiple domains, his identity commitments, and his psychological well-being. The following narrative highlights these seven themes that emerged during the intervention phase (May to September, 2016; i.e., the ‘off-season’) and the post-intervention phase (October 2016 to March 2017; i.e., during the cricket season).

**Intervention phase.** Three main themes emerged from P4’s experiences during the ‘off-season’. These main themes were labelled ‘cricket commitments’, ‘study commitments’, and ‘identity exploration’. When asked about the importance of his experiences during the ‘off-season’, P4 said:

The winter training squad is obviously higher in terms of my cricket career because that's where I am trying to open a door in the short-term. However, if you are talking about long-term importance then, overall, it would be university. I completed five papers last year and that’s a quarter of my degree. So, I'm over half-way now and I'm seeing the brighter side by trying to specialise.

Alongside his study and cricket commitments, P4 began to understand that his identity was multi-faceted, and he was not just a cricketer. He explained:

I met my partner in the winter and that helped a lot away from cricket. I became aware that I’m not just a cricketer, but I am [*participant’s name*] the partner, the student, the friend, and the son. That process has been really important for me.

Whilst P4 acknowledge his off-field development as the most important facet of the intervention phase, he suggested that he used some of the skills from the PPEP to enhance his cricket performance during the NZCWTS camps:

I've used reflective practice as an in-performance review. So that's been useful when I am at the non-strikers end and I'm getting ahead of myself. I talk to myself, "bring it back", "sing a song", and then you flick the on switch when you are on strike.

He then provided an example of using reflective practice, self-awareness, and self-regulation in a training session during Camp Four:

The live net was the coolest part where I got to test that out and batted through the whole second day. I felt myself drifting so I had a bit of food and had a bit of water and the nutrition side was on board and got into a good place and then with my cricket stuff. Being self-aware helps you to be more confident and conscious of what's going on. So, at the start of the week I was really onto it and then towards the end of the week when you start to slip you can realise and think "hold on a second, let's review" and then you go back to your processes.

The skills that P4 employed to enhance his performance extended beyond the cricket context and helped him to manage anxiety and to understand the importance of balancing multiple commitments outside of cricket. He highlighted this when he said:

Managing that anxiety was huge for me because our seasons overlap, and you need to get on top of [*university*] work towards the end of the winter. You want to be able to train and study hard, and you don't want either performance to drop. So those reviewing tasks really helped me to understand what was going on outside cricket. It helped direct my study and make the most out of my time in library. I realised that I spent a lot of time procrastinating and that was causing more anxiety and stress.

**Post-intervention phase.** Following P4's university exams, his most important commitments were cricket trainings and cricket matches. Subsequently, four main themes emerged from P4's experience during the post-intervention phase. These main themes were 'perceived poor performance', 'injury', 'career outside cricket', and 'support network'. In relation to the main theme 'perceived poor performance', P4 first described that he "didn't get himself going" this season. He explained that he put a lot of pressure on himself at the start of the season and only gained some perspective following an injury:

I put a lot of pressure on myself to be better in every aspect because we are all being judged to the highest level. But, once I had that injury and had a bit of time off, I realised that if I kept putting that pressure on myself then I'm never going to enjoy it and being successful is going to be a chore. I realised the importance of my mental processes and the importance of accepting the challenge rather than being fearful. It's important to just roll with it and enjoy it.

The injury also provided P4 with some time to reflect on his life outside cricket and what he might like to do in his post-cricket career. He first commented on his exams before mentioning a meeting with a career advisor:

I received my feedback about my university exams around the same time as my injury. I got a B+ in both of them so I was very happy with that. During my time off, I had a chat with a career advisor about university and where I want to go, and I changed my management major to human resource management to work more with people and use my interpersonal skills.

Whilst P4 used his time away from cricket effectively by planning for his future university papers, he explained that he found it tough not being able to play cricket:

It was my first major injury and that played a little on me mentally. Without running and only cycling it was tough and I did gain weight over Christmas so there were some learning curves from going through that process.



Participant Four missed several games through injury and non-selection. However, he believed that the reflective practice skills learned during the PPEP had helped him to develop his batting skills:

I got myself a little journal after the last two winter training camps and I started to jot down some thoughts on the reflective process. I narrowed it down in the season to three major questions. So, there are “did I need to play the ball?” If it's yes then I move to the next one, “what could I have done better?”, then “what will I do next time to play it better?” So, then I just jot it down and take those learnings into the next practice.

He continued to explain how reflecting-on-action helped him to reflect-in-action:

If I play and miss, then I can run through that review process and bank that knowledge. So, we learned about reflection-in-action in winter training and [I] realised how it worked during the summer. I used it in the summer and I used it after the injury because I had an acceptance approach where I accepted that bowlers are going to bowl well and I'm not going to play everything well all the time. It helped a lot more than getting really tense and just saying “watch the ball, watch the ball, watch the ball”. That reflective sequence helped me remain more composed.

Participant Four also acknowledged that the skills used for performance excellence could help him in other life domains:

I used those skills as a student as well as in cricket. If you can understand what you are working towards in different situations then you understand, firstly, what you need to do and, secondly, who you are. So, in the summer, when I'd had a bad day at cricket, I returned home and knew that I was a partner and I needed to park the cricket stuff.

He continued to explain that self-awareness and self-regulation skills had helped him during moments of potential conflict with friends and family:

I have also used it with people when someone was angry or if there was a fight between anyone at home or with my girlfriend. I tried to be self-aware and understand what actually needs to be said... in the long run it's made life things a lot better rather than just blurting everything out, realising that I shouldn't have said something, and causing a big argument that can ruin the next day.

**Participant Four: Summary.** Participant Four demonstrated an increase in BLSEX, INEX, and AI commitment during the intervention phase, yet reported a decrease in these variables during the post-intervention phase. Identity exploration was the only variable that showed an overall increase from the baseline phase to the post-intervention phase, whilst BLSEX returned to baseline level. Need-satisfaction decreased during the intervention phase and increased during the post-intervention phase, but showed an overall decrease from the baseline phase to the post-intervention phase. In contrast, the qualitative data supported the use of BLSEX, INEX, and IDEX throughout intervention and post-intervention phases. Furthermore, the qualitative data indicated several themes that might be associated with need-dissatisfaction (i.e., perceived poor performances and injury). Changes across all variables should be treated with partial and limited confidence; only IDEX achieving partial confidence for both intervention and post-intervention phases based on PND effect sizes.

### **Participant Five: Case Study**

**Basic life skills experiences.** Participant Five reported a decrease in his BLSEX from the baseline phase ( $\bar{x}^B = 13.00$ ) to the intervention phase ( $\bar{x}^{Int.} = 12.33$ , a decrease of 5.13%), and a further decrease between the intervention phase ( $\bar{x}^{Int.} = 12.33$ ) and the post-intervention phase ( $\bar{x}^{P-Int.} = 8.67$ ). Subsequently, P5 reported an overall decrease of 33.33% between the baseline phase ( $\bar{x}^B = 13.00$ ) and the post-intervention phase ( $\bar{x}^{P-Int.} = 8.87$ ). Effect size based on SMD represented a small negative effect between the baseline phase and the intervention

phase ( $d = -0.25$ ) and a very large negative effect between the baseline phase and the post-intervention phase ( $d = -1.64$ ). The small negative SMD effect size indicating a small decrease in P5's BLSEX during the intervention phase and the very large negative SMD effect size demonstrating a very large decrease in P5's BLSEX in the six-months following the intervention were both viewed with limited confidence based on PND effect size of 0.00%.

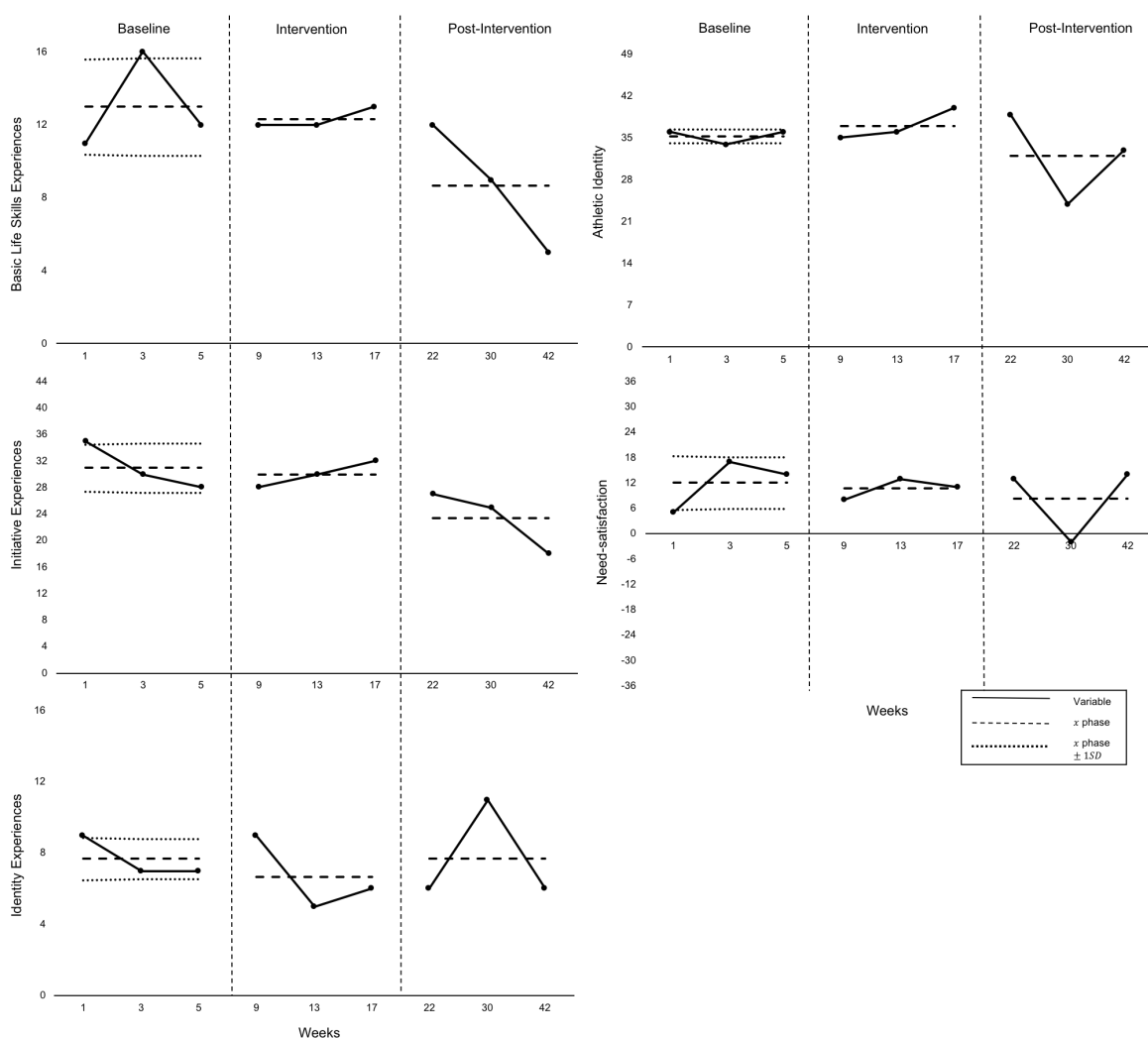


Figure 10. Levels of self-reported basic life skills experiences, initiative experiences, identity experiences, athletic identity, and need-satisfaction during baseline, intervention, and post-intervention phases for Participant Five.

**Initiative experiences.** Participant Five reported a decrease in his INEX from the baseline phase ( $\bar{x}^B = 31.00$ ) to the intervention phase ( $\bar{x}^{Int.} = 30.00$ , a decrease of 3.23%), and a decrease in INEX from the intervention phase ( $\bar{x}^{Int.} = 30.00$ ) to the post-intervention phase ( $\bar{x}^{P-Int.} = 23.33$ , a decrease of 22.22%). This resulted in an overall decrease of 24.73% in P5's INEX between the baseline phase ( $\bar{x}^B = 31.00$ ) and the post-intervention phase ( $\bar{x}^{P-Int.} = 23.33$ ). Effect size based on SMD represented a small negative effect between the baseline phase and the intervention phase ( $d = -0.28$ ), and a huge negative effect between the baseline phase and the post-intervention phase ( $d = -2.13$ ). The small negative SMD effect size indicating a small decrease in P5's INEX during the intervention phase and the huge negative SMD effect size demonstrating a huge decrease in P5's INEX in the six-months following the intervention were both viewed with limited confidence based on PND effect size of 0.00%.

**Identity experiences.** Participant Five reported a decrease in his IDEX from the baseline phase ( $\bar{x}^B = 7.67$ ) to the intervention phase ( $\bar{x}^{Int.} = 6.67$ , a decrease of 13.04%). However, P5's IDEX returned to the mean baseline level during the post-intervention phase ( $\bar{x}^{P-Int.} = 7.67$ ), a decrease of 15.00% between intervention ( $\bar{x}^{Int.} = 6.67$ ) and post-intervention phases. Subsequently, there was a 0.00% change between the baseline phase and the post-intervention phase. Effect size based on SMD represented a large positive effect between the baseline phase and intervention phase ( $d = 0.87$ ). However, the effect size for the baseline phase to the post-intervention phase was  $d = 0.00$  (no effect). The large positive SMD effect size indicating a large increase in P5's IDEX during the intervention phase was viewed with limited confidence based on PND effect size of 0.00%. Whereas the SMD effect size demonstrating no change in P5's IDEX in the six-months following the intervention was supported with partial confidence (PND = 33.33%).

**Athletic identity.** Participant Five reported an increase in AI commitment from the baseline phase ( $\bar{x}^B = 35.33$ ) to the intervention phase ( $\bar{x}^{Int.} = 37.00$ , an increase of 4.72%). However, P5 reported a decrease of 13.52% in AI commitment between the intervention phase ( $\bar{x}^{Int.} = 37.00$ ) and the post-intervention phase ( $\bar{x}^{P-Int.} = 32.00$ ), an overall decrease of 9.43% in AI commitment between the baseline phase and the post-intervention phase. Effect size based on SMD represented a very large positive effect between the baseline phase and intervention phase ( $d = 1.44$ ). However, there was a huge negative effect ( $d = -2.89$ ) between the baseline phase and the post-intervention. The very large positive SMD effect size indicating a very large increase in P5's AI commitment during the intervention phase was viewed with limited confidence based on a PND effect size of 0.00%. Whereas the huge negative SMD effect size demonstrating a huge decrease in P5's AI commitment in the six-months following the intervention was supported with moderate confidence (PND = 66.66%).

**Need-satisfaction.** Participant Five reported a decrease in his N-S from the baseline phase ( $\bar{x}^B = 12.00$ ) to the intervention phase ( $\bar{x}^{Int.} = 10.67$ , a decrease of 11.11%), and a further decrease of 21.88% in his N-S between the intervention phase ( $\bar{x}^{Int.} = 10.67$ ) and the post-intervention phase ( $\bar{x}^{P-Int.} = 8.33$ ). Subsequently, P5's N-S decreased by 30.56% between the baseline phase and the post-intervention phase. Effect size based on SMD represented a small negative effect between the baseline phase and intervention phase ( $d = -0.21$ ) and a medium negative effect ( $d = -0.59$ ). between the baseline phase and the post-intervention phase. The small negative SMD effect size indicating a small decrease in P5's N-S during the intervention phase and the medium negative SMD effect size demonstrating a medium decrease in P5's N-S in the six-months following the intervention were both viewed with limited confidence based on PND effect sizes of 0.00%.

**Qualitative data.** Participant Five was a first-year NZCWTS member, he had been a professional cricketer for one year, and was a part-time student. Narrative thematic analysis of the follow-up interview with P5 revealed six main themes associated with his ability to utilise LS in multiple domains, his identity commitments, and his psychological well-being. The following narrative highlights these six main themes that emerged during the intervention phase (May to September, 2016; i.e., the ‘off-season’) and the post-intervention phase (October 2016 to March 2017; i.e., during the cricket season).

**Intervention phase.** Two main themes emerged from P5 experiences during the ‘off-season’: ‘cricket commitments’ and ‘study commitments’. When asked about the most important aspects of his experiences during the intervention phase, P5 highlighted that his main focus was on cricket and that he wanted to make the most out of his involvement in the NZCWTS. He also acknowledged his study commitments but reiterated the importance of the NZCWTS when he said:

I also had uni' work to do and that was important, but the main focus for me was taking on the winter training squad. So, I did online studies from [*university*] when I had time... I usually ended up studying between gym sessions.

Participant Five said that he began to utilise the skills that he learned from the PPEP during the NZCWTS skill development sessions. With enhanced self-awareness, he began to appreciate and understand the link between preparation and performance. He acknowledged this when he said:

When it comes to batting, it's all mental and it's based on how you feel before the game or before you go out to bat, and that impacts how you are going to do. I noticed that in the later camps. If I could make myself feel good before going into the net, my feet would start moving better and my performances would be better. So, I began to appreciate the importance of being stable with my emotions then I can perform to the best of my ability.

He then acknowledged that reflecting on his thoughts and emotions prior to and during performance helped him progress throughout the winter. He stated:

As time went on, I appreciated the reflective practice and I really saw how it could help me. I began to ask myself questions like, "what did I do well this week?" and I realised when my emotions were in check I performed well. Before the programme, I didn't really think about that and if it went well, it went well and then when I turned up the next day it could have been completely different.

Participant Five also noticed that the skills he had learned during the PPEP helped him in non-sport domains:

The programme helped me in similar way in cricket and in my life. So, I got to a stage where I could monitor my thoughts and feelings when I was doing well in studies too. I soon realised that if I wasn't organised then stuff would bother me whilst I was studying.

Furthermore, he realised that some of his emotions associated with cricket would often affect his relationships with his family, friends, and partner. He said:

How I am thinking and feeling influence how I interact with my family, partner, and friends. I learned that if I can compartmentalise cricket and be organised in other areas of my life then I am in a much better space and I am much nicer to those people.

***Post-intervention phase.*** At the start of the cricket season (i.e., during the post-intervention phase), P5 sustained an injury that caused him to miss the first part of the cricket season and miss some of his university exams. He recovered from his injury but did not perform as he would have liked which resulted in deselection and thoughts associated with quitting cricket. In January, he became injured again and gained some perspective on his career in cricket. Thus, four main themes emerged from P5's experiences during the post-intervention phase. These main themes were labelled: (i) out of form; (ii) deselection; (iii) wanting to quit; and (iv) gaining perspective.

Participant Five explained that he suffered concussion in the first warm up game which effected his participation in cricket and his studies. The first narrative that emerged as P5 recalled these experiences concerned a series of poor performances that resulted in deselection. He said:

The first few games just didn't go well. It was very disappointing as I worked so hard during the winter and when that success didn't come everything went downhill. I've never really experienced a massive dip like that before. Everything has always increased for me and I've always done well. This was the first time where I experienced even if you work hard things don't go your way and I didn't know how to handle it. I really did struggle mentally with it.

During this period of decreased performance, P5 explained that he used reflective practice skills in an attempt to enhance his performances. He said:

I used reflective practice alongside the pooch [*video feedback software*] quite a bit. I was reflecting when I was playing too and then I would go to the nets, work hard, do my preparation, and do my drill work. It helped me to feel confident but then the performances didn't come.

Participant Five's performances began to increase when the competitions changed from the four-day format to the twenty-twenty format, but he still was not selected for his major cricket association. He explained:

The T20 campaign was different because I thought they would select me for that. I had a really good T20 tournament prior to the domestic T20; we played five games, I did well in all five games, and I thought I would have been in [*the team*] but I wasn't selected. So that was a bit of a hit and then I missed the whole campaign... That was the worst period.



This period of the post-intervention phase began to take a toll on P5's lifestyle and it resulted in some negative thoughts concerning cricket. Participant Five stated:

It was just constantly cricket and I wasn't even playing, and then I would get home and I didn't see my friends, family, or partner. This would make me feel down and then when I did see them I would start treating them bad. I would be grumpy the whole time and I was trying to convince my parents that I should stop playing this game... I was saying, "if I start working now I can at least get some work experience. You know, by the time my crickets done I will have ten or fifteen years of work experience."

Participant Five's parents convinced him to "stick at it" and "hang in there", but it wasn't until he sustained another injury that he gained some perspective on his career in cricket. He said:

The break did me good and it's helped me get my head around everything again. I've never experienced this dip before and it's the first time in my life that it's happened. So, I'm starting to look forward to the next season again. So, the last few weeks I've been smashing the gym and doing lots of running and fitness work. So, at the moment I'm doing my own training and looking ahead for the season.

The break from cricket helped P5 gain some perspective about what was important to him in his life outside cricket. During this period, he realised that "family, friends, and faith are the most important things and [*he*] will not forget that again". He explained:

So, I have been spending time with family and I realised that cricket is not everything. I still have a lot of cricket left and when it didn't work out it felt like my whole life had come crashing down. Even though I hated going through that down patch I think it was good for me to go through and I'm glad it happened early in my career. I know it will happen again, but at least it won't be such a massive fall and I will try to keep myself level rather than riding those highs and lows. So, my family, faith and friends

are most important to me and they are there for me regardless of whether cricket goes good or bad.

The difficulties that P5 experienced during the season enhanced his appreciation of the skills that he had practiced during the PPEP. In particular, his experiences helped him to develop knowledge about himself that was applicable to multiple life domains:

At the start of the winter, I didn't understand the importance of the mental side of the game. I was young, and I just went out there and hit the ball, but after this season I realised that everything is a product of your mental game. I can have all the ability but if I'm not able to manage my emotions then it's not going to work. I would now make the programme my number one priority ahead of the skills.

**Participant Five: Summary.** Participant Five demonstrated a decrease in his BLSEX, INEX, and N-S during the intervention phase, and his INEX continued to decrease during the post-intervention phase. Athletic identity commitment and IDEX increased during the intervention phase, but both of these variables decreased during the intervention phase, resulting in an overall decrease in AI and IDEX. In line with the increases in reported AI commitment and IDEX, P5 indicated that he increased his commitment to the athlete role during the intervention phase. In contrast to the quantitative data, the qualitative data supported the use of BLSEX and INEX during the post-intervention phase. Percentage of non-overlapping data points indicating that the decrease in AI during the post-intervention phase should be treated with moderate confidence. Yet, all other changes should be viewed with partial and limited confidence based on PND effect sizes.

## Participant Six: Case Study

**Basic life skills experiences.** Participant Six reported an increase in his BLSEX from the baseline phase ( $\bar{x}^B = 6.33$ ) to the intervention phase ( $\bar{x}^{Int.} = 9.00$ , an of 42.11%), and a decrease by 3.79% between the intervention phase ( $\bar{x}^{Int.} = 9.00$ ) and the post-intervention phase ( $\bar{x}^{P-Int.} = 8.67$ ). However, P6 reported BLSEX increased by 36.84% between the baseline phase ( $\bar{x}^B = 6.33$ ) and the post-intervention phase ( $\bar{x}^{P-Int.} = 8.67$ ). Effect size based on SMD represented a very large positive effect between the baseline phase and intervention phase ( $d = 1.75$ ), and a very large positive effect size was also observed between the baseline phase and the post-intervention phase ( $d = 1.53$ ). The very large positive SMD effect size indicating a very large increase in P6's BLSEX during the intervention phase and the very large positive SMD effect size demonstrating a very large increase in P6's BLSEX in the six-months following the intervention were both supported with moderate confidence based on PND effect sizes of 66.66%.

**Initiative experiences.** Participant Six reported an increase in his INEX from the baseline phase ( $\bar{x}^B = 26.33$ ) to the intervention phase ( $\bar{x}^{Int.} = 30.33$ , an increase of 15.19%), and a decrease in INEX from the intervention phase ( $\bar{x}^{Int.} = 30.33$ ) to the post-intervention phase ( $\bar{x}^{P-Int.} = 28.00$ , a decrease of 7.69%). This resulted in an overall decrease of 6.33% in P6's INEX between the baseline phase ( $\bar{x}^B = 26.33$ ) and the post-intervention phase ( $\bar{x}^{P-Int.} = 28.00$ ). Effect size based on SMD represented a very large positive effect between the baseline phase and intervention phase ( $d = 1.92$ ), and a medium positive effect size occurred from the baseline phase to the post-intervention phase ( $d = 0.80$ ). The very large positive SMD effect size indicating a very large increase in P6's INEX during the intervention phase was supported with moderate confidence based on PND effect size of 66.66%. Whereas the medium positive SMD effect size demonstrating a medium increase in P6's INEX in the six-months following the intervention was supported with partial confidence (PND = 33.33%).

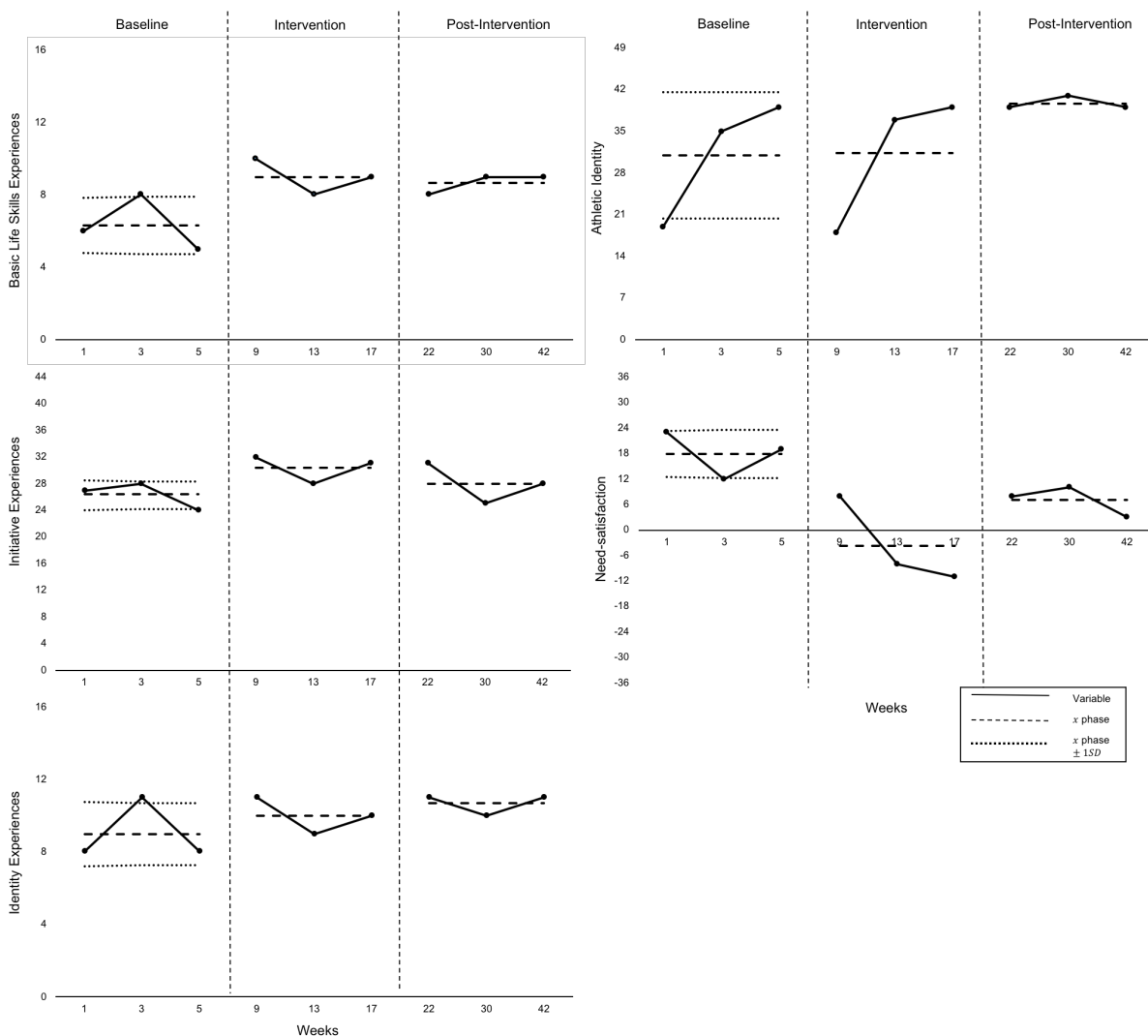


Figure 11. Levels of self-reported basic life skills experiences, initiative experiences, identity experiences, athletic identity, and need-satisfaction during baseline, intervention, and post-intervention phases for Participant Six.

**Identity experiences.** Participant Six reported an increase in his IDEX from the baseline phase ( $\bar{x}^B = 9.00$ ) to the intervention phase ( $\bar{x}^{Int.} = 10.00$ , an increase of 11.11%), and a further increase in his IDEX from the intervention phase ( $\bar{x}^{Int.} = 10.00$ ) to the post-intervention phase ( $\bar{x}^{P-Int.} = 10.67$ , an increase of 6.67%). This resulted in an overall increase of 18.52% in P6's IDEX between the baseline phase and the post-intervention phase. Effect size based on SMD represented a medium positive effect between the baseline phase and intervention phase ( $d = 0.58$ ), and a large positive effect size occurred between the baseline

phase and the post-intervention phase ( $d = 0.96$ ). The medium positive SMD effect size indicating a medium increase in P6's IDEX during the intervention phase and the large positive SMD effect size demonstrating a large increase in P6's IDEX in the six-months following the intervention were both viewed with limited confidence based on PND effect sizes of 0.00%.

**Athletic identity.** Participant Six reported an increase in AI commitment from the baseline phase ( $\bar{x}^B = 31.00$ ) to the intervention phase ( $\bar{x}^{Int.} = 31.33$ , an increase of 1.08%). Participant Six reported a further increase in his athletic from the intervention phase ( $\bar{x}^{Int.} = 31.33$ ) to the post-intervention phase ( $\bar{x}^{P-Int.} = 39.67$ , an increase of 26.60%). This resulted in an overall increase of 27.96% in P6's AI commitment between the baseline phase and the post-intervention phase. Effect size based on SMD represented a very small positive effect between the baseline phase and intervention phase ( $d = 0.03$ ), and a large positive effect size occurred between the baseline phase and the post-intervention phase ( $d = 0.82$ ). The very small positive SMD effect size indicating a very small increase in P6's AI commitment during the intervention phase was supported with partial confidence based on a PND effect size of 33.33%. Whereas the large positive SMD effect size demonstrating a large increase in P6's AI commitment in the six-months following the intervention was viewed with limited confidence (PND = 0.00%).

**Need-satisfaction.** Participant Six reported a decrease in his N-S from the baseline phase ( $\bar{x}^B = 18.00$ ) to the intervention phase ( $\bar{x}^{Int.} = -3.67$ , a decrease of 120.37%), and an increase in N-S from the intervention phase ( $\bar{x}^{Int.} = -3.67$ ) to the post-intervention phase ( $\bar{x}^{P-Int.} = 7.00$ , an increase of 290%). This resulted in an overall decrease of 61.11% in P6's N-S between the baseline phase and the post-intervention phase. Effect size based on SMD represented a huge negative effect between the baseline phase and intervention phase ( $d = -3.89$ ), and a very large negative effect size between the baseline phase and the post-intervention phase ( $d = -1.98$ ). The huge negative SMD effect size indicating a huge decrease

in P6's N-S during the intervention phase and the very large negative SMD effect size demonstrating a very large decrease in P6's N-S in the six-months following the intervention were both viewed with limited confidence based on PND effect sizes of 0.00%.

**Qualitative data.** Participant Six was a first-year NZCWTS member, he had been a professional cricketer for one year, and he had started a role as a builder at the outset of the intervention. Narrative thematic analysis of the follow-up interview with P6 revealed four main themes associated with his ability to utilise LS in multiple domains, his identity commitments, and his psychological well-being. The following narrative highlights these four main themes that emerged during the intervention phase (May to September, 2016; i.e., the 'off-season') and the post-intervention phase (October 2016 to March 2017; i.e., during the cricket season).

**Intervention phase.** Two main themes emerged from P6's experiences during the 'off-season'. These main themes were labelled 'transition from work to cricket' and 'lifestyle'. During the 'off-season', P6 was involved in full-time work as a builder as well as being a member of the NZCWTS. He explained the process of combining work and cricket:

I was building for the majority of the winter and then did cricket things when they popped up. It was my first winter where I combined full-time work and training. It was really good from a cricket point of view because I had three weeks each month where I did not have to think about cricket too much and I could learn some other skills as well.

Participant Six spent the majority of his winter working as a builder, but still was required to complete cricket-specific strength and conditioning and skill development sessions each week. He explained:

During the winter months, I had cricket training from 0700 until 0800 and then I would go to work. When the skills work started, I stopped the gym sessions and did more skills and then went to the gym in the afternoon.

Participant Six enjoyed his work as a builder and he had committed to an apprenticeship for the following winter. However, he did acknowledge that his workload became quite difficult to manage as the winter progressed. He said:

It became quite tough when the cricket training got brought in back home. So, I was building full-time, I was trying to get in a couple of net sessions, plus I had to do my gym sessions. I thought it was all good at the start because you get up and get your gym done, go to work, come home, and you actually feel like you've done something with your day. Then you begin to question whether all of these things are good for you because it got very tiring and tedious.

Participant Six explained that the skills used in the PPEP helped him in his cricket training and during his building work. In relation to his skill development in cricket, he said:

It helped me to keep track of my self-talk during trainings and too make sure that I wasn't drifting. It's important to notice when you are drifting and starting to get caught up in negative thoughts, so you can engage with your process and give yourself the best chance to perform. I also became more aware of my behaviours in training and how I interacted with others. You can learn a lot from others if you are present rather than being caught up in your own thoughts.

In contrast to the self-awareness skills and self-regulation skills that he used during performance, P6 reviewed his experiences each week using reflective practice to ensure that he remained motivated to the various commitments in his life:

I would sit down, take 10-minutes, and just reflect on the past week. I'd ask myself questions like, "are you doing too much?", "are you doing enough?", "what are the areas that you've been doing for ages?" I realised that it's important to keep things fresh by seeing friends and with some recreation to refresh my mind. When I got caught up in things I started getting quite internal and saying, "you've got to change this, and you've got to change that" and you end up thinking way too much, instead of

being able to switch off or reset what you are doing. The reflection acted as a form of mental refreshment.

***Post-intervention phase.*** Participant Six spent the majority of the post-intervention phase involved in cricket. The season following the intervention was his first full season as a contracted domestic cricketer and he spoke positively of his performances and experiences. Analysis revealed two main themes associated with the post-intervention phase and were labelled ‘role clarity’ and ‘off-field behaviours’. He first provided a detailed account of his role in the team when he said:

The first game I was batting three and then the next game I was batting six and I was like “I’m not having this”. A couple of years ago I would have been happy with that, but I confronted the coach and I had a plan, but I ended up batting seven full-time. I wasn't happy with that, but I bit the bullet and got on with it... So, it's my third year in the team and I don't have a batting place.

He went on to explain that he utilised the skills learned during the PPEP during this period:

Using reflective practice, I was able to review my batting position in the team and come up with a good enough reason to go and speak to the coach. As I said, I would have let it go last season and just accepted it, but this process has made me more aware of my own performances. Those reflective tasks also helped me to sit down more often and go over what went well and not so well. It allowed me to analyse what I was doing on and off the field.

Participant Six continued to explain that he got a little bit caught up with the social side of cricket during the season. He explained that an increased self-awareness enabled him to realise that he needed to act more professionally and find more productive ways of dealing with decisions out of his control. He explained:



I realised pretty quickly that I was in that slump, enjoying [*myself*] off the field too much, and going about things in the wrong way. In the middle of the season when you aren't doing anything amazing on the field, it's easy to forget what you are trying to achieve in the long-term. So, I guess it takes a critical moment for you to realise what you've been thinking and feeling, and how that has affected your behaviours and performances. So, I think reflection and self-awareness integrate and allow you to get out of that slump.

Participant Six acknowledged that aspects of the PPEP had helped him grow as a person. In particular, he explained that he had gained the confidence to voice his opinion in group settings and was no longer worried about what others thought:

It was quite big for me in the last 12 to six months. I've really understood myself and I've figured out what I want to be like and what I want to do instead of second guessing myself and fighting against myself. I've become more confident and that has helped with my learning in the cricket environment and other environments too.

**Participant Six: Summary.** Participant Six demonstrated increases in BLSEX, INEX, IDEX, and AI commitment during the intervention phase and post-intervention phase. Need-satisfaction decreased from the baseline phase to the intervention phase, increased between the intervention and post-intervention phases, but demonstrated an overall decrease from the baseline phase to the post-intervention phase. The qualitative data supported the increase in the use of BLSEX, INEX, and IDEX during the intervention phase. Percentage of non-overlapping data points indicating that the overall increase in BLSEX should be treated with moderate confidence. Whilst IDEX, AI, and N-S should be treated with limited confidence based on PND.

### Study Three: Cross-Case Results

The results from cross-case analysis are presented in the following section. The data from the outcome-assessment evaluation were analysed across cases to provide insight into the replication of intervention effects for all participants and to assess concurrent changes amongst variables across participants. All the participants' data from the outcome-improvement evaluation were analysed using content analysis to examine the social validity of the programme, assess the influence of the PPEP on performance excellence, and to enhance future iterations of the programme. Descriptive statistics (means and standard deviations) generated from the participants' responses to the Learning Climate Questionnaire are also provided from the process-assessment evaluation to indicate the extent to which the participants' perceived the PPEP environment to support their psychological needs.

#### Replication of Intervention Effects

**Basic life skills experiences.** Effect sizes for changes in BLSEX between the baseline phase and the intervention phase indicated a huge positive effect for P3, large positive effects for P1, P4, and P6, and a medium positive effect for P2. Participant Five was the only participant to show a (small) negative effect. These findings indicated moderate replication for the positive effects of this intervention for promoting BLSEX in participants between baseline and intervention phases (i.e., five of the six participants displayed an increase in BLSEX during the intervention phase). The effect sizes for BLSEX between the baseline phase and the post-intervention phase indicated a huge positive effect for P3, a very large positive effect for P6, and a large positive effect for P1. Whilst P4 showed no long-term effect ( $d = 0.00$ ), P2 showed a small negative effect, and P5 showed a large negative effect. These results demonstrated equivocal support for the long-term positive effects of the PPEP for promoting BLSEX (i.e., three of the six participants displayed an increase in BLSEX during the post-intervention phase).

**Initiative experiences.** Effect sizes for changes in INEX between the baseline phase and the intervention phase indicated a huge positive effect for P2 and a very large positive effect for P6. Participant One showed a medium positive effect and P4 showed a very small positive effect. The intervention had a small negative effect on P3 and P5. These findings indicated partial replication for this intervention having positive effects on the INEX of the participants (i.e., four of the six participants displayed an increase in INEX during the intervention phase). The effect sizes for INEX between the baseline phase and the post-intervention phase indicated huge positive effect for P2, a medium positive effect for P6, and a small positive effect for P1. Participant Four showed a small negative effect, whilst P3 and P5 demonstrated a huge negative effect. These results demonstrated equivocal support for the long-term effectiveness of the PPEP for promoting INEX (i.e., three of the six participants displayed an increase in INEX during the post-intervention phase).

**Identity experiences.** Effect sizes for changes in IDEX between the baseline phase and the intervention phase indicated a huge positive effect for P4, a very large positive effect for P1 and P2, a large positive effect for P5, a medium positive effect for P6, and a small positive effect for P3. These findings indicated full replication for the positive effects of this intervention on the IDEX of the participants during the intervention phase (i.e., all six participants displayed an increase in IDEX during the intervention phase). The effect sizes for changes in IDEX between the baseline phase and the post-intervention phase indicated very large positive effect for P1 and P4, and large positive effects for P2 and P6. Participant Five showed no effect and P3 demonstrated a very small negative effect. These results supported the partial replication of positive long-term effectiveness of the PPEP for promoting IDEX (i.e., four of the six participants displayed an increase in IDEX during the post-intervention phase).

**Athletic identity.** Effect sizes for changes in commitment to AI between the baseline phase and the intervention phase indicated very large positive effects for P2 and P5, a medium positive effect for P1, and very small positive effects for P4 and P6. Whereas P3 experienced a very large negative effect. These findings indicated moderate replication for an increase in the participants' AI during the intervention phase (i.e., four of the six participants displayed an increase in AI commitment during the intervention phase). The effect sizes for changes in AI between the baseline phase and the post-intervention phase indicated a huge positive effect for P2, a large positive effect for P1, and a medium positive effect for P6. However, P3 experienced a very large negative effect, and P4 and P5 demonstrated a huge negative effect. These results provided equivocal support for the effects of the intervention at altering the participants' commitment to the athlete role (i.e., three of the six participants displayed an increase in AI commitment during the post-intervention phase).

**Need-satisfaction.** Effect sizes for changes in N-S between the baseline phase and the intervention phase indicated a huge negative effect for P6, a very large negative effect for P4, a medium negative effect for P3, a small negative effect for P5, and a very small negative effect for P1. Participant Two experienced a very small positive effect. These findings indicated moderate replication for a decrease in N-S during the intervention phase (i.e., five of the six participants displayed a decrease in N-S during the intervention phase). The effect sizes for changes in N-S between the baseline phase and the post-intervention phase indicated a very large negative effect for P6, a medium negative effect for P5, a small negative effect for P1, and a very small negative effect for P4. Whereas, P2 demonstrated small positive effects and P3 reported a medium positive effect. This also indicated partial replication for a decrease in N-S over a prolonged period of time (i.e., four of the six participants displayed a decrease in N-S during the post-intervention phase).

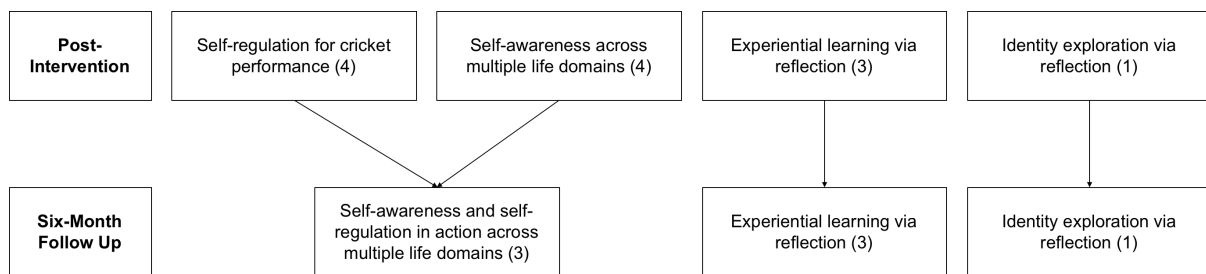
## **Concurrent Changes Among Variables**

It was hypothesised that the participants' experiences associated with LS acquisition (i.e., BLSEX, INEX, and IDEX) would increase during the intervention phase and the post-intervention phase, in comparison to the baseline phase. The participants' commitment to their athletic identities were hypothesised to decrease during the intervention phase and post-intervention phase, in comparison to the baseline phase. It was hypothesised that N-S would increase during the intervention phase and post-intervention phase, in comparison to the baseline phase. Cross-case analysis revealed moderate support for increases in experiences associated with LS acquisition during the intervention phase and partial support for increase in experiences associated with LS acquisition during the post-intervention phase; supporting the hypothesis for LS acquisition. In contrast to the hypothesis for AI commitment, there was moderate support for an increase in AI commitment during the intervention phase and equivocal support for changes in AI commitment in the post-intervention phase. The hypothesis for AI commitment was not supported. There was moderate support for decreases in N-S during the intervention phase and partial support for decreases in N-S during the post-intervention phase. These findings did not support the hypothesis for N-S.

## **Outcome-Improvement Evaluation: Social Validation**

An outcome-improvement evaluation using social validation procedures was conducted to explore participants' perspectives of the intervention methodology on their ability to display both performance and personal excellence (e.g., Holt et al., 2013; Jones et al., 2011). Content analysis revealed a total of 85 raw categories, which, in turn, were grouped into 27 sub-categories. The sub-categories were deductively clustered into eight main categories in line with the questions from the social validation interview guide. These main categories are presented to illuminate the participants' perceptions of the PPEP and inform future iterations of the PPEP and alternative LS programmes.

**Learnings.** Twelve raw data categories were classified into four sub-categories for the main category ‘learnings’ during analysis of the post-intervention interview data. These sub-categories were labelled: (i) self-regulation for cricket performance; (ii) self-awareness across multiple life domains; (iii) experiential learning via reflection; and (iv) identity exploration via reflection. A further seven raw data categories were classified into three sub-categories during analysis of the six-month follow-up interview data. The three sub-categories were labelled: (i) self-awareness in action across multiple life domains; (ii) experiential learning via reflection; and (iii) identity exploration via reflection (Figure 12).



*Figure 12.* Main categories for participants' learnings from post-intervention and six-month follow-up interviews

**Effect on performance excellence.** Eight raw data categories were classified into two sub-categories for the main category ‘effect on performance excellence’ during analysis of the post-intervention interview data. These sub-categories were labelled ‘self-awareness and self-regulation during performance’ and ‘self-awareness via reflection post-performance’. A further seven raw data categories were classified into two sub-categories during analysis of the six-month follow-up interview data. The sub-categories aligned with the sub-categories that emerged from the post-intervention interview and were also labelled ‘self-awareness and self-regulation’ during performance and ‘self-awareness via reflection post-performance’ (Figure 13, p. 255).

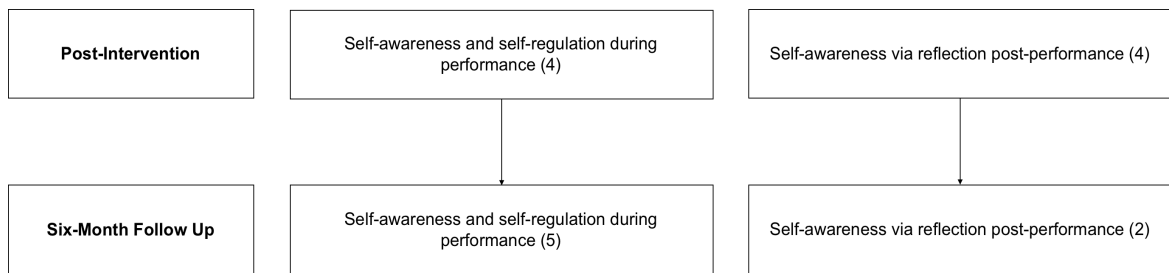


Figure 13. Main categories for participants' perceptions of the influence of the PPEP on performance excellence

**Effect on personal excellence.** Twelve raw data categories were classified into four sub-categories for the main category ‘effect on personal excellence’ during analysis of the post-intervention interview data. These sub-categories were labelled: (i) self-awareness of behaviours when interacting with family; (ii) identity exploration via reflection; (iii) reflection to assess work-life balance; and (iv) self-regulation to maintain processes at work. A further six raw data categories were classified into two sub-categories during analysis of the six-month follow-up interview data. The sub-categories aligned with the sub-categories that emerged from the post-intervention interview and were also labelled ‘self-awareness of behaviours when interacting with family’ and ‘identity exploration via reflection’ (Figure 14).

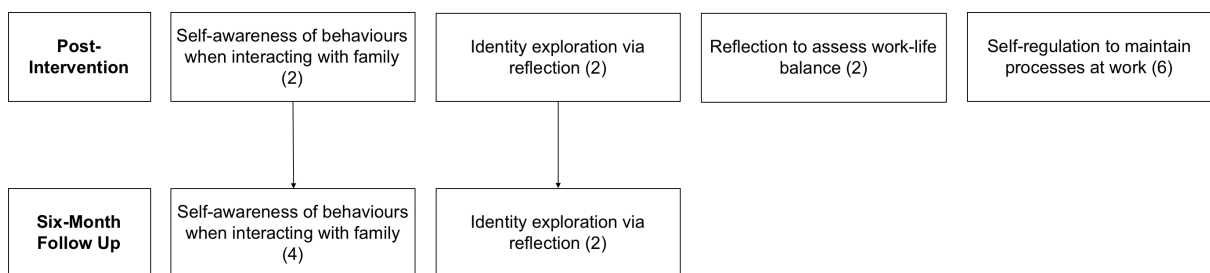


Figure 14. Main categories for participants' perceptions of the influence of the PPEP on personal excellence

**Perceived influence on future behaviours.** Eleven raw data categories were classified into five sub-categories for the main category ‘perceived influence on future behaviours’ during analysis of the post-intervention interview data. These sub-categories were labelled: (i) preparation in different life domains; (ii) self-awareness and self-regulation during performance; (iii) self-regulation and confidence during performance; (iv) reflecting on performance; and (v) reflecting to generate self-awareness in different life domains. A further seven raw data categories were classified into two sub-categories during analysis of the six-month follow-up interview data. The sub-categories aligned with two of the seven sub-categories that emerged from the post-intervention interview and were also labelled ‘self-awareness and self-regulation during performance’ and ‘reflecting on performances’ (Figure 15).

**Favourite aspects of the programme.** Eleven raw data categories were classified into four sub-categories for the main category ‘favourite aspects of the programme’ during analysis of the post-intervention interview data. These sub-categories were labelled: (i) reflecting on the performance supply chain; (ii) whole-person focus; (iii) case studies; and (iv) take-home tasks. Six raw data categories were classified into two sub-categories during analysis of the six-month follow-up interview data. These sub-categories aligned with two of the sub-categories that emerged from the post-intervention interview and were also labelled ‘reflecting on the performance supply chain’ and ‘whole person focus’ (Figure 16, p. 251).

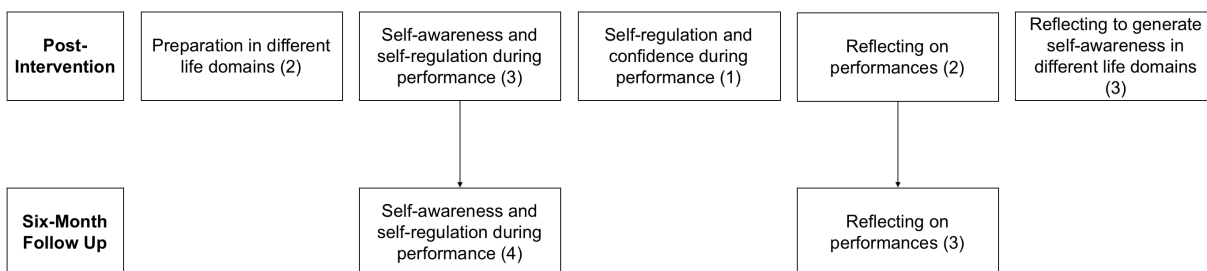


Figure 15. Main categories for participants' perceptions of the influence of the PPEP on their future behaviours



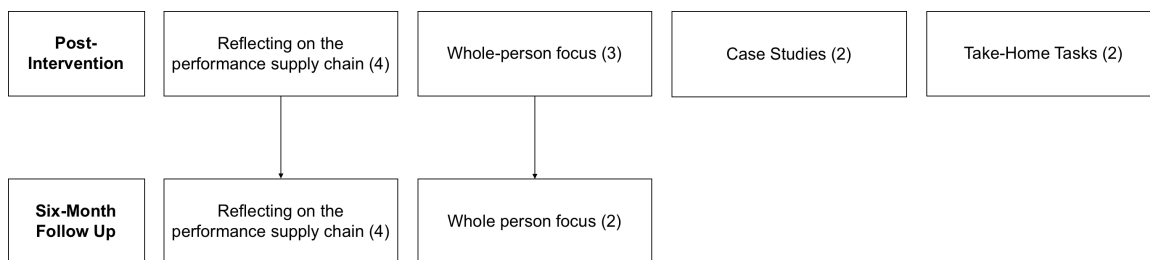


Figure 16. Main categories for participants' favourite aspects of the PPEP

**Least favourite aspects of the programme.** Nine raw data categories were classified into two sub-categories for the main category ‘least favourite aspects of the programme’ during analysis of the post-intervention interview data. These sub-categories were labelled ‘questionnaires’ and ‘too theory-based’. A further seven raw data categories were classified into the same two sub-categories during analysis of the six-month follow-up interview data (Figure 17).

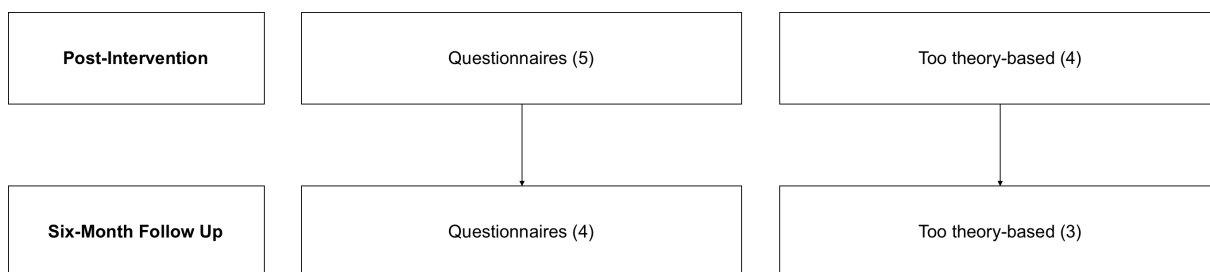


Figure 17. Main categories for participants' least favourite aspects of the PPEP

**Improvements for future iterations of the programme.** Twelve raw data categories were classified into three sub-categories for the main category ‘improvements for future iterations of the programme’ during analysis of the post-intervention interview data. These sub-categories were labelled: (i) condense performance supply chain; (ii) practice skills in sessions; and (iii) examples for roles outside cricket. A further eight raw data categories were classified into two sub-categories during analysis of the six-month follow-up interview data.

One of these sub-categories was also labelled ‘practice skills in session’, whilst the other was a new category and was labelled ‘during the cricket season take-home tasks’ (Figure 18).

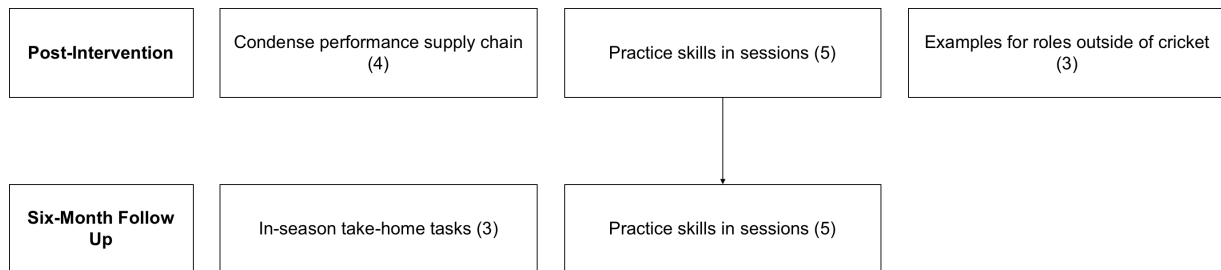


Figure 18. Main categories for participants' perceptions of improvements for the PPEP

**Future participants.** Ten raw data categories were classified into three sub-categories for the main category of ‘future participants’ during analysis of the post-intervention interview data. These sub-categories were labelled: (i) young players; (ii) moderately experienced players; and (iii) revised programme for all cricketers. A further six raw data categories were classified into the same three sub-categories during content analysis of the six-month follow-up interview data (Figure 19).

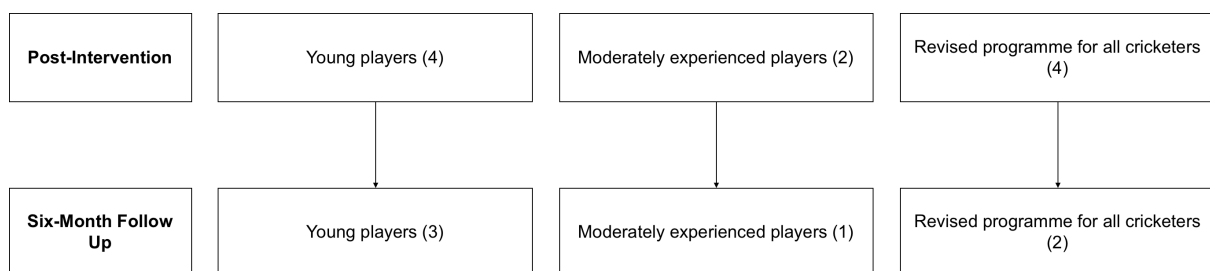


Figure 19. Main categories for participants' recommendations for future PPEP participants

### **Process-Assessment Evaluation: Learning Climate Questionnaire**

Descriptive statistics were calculated from the participants' responses to the Learning Climate Questionnaire (LCQ). The LCQ was completed on one occasion and the descriptive statistics indicated that the participants psychological needs were supported during their involvement in the PPEP ( $M = 143.50$   $SD = 12.53$ ).

### **Study Three: Discussion**

Multiple types of programme evaluation were conducted in Study Three to assess various processes and outcomes associated with the PPEP. The findings from the outcome-assessment provided moderate support for the effectiveness of the PPEP for promoting LS acquisition, whilst the lasting effects of the PPEP on LS acquisition were equivocal. In contrast to the hypothesised effects of the PPEP on athletic identity commitment and need-satisfaction, the findings from the outcome-assessment also revealed that: (a) there was moderate support for an increase in athletic identity commitment during the intervention phase and equivocal support for the changes in athletic identity commitment during the post-intervention phase; and (b) there was moderate support for a decrease in need-satisfaction during the intervention phase and partial support for a decrease in need-satisfaction in the six-month period following the intervention. Using an explanatory-sequential, mixed-methods design, interview data concerning the effectiveness of the PPEP provided insight into the complex nature LS acquisition, identity development, and need-satisfaction. Analysis of the interview data provided a more comprehensive understanding of the participants' experiences during the intervention phase and the post-intervention phase and helped explain the effectiveness of the PPEP for promoting both performance and personal excellence.

The outcome-improvement evaluation provided insight into various components of the PPEP and further insight into the outcomes of the PPEP. The analysis of this data highlighted: (a) the value of increasing self-awareness and self-regulation skills; (b) the effectiveness of the intervention for enhancing performance excellence and personal excellence; (c) issues of participant burden associated with self-report questionnaires; (d) the importance of simple, yet practical information; and (e) reflective practice as a useful tool for promoting LS acquisition. A process-assessment evaluation was also conducted using the Learning Climate Questionnaire (LCQ). Descriptive statistics generated from the participants' responses from the LCQ indicated that the participants' psychological needs were supported during the intervention and provided a useful reference for future outcome-assessments of the PPEP.

### **Outcome-Assessment Evaluation**

The participants' experiences using LS outside the PPEP sessions were assessed using an adapted version of the Youth Experiences Survey (YES) 2.0. In line with existing literature (e.g., Jones et al., 2011), the researcher used the adapted YES 2.0 to measure the participants' basic LS experiences, initiative experiences, and identity experiences. Basic LS experiences included the use of self-regulation skills, initiative experiences included the opportunity for participants' to be active agents in their own development (e.g., by managing their time, prioritising their commitments), and identity experiences included opportunities for identity exploration. The PPEP was designed to share knowledge associated with these LS and to engage the participants in tasks that promoted developmental experiences that were measured using the adapted YES 2.0 instrument. The moderate support for LS acquisition during the PPEP is consistent with existing evaluations of LS programme effectiveness that have shown that LS programmes can help athletes develop their knowledge and beliefs about LS. (e.g., Goudas et al., 2006; Kolovelonis et al., 2006; O'Hearn & Gatz, 2002; Papacharisis et al., 2005). These findings reinforce the effectiveness of LS programme at promoting skills associated with both performance and personal excellence.

Analysis of the individual LS experiences sub-scales between the baseline phase and the intervention phase revealed: (i) full replication for increases in identity experiences; (ii) moderate replication for increases in basic LS experiences; and (iii) partial replication for increases in initiative experiences. The full replication of increases in identity experiences might be aligned with the increases in athletic identity commitment as many of the participants had recently become full-time professional cricketers (i.e., contracted for 12-months, rather than for 7-months). The initial years of a professional sporting career have previously been associated with increased exploration and commitment to the athletic role (Bruner et al., 2008; Cosh, LeCouteur, Crabb, & Kettler, 2013; Grove, Fish, & Eklund, 2004). Whilst the PPEP was designed to encourage athletes to explore alternative identities associated with non-athletic roles, the integration of these professional cricketers in a high-performance camp likely enhanced their commitment to the athlete role (Brewer & Petitpas, 2017; Devaney, Nesti, Ronkainen, Littlewood, & Richardson, 2017). Thus, the increases in identity experiences might be attributed to exploration of their athletic role rather than other non-sport related roles.

Researchers have postulated that need-satisfaction (need-frustration) can facilitate (hinder) identity formation (i.e., identity exploration and identity commitment) (Luyckx et al., 2009). Individuals whose psychological needs are satisfied in a certain domain(s) are more likely to experience high levels of identity exploration and identity commitment to the role associated with that domain(s). Whereas, individuals whose psychological needs are frustrated in a certain domain(s) are more likely to experience low levels of identity exploration and identity commitment to the role associated with that domain(s). Contrary to this hypothesised link between need-satisfaction (need-frustration) and identity formation, the participants demonstrated an increase in their athletic identity commitment and a decrease in their need-satisfaction. Possible explanations for these findings might be associated with the

measure of need-satisfaction used in Study Three and the relations between need-satisfaction (need-frustration), type of motivation, and identity commitments.

The Balanced Measure of Psychological Needs (BMPN) was used to measure context-free need-satisfaction in Study Three. The BMPN scale was employed as the PPEP was designed to promote both performance excellence and personal excellence and, therefore, the researcher was interested in measuring the influence on need-satisfaction across multiple life domains. Given that the items included in the BMPN were not specific to one domain (e.g., I felt a sense of contact with people who care for me and whom I care for), it is unclear where the participants' needs are being satisfied or frustrated. For example, some participants might have responded to items based on their experiences in the cricket domain. Whereas, others might have responded based on their family lives or provided an aggregate score from their experiences across multiple domains from which domain the participants are answering each item. Therefore, the link between decreased need-satisfaction and increased athletic identity commitment might be explained if participants responded to the BMPN scale based on their experiences outside of the sport domain.

Researchers have recently highlighted the potential relations between need-satisfaction (need-frustration), type of motivation, and levels of identity commitment in both sport and physical activity settings (e.g., Ntoumanis et al., 2018; Reifsteck, Gill, & Labban, 2016; Zafeiridou, Sarafi, & Vlachopoulos, 2014). For example, Ntoumanis and colleagues (2018) recently modelled the relations between different types of exercise identity and exercise motivation. These researchers showed that within-person changes in self-determined forms of motivation (i.e., forms of motivation associated with need-satisfaction; such as intrinsic motivation and identified regulation) were positively and reciprocally related to within-person changes in exercise identity. However, increases in exercise identity were also associated with more controlled forms of motivation (i.e., forms of motivation linked with decreased need-satisfaction or need-frustration; such as introjected regulation). Introjected regulation is a

maladaptive form of motivation, as it represents motivation to act due to internal pressures and contingencies. However, in the short term, this regulation has been found to be a positive predictor of behavioural engagement and subsequently identity commitment (Wasserkampf & Kleinert, 2016). The increased athletic identity commitment and decreased need-satisfaction experienced by the participants in Study Three might be explained by the extent to which the participants needs were satisfied within the athletic domain and, subsequently, the type of motivation determining the athletes' behaviours and subsequent identity commitments. There is a possibility that the athletes' low levels of need-satisfaction resulted in introjected regulation towards their athletic goals, whilst their athletic identity commitment continued to increase. This explanation was further supported when the quantitative data was integrated with the qualitative data. That is, analysis of the qualitative data indicated that three of the participants reduced their commitment to their athletic identities whilst they were injured and were inhibited from pursuing their athletic goals.

Analysis of the three LS experiences sub-scales revealed that three of the six participants basic LS experiences and initiative experiences increased during the post-intervention phase in relation to the baseline phase, and that four of the six participants identity experiences increased during the post-intervention phase in relation to the baseline phase. The results demonstrated equivocal support for the long-term positive effects of the PPEP on basic LS experiences and initiative experiences, and partial replication of positive long-term effectiveness of the PPEP for promoting identity experiences. The equivocal findings associated with basic LS experiences and initiative experiences are consistent with studies evaluating the effectiveness of psychological interventions on a number of psychological variables (see Brown and Fletcher, 2017 for a review). That is, psychological interventions are effective at promoting change during delivery of interventions, yet extending the length of interventions would likely provide greater opportunity for behavioural change. Analysis of the qualitative data indicated that reflective practice tasks might have been

continued into the season and therefore might have enhanced the lasting effects of the PPEP; further emphasising the need for extended intervention procedures.

### **Outcome-Improvement Evaluation**

The researcher conducted an outcome-improvement evaluation using social validation procedures to explore participants' perspectives of the intervention methodology (e.g., Holt et al., 2013; Jones et al., 2011). Content analysis revealed 27 sub-categories that were deductively clustered into eight main categories. These main categories were presented in the results sections to illuminate the participants' main learnings, the effect of the PPEP on both performance and personal excellence, the perceived influence of the PPEP on the participants' future behaviours, the participants' favourite and least favourite aspects of the PPEP, improvements for future iterations of the PPEP, and the participants' perceptions of the types of participants who would most likely benefit from the PPEP.

In line with these eight *main categories*, eight sub-categories were supported by the majority of the participants during both post-intervention and six-month follow up interviews. These sub-categories were associated with: (i) the value experiential learning via reflection (*learnings*); (ii) the use of self-awareness and self-regulation (*effect on performance excellence*); (iii); self-awareness of behaviours when interacting with family (*effect on personal excellence*); (iv) the importance of self-awareness and self-regulation on performance (*perceived influence on future behaviours*); (v) reflecting on the performance supply chain (*favourite aspect of the PPEP*); (vi) questionnaires (*least favourite aspects of the PPEP*); (vii) practising skills in session (*improvements for the PPEP*); and (viii) delivering the programme to inexperienced professional cricketers (*future PPEP participants*). The findings associated with the value of teaching self-awareness and self-regulation offer a unique contribution to the literature as it reinforces the value of targeting *intrapersonal* skills (Danish, 2002; Jones et al., 2011). Intrapersonal skills are often difficult to develop in group interventions given that psychological strategies often need to be tailored to each individuals'



needs and ‘canned content’ for groups does not necessarily cater for all participants (Petitpas et al., 2005). It is likely that future interventions for promoting intrapersonal skills would benefit from a combination of both group and one-to-one sessions.

The findings from the outcome-improvement evaluation also reinforced the value of the intervention on performance excellence. These findings were useful because a direct measure of performance excellence was not possible (see limitations and future directions, p. 260-262 for more detail). It is perhaps not surprising that the participants’ perceived the skills as more applicable to the sport context given that the programme was delivered as part of a high-performance camp. These findings, along with recommendations for more examples and in-session practise of LS, are worth considering for future iterations of the PPEP.

The practical elements of the PPEP resonated with the participants and were deemed as their favourite aspects of the programme (e.g., group tasks and reflective practice take-home tasks). These findings act as a pertinent reminder to neophyte practitioners that ‘less is more’ during group delivery and that simple, practical messages are likely to help the participants engage with the content and understand the practicalities of the taught psychological skills (Hodge, 2004; Holt & Streat, 2001; Tod, 2007; Vealey, 2007). Furthermore, participant engagement was found to be integral to the participants’ enjoyment of the PPEP. Conversely, all of the participants noted that completing the self-report questionnaires was often a burden. Researchers have previously indicated that participant burden should be minimised to ensure that participants engage with self-report questionnaires, rather than seeing the questionnaires as a chore (Patel et al., 2003). Researchers are encouraged to continually reinforce the importance of questionnaires, whilst supporting the participants’ psychological needs. Strategies for supporting psychological needs in line with self-report questionnaires include providing choice about when the participants complete the questionnaires, providing non-controlling, competence-inducing feedback explaining ‘why’ the questionnaires are important, and reiterating the value of ‘how’ the information provided

in these questionnaires will benefit future PPEP participants (i.e., supporting participants' need for relatedness).

### **Limitations and Future Research Directions**

Study Three contributed to the athletic career development and the LS programme evaluation literatures in several ways. First, Study Three was one of the few studies underpinned by a scientific research design to evaluate the processes and outcomes of an intervention to promote both performance and personal excellence in elite athletes. Second, the measurement of psychological variables alongside the measurement of LS acquisition over a prolonged period of time (i.e., 42-weeks) provided an indication of the individuals' psychological development that occurred during and after the PPEP. Third, the use of a sequential-explanatory, mixed-methods design enabled qualitative data to be collected, analysed, and integrated with quantitative findings to better explain the participants' psychological development.

Whilst the strengths of Study Three provide a useful contribution to the sport psychology literature, it is important to acknowledge the limitations of this study and provide some direction for future researchers interested in evaluating programmes for both performance and personal excellence. Study Three was limited by the use of a LS acquisition questionnaire (an adapted version of the YES 2.0; Hansen et al., 2003), which was neither validated prior to the study or provided a direct measure of LS acquisition. Thus, the effectiveness of the PPEP was determined by assessing the participants' LS experiences rather than their LS acquisition. Future validation of adapted versions of the Youth Experiences Survey 2.0 (Hansen & Larson, 2005) or the development and validation of questionnaires to assess LS acquisition in elite, adult athletes is therefore required.

There were also some limitations associated with the single-case A<sup>1</sup>BA<sup>2</sup> research design employed in Study Three. The single-case research design was limited by the number of data collection points throughout baseline, intervention, and post-intervention phases. The power of single-case research design studies is determined by collecting multiple data points in the baseline phase, the intervention phase, and the post-intervention phase (Gage & Lewis, 2013). Furthermore, a critical assumption when using single-case research designs to assess intervention effects is to achieve a stable and non-variable baseline, with no clear trend across multiple data collection points (Barker, McCarthy, Jones, & Moran, 2011).

Both the power of single-case research designs and the ability to determine intervention effectiveness is enhanced by the collection of multiple data points, with many single-case comprising five or more data collection points in each phase (see Jones et al., 2011 for an example). The participants completed nine questionnaires across a 42-week period (three data collection points per phase). Given that the members of the Winter Training Squad also had multiple other commitments associated with other sport sciences disciplines (e.g., strength and conditioning journals, daily well-being reports), the number of questionnaires distributed to the participants was set at nine to avoid issues of social desirability and participant resentment (e.g., Podsakoff & Organ, 1986; Van de Mortel, 2008). As such, the power associated with the effect size calculations between each phase are to be interpreted with caution. Future researchers utilising single-case research designs to assess intervention effectiveness are encouraged to extend the amount of data collection points beyond the number collected in this research project and to collect pre-intervention data until baseline stability is achieved (Gast, 2011).

Another potential limitation of Study Three was the lack of an objective measure of performance excellence, due to the intervention taking place during ‘off-season’ training. Whilst the analysis of the qualitative follow-up data provided a detailed understanding of the effects of the intervention on performance excellence, future evaluations of the PPEP would

benefit from an objective measure of performance excellence. For example, performance data collected during the cricket season could be used as an indication of performance excellence (e.g., runs and wickets). Therefore, it is difficult to infer that the changes in the dependent variables actually enhanced performance excellence.

The decision to target self-awareness and self-regulation skills was based on the findings from Study One of this research project and in line with the current mental skills programme delivered to professional cricketers in New Zealand. Consequently, the current version of the PPEP may not be specific to the needs of cricketers from outside New Zealand. Researchers may wish to conduct a similar needs-analysis study to tailor the PPEP to the specific needs of their target sample. Establishing the needs of each sample should be the first step in all programme evaluation research to help develop purposefully-designed programmes.

## **Conclusion**

The purpose of Study Three was to assess the processes and outcomes of the PPEP for promoting performance excellence and personal excellence in professional cricketers using multiple types of evaluation. An outcome-assessment evaluation was conducted using a single-case A<sup>1</sup>BA<sup>2</sup> design. The results indicated moderate support for increases in LS acquisition and athletic identity commitment, and for decreases in need-satisfaction during the PPEP. Analysis of the qualitative data provided insight into the experiences of the participants during the intervention phase and the post-intervention phase and helped explain the changes in dependent variables. An outcome-improvement evaluation revealed that the PPEP helped enhance performance excellence and reflection was a useful strategy for developing self-awareness and self-regulation skills. Analysis of the data from multiple evaluations indicated that future iterations of the PPEP might be worthwhile for inexperienced professional cricketers.

## **CHAPTER SEVEN**

### **GENERAL DISCUSSION**

The purpose of this research project was to develop, deliver, and assess a life skills (LS) programme for promoting performance excellence and personal excellence in elite athletes. A multiphase, mixed-methods design integrating three studies that comprised various research designs and multiple types of programme evaluation was used to address the purpose of this research project. The purpose of Study One was to identify the LS needs of elite athletes (professional cricketers) and to inform the development of a LS programme (labelled the Performance and Personal Excellence Programme; PPEP). The instrumental and conceptual processes associated with delivering the PPEP were examined using a process-improvement evaluation in Study Two. The purpose of Study Three was to assess the processes and outcomes of the PPEP for promoting performance excellence and personal excellence in professional cricketers.

Three distinct methodological approaches were utilised to address the purpose for each of the three studies. These methodological approaches included: (i) a narrative methodology; (ii) an action research methodology; and (iii) a single-case design and qualitative follow-up procedures (i.e., a sequential-explanatory, mixed-methods design). Findings from these three studies are discussed in this chapter in line with the overall purpose of this research project and in relation to the sport psychology literature. The knowledge contributions from each study are discussed at a conceptual and practical level and, combined with a critique of the strengths and limitations of this research project, recommendations for future research are offered.

## **Developing, Delivering, and Assessing the Performance and Personal Excellence**

### **Programme**

This research project was formulated based on the notion that elite athletes are at comparable risk of decreased psychological well-being relative to the general population (e.g., Baron et al., 2013; Glick et al., 2009; McDuff, 2012) and the concept that elite athletes' pursuit of performance excellence often comes at the expense of personal excellence (i.e., their ability to display competence in multiple life domains and experience psychological well-being across their lifespan) (Andersen et al., 2001; Friesen & Orlick, 2010, 2011; Miller & Kerr, 2002). To assist with the positive psychological development of elite athletes both inside and outside of sport, researchers and career development personnel have established a number of career assistance programmes and interventions. However, the evidence is equivocal with respect to the effectiveness of these programmes and interventions for helping athletes develop skills that contribute to personal excellence (e.g., Australian Sports Commission, 2010; Gilmore, 2012; Roberts et al., 2015; Ryan, 2013; United Kingdom Sport, 2001).

Elite athletes have typically used services to promote personal excellence from career assistance programmes (CAPs) provided by national sporting organisations. As discussed in Chapter Two, there are three main issues associated with extant evaluations of CAPs. First, there is limited evidence that CAPs were developed using conceptual frameworks (i.e., they are largely atheoretical). Second, CAPs have been evaluated using only descriptive measures that fail to explain the effectiveness of these programmes for promoting positive psychological development (Gordon et al., 2005). Third, many athletes favour services that promote performance excellence (e.g., strength and conditioning, nutrition advice) and, subsequently, do not engage with these CAPs (Albion & Fogarty, 2005; Roberts et al., 2015; Ryan & Thorpe, 2013). Given the equivocal support and limitations associated with existing

CAPs, a LS programme for promoting performance excellence and personal excellence in elite athletes was developed, delivered, and assessed in this research project.

The development, delivery, and assessment of the PPEP was informed by the findings from Study One and Study Two, plus knowledge from existing athletic career development and LS programme literatures, from peer supervision, and from New Zealand Cricket's Core Mental Skills (New Zealand Cricket, 2015). Within the athletic career development and LS programme literatures, researchers have suggested that athletes who acquire skills that can be deployed in multiple domains and who engage in identity exploration are more likely to overcome transitions associated with sport and non-sport domains (Danish et al., 1993; Hodge et al., 2016; Stambulova & Wylleman, 2014). Furthermore, those athletes who have the necessary *intrapersonal* and *interpersonal* skills are more likely to experience psychological well-being across their lifespan (Brewer & Petitpas, 2017; Miller & Kerr, 2002). An attempt to better understand the influence of LS acquisition and identity exploration on athletic identity commitment and psychological well-being was a novel feature of this research project.

This research project also sought to address several limitations within the LS programme literature. These limitations included: (i) developing a LS programme to meet the specific needs of a targeted athletic population; (ii) providing a detailed explanation of the content, the structure, and the strategies employed in the LS programme; (iii) employing multiple evaluations to generate knowledge on the delivery and development of a LS programme; (iv) examining the influence of both the LS programme content and the LS programme context on LS acquisition and psychological development; and (v) conducting a longitudinal evaluation of LS acquisition. The knowledge contributions generated from addressing these limitations are discussed in the following sub-sections.

**Programme development.** Few researchers have explored the unique needs of their targeted athletic population prior to the development, delivery, and assessment of interventions focusing on skills for *either* performance excellence or personal excellence (see Jones & Lavalley, 2009 for an exception). Furthermore, researchers have typically explored the experiences of youth sport athletes (e.g., Camiré et al., 2009; Holt et al., 2008) and have rarely focused on LS development in elite, adult athletes. A narrative methodology was employed in Study One to explore the experiences of professional cricketers. The findings from Study One contributed to the purpose of this research project by: (i) indicating that LS development was perceived as being valuable for experienced, professional cricketers; (ii) highlighting that cricketers would likely benefit from a LS programme early in their professional careers; (iii) providing a number of LS that would likely contribute to both performance and personal excellence; (iv) generating content for the PPEP that was specific to the needs of the participants; and (v) indicating several processes through which LS were developed by professional cricketers.

Analysis of the data from Study One revealed that enhancing LS associated with personal excellence was of interest and value to experienced professional cricketers and was a process that they had actively engaged in towards the end of their careers. These findings were consistent with suggestions from previous researchers who highlighted that older, experienced professional athletes feel that their sporting careers have stunted their personal and professional development and that they would have benefited from additional support during their careers (e.g., Muscat, 2010; Roberts et al., 2015; Stronach & Adair, 2010). The participants from Study One advocated the necessity for more programmes and for additional support in relation to professional cricketers' personal development, and provided the impetus for the development, delivery, and assessment of the PPEP.



Narrative thematic analysis revealed four main themes associated with the types of LS that might benefit professional cricketers. These main themes represented the following types of LS: (i) communication; (ii) self-regulation; (iii) motivation; and (iv) problem-solving. These skills were considered for inclusion in a strength-based LS programme for professional cricketers. Career assistance programmes have typically included sessions to develop *interpersonal* skills (e.g., face-to-face communication) and technical skills/knowledge to help athletes in their secondary careers (e.g., CV writing, interview experience) (Lavallee, 2000; Reints, 2011). Few programmes have focused on developing *intrapersonal* skills for both performance and personal excellence. The participants' narratives created a rationale for the use of self-regulation skills for both performance and personal excellence, helped to engage the participants with the programme, and connected the participants with the content. The knowledge generated from the needs-analysis helped the researcher to avoid delivering 'canned' content and to develop a purposefully-designed athlete support programme.

The participants in Study One also indicated that LS development had not been a conscious process until the latter stages of their cricket careers. The participants began to consider their secondary career as they approached their retirement from cricket. Whilst exploring potential secondary career options, they started to acknowledge the types of skills that they had acquired during their cricket career and the application of these skills in life domains outside of cricket. The participants explained that being 'open to experience' helped them to understand the application of the skills learned in sport to other life domains. For example, two participants described that the goal setting skills they used to develop their technical skills could also be used for other projects outside of cricket (e.g., writing CV and covering letters, completing university assignments). The participants explained that some of these projects outside cricket would have been easy to avoid if they were not open to experience. Being open to experiences outside cricket enhanced the participants' self-awareness and understanding of LS transfer. The participants' gained confidence in their LS

through the process of experiential learning (i.e., learning from their experiences). These findings contribute to the extant literature by reinforcing the value of promoting experiences in other contexts where athletes' skills can be employed (i.e., the transfer context; see Pierce et al., 2017) and were used to develop a programme that encouraged participants to become more aware of their experiences across multiple life domains.

**Programme delivery.** Few researchers have provided a detailed explanation of the content, the structure, and the strategies employed in the LS programmes they developed (Hodge et al., 2012) or reported on the instrumental and conceptual processes associated with delivering of their LS programmes (see Holt et al., 2013 for an exception). Utilising an action research methodology, the instrumental and conceptual processes associated with delivering the PPEP were examined using a process-improvement evaluation in Study Two. The findings from Study Two contributed to the extant athletic career development literature by: (i) providing insight into the delivery and development of a LS programme to fast-track future programme development and enhance future intervention effectiveness; (ii) forwarding reflective practice as a useful strategy to assist with both programme and practitioner development; and (iii) reinforcing the value of the 'context', 'internal assets', and 'external assets' during programme development and delivery (Petitpas et al., 2005).

The main knowledge contributions from Study Two were presented in the Discussion section of Chapter Five. However, some of those findings are worthy of further explanation in line with the purpose of this research project. Those findings are discussed in the following sub-sections: (i) striking the balance between performance excellence and personal excellence; (ii) a teaching framework to guide programme delivery; and (iii) the use of psychological need-supportive behaviours (i.e., self-determination theory; basic psychological needs).

*Striking the balance between performance excellence and personal excellence.* The main aim of the PPEP was to develop LS that could be used in both sport and non-sport domains. During the delivery of the PPEP, the researcher reflected on notable differences in the participants' engagement during aspects of the programme that related to performance excellence in comparison to the parts of the programme that focused on personal excellence. For example, the participants were more willing to share their experiences associated with performance excellence, rather than personal excellence. This finding is perhaps not surprising given that the PPEP was designed to engage the participants using examples of skills for sporting performance prior to explaining that these skills can be used in non-sport domains. Furthermore, it is likely that the majority of the participants' (professional cricketers) most salient experiences occurred in the cricket domain and, therefore, these experiences were easier to recall and discuss. However, the rationale for most LS programmes is to promote positive psychological development across multiple life domains. A consistent focus on performance excellence might undermine the importance of the transfer context and the value of displaying competence outside the sport domain (Pierce et al., 2017). Thus, researchers developing and implementing LS programmes might consider strategies to help athletes better connect with their experiences outside of sport.

One possible strategy is to avoid relying on examples of skill use in performance situations and to ask the participants to consider situations outside of sport where they have used certain skills. This strategy was attempted throughout the second and third iterations of the PPEP based on the findings from Study Two. However, the researcher found it particularly difficult to build one-on-one rapport with the participants in the group setting and gain a thorough understanding of their goals outside of cricket (i.e., what they do outside of cricket?; what's important to them?). Therefore, future programmes targeting small samples for specific population (e.g., groups of elite athletes) might include one-to-one sessions as well as group sessions to enable the researcher(s) to develop one-to-one rapport with the

participants and to better understand the participants' personal lives. This would help researchers address specific examples of 'personal excellence' rather than using generic examples that may not relate to each of the participants. This strategy would likely reinforce that the programme focuses on *both* performance excellence and personal excellence.

***A teaching framework to guide programme delivery.*** Reflecting on his experiences during Study Two, the researcher found it difficult to be clear and concise, and often realised that substantial portions of the session has passed before the participants engaged in the tasks for each session. This finding was reiterated in the social validation interviews (Study Three) when many of the participants perceived that there had been lots of information, but not enough practical action. Researchers might benefit from a teaching framework to help them disseminate knowledge about each LS and generate awareness of situations when the LS might be used.

The researcher devised his own teaching framework to ensure that he was clear and concise during his explanation of certain parts of the PPEP. The framework followed a process of explanations and questions to obtain the information from the participants in each session. During this process, the researcher: (i) described a situation where a goal was at stake; (ii) asked the participants the typical thoughts and feelings they experienced during this situation; (iii) asked the participants about their subsequent behaviours; (iv) asked the participants to describe their typical responses to their behaviours in order to achieve their goal; (v) explained why these behaviours and responses might occur; (vi) split the group into pairs and asked them to consider other possible options for achieving their goals in this situation. Researchers might consider creating their own teaching frameworks to promote an interactive approach to teaching LS and to ensure that the participants spend more time 'doing' and less time listening (Petitpas et al., 2004).

*Psychological need-supportive behaviours.* One aspect of the intervention methodology employed was to promote a psychological need supportive (need-supportive) motivational climate. A need-supportive motivational climate has previously been shown to promote psychological need satisfaction (need-satisfaction) in individuals (e.g., Cheon, Reeve, & Ntoumanis, 2018; Chirkov, 2011; Lundqvist & Raglin, 2015; Lynch et al., 2011; Rudy et al., 2007). To create a need-supportive motivational climate, individuals should be provided with choice and a rationale for participating in each task, have their feelings acknowledged, and be offered opportunities to show initiative and independent work (Cheon et al., 2018; Gagné et al., 2003). Findings from Study Two and Study Three indicated that the provision of a need-supportive motivation climate can be hindered (to some extent) when programmes do not contain concise content and there isn't scheduled time to connect and build rapport with the participants.

Throughout the pilot deliveries of the PPEP, the researcher acknowledged that more time was required to provide need-supportive behaviours. The PPEP was revised to provide time for the researcher to connect with each of the participants during Programme Delivery (i.e., relatedness-support). Furthermore, the researcher attempted to promote autonomy-support by giving the participants opportunity to direct the conversations and choose the contexts in which the skills were discussed. However, it was particularly difficult to provide competence-support when the majority of the LS were practised and reflected upon as part of take-home tasks (i.e., outside the New Zealand Cricket Winter Training Squad camps). Future iterations of the PPEP might include allocated time for in-season reflective practice tasks to enable the researcher to better provide competence-support. Alternatively, completion of the take-home tasks could be supported by personnel from each participants' major cricket association (e.g., mental skills trainers, personal development managers, high performance directors) who are working with the participants on a more consistent, day-to-day basis between each of the centralised, high performance camps.

## **Assessing the processes and outcomes of the Performance and Personal**

**Excellence Programme.** The influence of both the PPEP content and the PPEP context on LS acquisition and psychological development (i.e., athletic identity commitment and need-satisfaction) was examined over a 42-week period in Study Three. An outcome-assessment evaluation was conducted using a single-case A<sup>1</sup>BA<sup>2</sup> design. The results indicated that five out of six participants increased their LS and athletic identity commitment, and decreased their need-satisfaction during the intervention phase. Three out of the six participants increased their LS acquisition and athletic identity commitment, and four participants reported decreased need-satisfaction during the post-intervention phase. Follow-up qualitative data supplemented the quantitative findings and helped the researcher explain the changes in the dependent variables. The findings from narrative thematic analysis provided insight into the use of LS in multiple domains and helped explain increases in athletic identity commitment (e.g., Participant Two making his international debut) and decreased need-satisfaction (e.g., Participant Five was not selected for his major cricket association on several occasions throughout the season). Furthermore, the outcome-improvement evaluation revealed that the PPEP helped enhance performance excellence and that reflection was a useful strategy for developing self-regulation skills.

The findings from Study Three were critiqued in Chapter Six; however, several of these findings warrant further discussion in line with the purpose of this research project. These findings are discussed in further detail under the following sub-headings: (i) life skills acquisition and psychological development; (ii) preparing athletes for transitions in multiple life domains; and (iii) the longitudinal measurement of psychological variables.

***Life skills acquisition and psychological development.*** Researchers have acknowledged the potential relations between LS acquisition, athletic identity commitment, and psychological well-being (e.g., Brewer & Petitpas, 2017; Danish et al., 1993; Miller & Kerr, 2002). The PPEP was developed to include opportunities for LS acquisition and identity

exploration to enhance participants' need-satisfaction and to decrease their athletic identity commitment over a 42-week period. Based on previous literature, it was hypothesised that the participants' experiences associated with LS acquisition (i.e., basic LS experiences, initiative experiences, and identity experiences) would increase during the intervention phase and post-intervention phase, in comparison to the baseline phase. Athletic identity commitment was hypothesised to decrease during the intervention phase and post-intervention phase, in comparison to the baseline phase. It was also hypothesised that need-satisfaction would increase during the intervention phase and the post-intervention phase, in comparison to the baseline phase. Data supporting these hypotheses would indicate that the PPEP was effective at promoting LS acquisition and positive psychological development associated with both performance and personal excellence.

Single-case analysis revealed the effects of the intervention on each participant, while cross-case analysis provided an overview of the programme effects on all of the participants. There was moderate support for increases in LS acquisition during the intervention phase (five out of six participants) and partial support for increases in LS acquisition during the post-intervention phase (four out of six participants); supporting the hypothesis for LS acquisition. The hypothesis for athletic identity commitment was not supported; athletic identity commitment increased in four out of six participants during the intervention phase and in three out of six participants during the post-intervention phase. The hypothesis for increased need-satisfaction during and following the delivery of the PPEP was not supported; need-satisfaction decreased in five out of six participants in the intervention phase and in four out of six participants in the post-intervention phase. Thus, the intervention was successful from a LS acquisition perspective, but unsuccessful at diminishing athletic identity commitment and enhancing need-satisfaction (i.e., positive psychological development).

These findings provide preliminary evidence that the relations between LS acquisition, athletic identity commitment, and need-satisfaction for elite athletes are perhaps more complex than postulated in the extant literature (e.g., Danish et al., 1993; Miller & Kerr, 2002). These findings highlight that LS acquisition and identity exploration will not lead immediately to decreased athletic identity commitment and need-satisfaction for elite athletes. To provide a potential explanation for these unexpected results, it is perhaps worth considering factors from outside of PPEP (i.e., the wider sociocultural context) and considering the impact on these findings for future athletic identity research. The cricketers who participated in the programme assessment (Study Three) had been ‘earmarked’ by New Zealand Cricket as individuals who possessed the potential to represent New Zealand in the near future. As part of their membership of the New Zealand Cricket Winter Training Squad, the majority of these cricketers were employed for a 12-month period rather than a 7-month period. Previous researchers have highlighted that individuals’ involvement in high performance sports programmes can discourage identity exploration and enhance their commitment to the athletic role (Aquilina, 2013; Henry, 2013; Ryan, 2017; Stephan & Brewer, 2007). Given that that the participants’ involvement in the New Zealand Cricket Winter Training Squad increased their engagement with the professional cricket domain, it is perhaps not surprising that the PPEP (which only totalled 10.5 hours over a 12-week period) failed to immediately decrease the participants’ commitment to their athletic identities.

Moreover, researchers have highlighted that a high level of commitment to the athlete role is favourable to sporting performance and a strong athletic identity has been associated with a multitude of protective factors (e.g., self-affirmation, increased self-confidence) (Lally, 2007; Murphy et al., 1996; Pearson & Petitpas, 1990; Zimmerman, 2011). Given that these protective factors associated with a high athletic identity can help athletes achieve performance excellence and with knowledge that athletes’ immersion in high performance camps are likely to enhance athletic identity commitment, future LS programme researchers



might consider assessing identity exploration or utilising identity measures that assesses commitment to multiple identities. For example, The Dimensions of Identity Development Scale (Luyckx et al., 2008) might be used to measure the level and depth of identity commitment and identity exploration prior to, during, and following interventions such as the PPEP. Researchers who employ an instrument that measures both identity commitment and identity exploration across multiple life domains, rather than a single measure of athletic identity, would provide a more detailed view of athletes' psychological development. Furthermore, these researchers might develop interventions to encourage commitment to both athletic identity and other identities as a means of avoiding the potential of athletic identity foreclosure, rather than aiming to decrease athletic identity.

In line with the participants' increased engagement with the professional cricket domain and enhanced commitment to their athletic identities throughout the course of the data collection period, it is reasonable to suggest that these participants might have gained the majority of their need-satisfaction (need-frustration) from the sport domain. The decrease in need-satisfaction experienced by the participants in both the intervention phase and the post-intervention phase were explained in some of their narratives during the qualitative follow-up interviews. For example, three of the six participants perceived their cricket performances to be "average" or "poor" throughout the season or their performances were hampered by "a series of injuries" or "non-selection" from his major cricket association. Thus, the decreased need-satisfaction experienced by five of the six participants might be explained from their need-satisfaction (frustration) in the sport environment, rather than as a general measurement of need-satisfaction across all life domains. When responding to the items associated with need-satisfaction, individuals completing self-report questionnaires are likely to reflect on their most salient identity. One could argue that individuals who perceive themselves as struggling to reach goals associated with their most salient identity are likely to report decreased need-satisfaction (Luyckx et al., 2009, Ntoumanis et al., 2017; Ryan & Deci, 2017).

Whilst the participants did not experience positive psychological development as defined by the hypotheses for Study Three, the increases in LS acquisition highlight that the teaching methods and structure of the PPEP were successful. These findings highlight the value of group-based psychoeducation programmes that contain a number of ‘in-session’ tasks and ‘take-home’ tasks for elite athletes. More specifically, the findings indicate that cognitive restructuring techniques incorporated within reflective practice procedures can help participants engage with their experiences across a number of contexts and help accelerate their knowledge and use of self-regulatory skills. This knowledge contribution reinforces the value of self-regulation skills that can be used across multiple domains and provides further evidence for the effectiveness of combining cognitive restructuring techniques and reflective practice to enhance self-regulation skills (Neil et al., 2013; Neil, Hanton, & Mellalieu, 2013).

***Preparing athletes for transitions in multiple life domains.*** The purpose of the PPEP was to promote performance excellence and personal excellence through LS acquisition and identity exploration. A process-improvement evaluation provided insight into the influence of the PPEP on the future behaviours of the participants. In both the post-programme and the six-month follow-up social validation interviews, the participants stated that enhanced self-awareness and self-regulation skills, and the use of reflective practice would benefit their performances in the future. The participants perceived that these skills would help them to overcome demands emanating from the sporting environment and give them a better chance of transitioning from domestic to international cricket. These findings provide preliminary evidence that the skills taught during the PPEP might influence the participants’ future performance. However, only a few of the participants were able to explain how they might use the skills to help them display personal excellence in the future. These findings are consistent with other LS programmes that have taught life skills through sport-based tasks (e.g., Goudas et al., 2006). Specifically, previous LS programme participants have often been able to recall how they would use the LS in the sport domain, but fail to understand or recall

the value of the LS in other contexts. Researchers and practitioners are encouraged to consider alternative methods for promoting the value of the transfer context (i.e., the utility of LS in non-sport domains where the LS can be used) (see practical implications, p. 282-285).

***The longitudinal measurement of psychological variables.*** The purpose of Study Three was to evaluate the processes and outcomes of the PPEP. The use of an explanatory-sequential, mixed-methods design that spanned a 42-week data collection period provided insight into the immediate and long-term effects of the PPEP on LS acquisition and positive psychological development. Based on the extant athletic career development and LS literatures, need-satisfaction and athletic identity commitment were measured as proxies for positive psychological development. The measurement of these variables provided insight into levels of athletic identity commitment and need-satisfaction over a 42-week period.

To the researcher's knowledge, this is the first study to measure athletic identity commitment and need-satisfaction before, during, and after the delivery of a LS programme. The findings add to a body of literature that has previously highlighted the meta-theoretical similarities of Basic Needs Theory and identity theorising (i.e., identity exploration and commitment) using a number of retrospective, cross-sectional, and qualitative designs (e.g., Luyckx et al., 2009; Ntoumanis et al., 2017). Analysis of the quantitative data from this research project revealed decreases in need-satisfaction and increases in athletic identity commitment over a 42-week period. As previously mentioned in Chapter Six, decreases in need-satisfaction (need-frustration) might have resulted in introjected regulation (i.e., a maladaptive form of motivation) whereby the participants have increased their commitment due to internal pressures and contingencies (e.g., wanting to be valued by their peers). Based on these findings, researchers are encouraged to examine the relations between need-satisfaction (need-frustration), the type of motivation, and identity commitments. That is, researchers might investigate need-support and need-satisfaction (need-frustration) that occurs in specific life domains and examine the influence of need-satisfaction (need-frustration) on

individuals' engagement in role-specific identity exploration and identity commitment. Such an understanding would extend the findings from this research project by providing insight into the relations between context-specific need-satisfaction (need-frustration) and identity development.

### **Strengths and Limitations**

The use of various research designs and multiple types of programme evaluation combined into a multiphase, mixed-methods research design were strengths of this research project. The three interrelated studies contributed considerable knowledge to the athletic career development and the LS programme literatures. From an athletic career development perspective, this research project provided insight into the lived experiences of professional athletes, generated an in-depth understanding of the types of skills that are developed during a career in professional cricket, and engendered knowledge on the types of processes that facilitate LS development.

The development of a LS programme for elite athletes that focused on LS acquisition and identity exploration to affect psychological development and behavioural change in both sport and non-sport domains also provided a notable contribution to the extant literature. Moreover, the use of a single-case research design provided a unique perspective on changes in LS development, athletic identity commitment, and need-satisfaction. Researchers have tended to investigate these variables in isolation as part of cross-sectional research designs (e.g., Lally, 2007) or have merely postulated that these psychological processes were aligned, rather than integrating and measuring these processes (e.g., Danish et al., 1993; Miller & Kerr, 2002). Subjecting the single-case data to visual analysis procedures enabled the data to be displayed in a temporal sequence and fluctuations in these variables to be studied over time. The opportunity to analyse the data as a temporal sequence would not have been possible and idiosyncratic variations would have been masked using more traditional group-designs (Barker et al., 2013).

Despite the positive findings and contributions to knowledge, there were several limitations associated with this research project. One main limitation was the instrument used to measure LS acquisition. As previously mentioned in Chapter Six, an adapted version of the YES 2.0 questionnaire was used to assess participants' LS experiences, but it was not a direct measurement of LS acquisition. However, measuring the self-reported experiences of participants' use of LS in other domains was the most viable measure of LS acquisition in line with the purpose of PPEP (i.e., promoting experiences for LS acquisition and identity exploration). MacDonald and McIsaac (2016) recently highlighted the need for a more complete definition of LS development (acquisition) and sport-specific measures of LS development in youth athletes to counter such measurement limitations. These researchers highlighted that an increasing number of instruments had been validated with youth sport athletes (e.g., the Life Skills Transfer Survey [Weiss, Bolter & Kipp, 2014] or the Youth Experiences Survey for Sport [MacDonald, Côté, Eys, & Deakin, 2012]) and could be employed in future research projects. Furthermore, Pierce and colleagues (2017) have recently provided a more complete definition of LS development and transfer to guide future research. Whilst there has been apparent progress with defining and measuring LS development in youth sport, there is a continued need for the development and validation of LS development instruments for adult, elite athletes.

Threats to internal validity also exist when using one-group, single-case designs and it is possible that positive findings could be explained as artefacts of history, by repeated testing, or through maturation rival hypotheses. Therefore, in future studies, researchers might utilise experimental (e.g., pretest-posttest) and other quasi-experimental designs (e.g., non-equivalent dependent variables designs), which rule out rival hypotheses (Shadish, Cook, & Campbell, 2002). For example, the assessment of the PPEP effectiveness would have benefited from a control group to reduce threats to internal validity; however, the applied context of working with a selected group of professional cricketers made this logistically

challenging and raised concerns about ethical practice (also see Barker, Evans, Coffee, Slater, & McCarthy, 2014; Windsor, Barker, & McCarthy, 2011). The use of control groups with athletes in ecologically valid settings is considered unethical; given that it is unreasonable to withhold a potentially beneficial intervention from athletes operating in the same environment (Hardy, 2012). As an alternative, Barker and colleagues (2014) recommended the inclusion of one or two control measures that are unlikely to be affected by the intervention. Examples of potential control measures that could be evaluated during future iterations of the PPEP include athlete burnout and flow. The inclusion of control measures would provide more evidence to support the effectiveness of the intervention, should the intervention enhance the target variables rather than the control variables.

### **Future Research Directions**

A number of future directions have been presented across chapters four, five, and six. These future directions have been summarised under the sub-headings ‘life skills programmes’ and ‘psychological development of athletes’.

**Life skills programmes.** It is evident that elite athletes could benefit from conceptually-grounded, purposefully-designed LS programmes to promote both performance and personal excellence. This research project provided insight into the development, delivery, and assessment of the PPEP. Researchers seeking to promote positive psychological development in elite athletes might consider developing their own programmes that focus on teaching LS for both performance and personal excellence, and evaluating these programmes in a robust manner using experimental and quasi-experimental designs. Practitioners who develop LS programmes that are underpinned by conceptual frameworks (e.g., the Life Development Intervention/Basic Needs Life Skills Model; Hodge et al., 2012) are directed towards measuring both LS acquisition and psychological development, and thereby determine whether their programmes promoted *actual* psychological development and behavioural change. To extend the knowledge contributions of this research project,

researchers might consider the types of behaviours that reflect LS acquisition and utilise quantitative behavioural measures to provide greater insight into LS transfer and behavioural change.

*Life skills transfer.* Analysis of the both the quantitative and qualitative data from this research project highlighted that participating in the PPEP increased LS acquisition. Analysis of the qualitative data also revealed the value of the PPEP for promoting LS to enhance performance excellence, rather than personal excellence. The LS development literature would benefit from continued research exploring LS transfer (Gould & Carson, 2008; Pierce et al., 2017). Life skills transfer is an ongoing holistic process that includes the individual learner, the learning contexts, the transfer contexts, and wider socio-cultural factors. Researchers might consider alternative ways to accurately capture these facets in order to better understand LS transfer (Baldwin & Ford, 1988; Burke & Hutchins, 2007; Lee & Martinek, 2013). For example, researchers might follow and assess athletes at multiple time points (e.g., before, during, and after a sport season) or in multiple domains (e.g., in sport and in a secondary career) to directly examine LS acquisitions and LS transfer.

More longitudinal studies are needed to examine the complex interplay between factors that influence the LS transfer process. From an applied perspective, the take-home tasks provided insight into some of the LS transfer contexts for each participant; however, it was not the purpose of Study Three to scientifically examine the take-home tasks and provide an in-depth understanding of LS transfer. Researchers might consider using diaries and/or reflective practice tasks to gain insight into athletes' use of LS across multiple life domains. Furthermore, longitudinal studies should focus on individual learners and their life experiences both inside and outside of sport, but also include significant social agents from both sport (e.g., coaches, teammates) and other life contexts (e.g., teachers, parents, managers, life partners). These social agents could be used to cross-validate instances of LS development and LS transfer beyond the perspective of the individual learner.

**Psychological development of athletes.** Further exploration of athletes' identity development and need-satisfaction is required to better understand athletes' psychological development during and after their sporting careers. In relation to individuals' athletic identity commitment, further research is required to understand the role of sport participation on identity development and to explore the relation between LS acquisition and identity development. The agenda for future research could include utilising instruments that measure the commitment and exploratory behaviour components of identity development. In addition to measuring identity development, researchers might employ context-specific measures of need-satisfaction *and* need-frustration to provide a more detailed understanding of the relations between individuals' psychological development throughout their athletic careers.

### **Practical Implications**

This research project has provided several practical implications for researchers and practitioners interested in athletic career development. These practical implications are discussed in relation to: (i) iterations of the Performance and Personal Excellence Programme; (ii) interventions for elite athletes; and (iii) recommendations for practitioners, coaches, and athletes.

**Iterations of the Performance and Personal Excellence Programme.** The findings from the process-improvement evaluation in Study Two and the outcome-improvement evaluation in Study Three revealed several practical implications for iterations of the Performance and Personal Excellence Programme (PPEP). Findings from Study Two revealed that PPEP sessions need to be more interactive and concise, and that the effectiveness of the intervention might be enhanced by the use of one-to-one sessions. Life skills programmes delivered for youth athletes have typically included numerous group tasks and exercises to ensure that participants are active agents in their learning (e.g., Bean et al., 2016; Danish, 2002). Whilst the researcher was aware of this factor during the development and delivery of the PPEP, the findings reinforced that practical tasks remain the most important part of LS



programmes. Researchers and practitioners are encouraged to be particularly mindful when delivering a programme to develop *intrapersonal* skills, which typically require greater explanation than *interpersonal* skills.

Having delivered the PPEP to a group of professional cricketers who were selected for a series of high performance camps, the PPEP might also be considered for delivery to each of the six major cricket associations within New Zealand. A revised and condensed version of the PPEP might be developed based on the findings from the outcome-improvement assessment (see Chapter Six; Results and Discussion). Furthermore, the delivery of the PPEP during the cricket season would enable the participants to reflect on their experiences associated with performance excellence. Whilst this process would likely increase the participants' use of LS in the sport domain, it would likely minimise the opportunities to reflect on experiences for personal excellence (as demonstrated by the findings from the qualitative follow-up interviews in Study Three). Opportunities to reflect on personal excellence might be increased by using personnel employed by each major cricket association as a programme leader (e.g., mental skills trainer, personal development manager, high-performance manager). A condensed and more interactive version of the PPEP could be delivered during the cricket season and the personnel from each major cricket association could integrate one-to-one sessions as part of their programme.

**Interventions for elite athletes.** The delivery and assessment of the PPEP provided broader practical implications for researchers interested in developing, delivering, and assessing psychological interventions for elite athletes. One of the main implications involves including and integrating social agents (e.g., coaches, practitioners, team management) from athletes' sporting environments (i.e., social agents who spend the majority of their time with the athletes) within psychological interventions. Social agents who spend the most time with the athletes have the most opportunity to effect behavioural change (Pain & Harwood, 2004). Researchers and practitioners are encouraged to consider innovative ways to utilise social

agents who have regular contact with elite athletes. For example, a LS programme tailored for coaches and management of professional cricket teams might provide one option for increasing the athletes' exposure to conversations and tasks concerning LS development. Such an approach would likely improve the effectiveness of programmes and advance psychology practise in real-world settings (Sharp & Hodge, 2014). Such an approach would require researchers and practitioners to develop innovative research designs for conducting robust evaluations of programmes (e.g., single-case research designs that include control variables) due to the unstable and dynamic nature of interactions in ecological valid settings.

Another practical implication concerns the delivery of interventions that focus on increasing positive psychological development across multiple life domains. Those interventions that are designed to enhance personal functioning across multiple domains might consider the location where the intervention is delivered. Indeed, psychoeducation programmes for athletes are typically delivered to athletes at convenient locations (i.e., training venues, stadia). However, interventions delivered away from the sporting domains might help to emphasise the importance of psychological development outside of sport. For example, researchers and practitioners could utilise some of the experiences highlighted by the participants from Study One (e.g., community coaching days, sponsors evenings) to teach the programme participants the utility of their sport specific skills in other life domains. This approach has previously been deemed useful during LS interventions that have included community outreach initiatives as part of their curriculum (e.g., Petitpas et al., 2004).

**Recommendations for practitioners, coaches, and athletes.** Findings derived from evaluating the development, delivery, and outcomes of the PPEP provide several recommendations for practitioners, coaches, and athletes. The PPEP helped the athletes better understand the domains in which they operate (e.g., athletic, academic, social, family) and acknowledge that self-regulation skills could also be used in a variety of these domains. Coaches and other practitioners working with athletes might utilise some of the tasks (e.g.,

reflective practice) and case studies (i.e., group discussion to highlight LS use) employed in the PPEP to gain greater insight into their athletes as people and help their athletes enhance their skills across multiple domains. Coaches and practitioners who help athletes identify their psychological skills in the performance context and suggest the practicalities of employing these skills in other life domains are likely to help athletes become more self-aware and display behaviours to achieve personal excellence. Previous research has demonstrated that athletes who have skills to effectively manage demands from non-sport domains are more likely to achieve performance excellence; a process that is likely to prolong elite athletic careers (e.g., Devonport, Lane, & Biscombe, 2013; Thelwell et al., 2007; Weston, Thelwell, Bond, & Hutchings, 2009).

This research project affirmed the value of reflective practice for generating self-knowledge and accelerating learning in athletes and practitioners. Reflective practice has been advocated across a number of different fields (e.g., health care, coaching, sport psychology), but formal forms of reflection remain under-utilised in sport and exercise science disciplines (Anderson et al., 2004; Cropley, Hanton, Miles, & Niven, 2010). Practitioners, coaches, and athletes might consider employing various types of reflective practice (e.g., informal, formal, written, verbal) to review their experiences and consolidate their knowledge. The use of an online platform for reflective practice tasks provides a novel strategy for engaging athletes in reflective practice. Many national sporting organisations employ online athlete management systems whereby athletes are required to enter their daily training information (see Australian Sports Commission, 2017 for an example). The reflective practice tasks to enhance self-regulation skills could be incorporated in such online platforms to increase athlete engagement over prolonged periods. Whilst incorporating aspects of the PPEP into an online platform would likely increase the accessibility of the programme and enhance athlete engagement, researchers and practitioners are advised to consider whether the content and use of athlete management systems are promoting need-satisfaction or need-frustration.

## **Conclusion**

In this research project, a purposefully designed LS programme for professional cricketers (the Performance and Personal Excellence Programme; PPEP) was developed, delivered, and assessed. The PPEP was developed following a needs-analysis and using extant knowledge from the athletic career development literature. The PPEP was underpinned by the LDI/BNT LS model and included a series of sessions and take-home tasks designed to engage athletes in experiences that promoted LS development and identity exploration in multiple life domains. The findings highlighted the value of understanding the unique needs of the athletic population under investigation, adopting a systematic process to assist with the development of the PPEP, and the use of multiple evaluation procedures to assess various processes and outcomes of LS programmes. The content and structure of the PPEP (i.e., the use of group psychoeducation delivery and take-home tasks) was effective for developing LS in a group of professional cricketers and the skills taught were perceived as beneficial for promoting competence in current and future life domains. Furthermore, this research project was the first to measure underlying the mechanisms that influence psychological development (athletic identity and need-satisfaction). Analysis of quantitative data revealed that athletic identity commitment increased and need-satisfaction decreased; findings that do not align with existing basic need theory and identity theorising. In an attempt to better support athletes' throughout and beyond their athletic careers, future researchers might extend upon the findings from this research project by examining the mediating processes that influence LS acquisition, identity development, and need-satisfaction.

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## Appendices

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## **Appendix A. Study One: Information Sheet**

### ***Identifying the life-skills needs of elite cricketers in New Zealand***

#### **INFORMATION SHEET FOR PARTICIPANTS**

Thank you for showing an interest in this project. Please read this information sheet carefully before deciding whether or not to participate. If you decide to participate I thank you. If you decide not to take part there will be no disadvantage to you of any kind and I thank you for considering my request.

#### **What is the aim of this project?**

The aim of this project is to gain an in-depth understanding of the life-skills that are developed during a career in elite cricket and how life-skills might help elite cricketers prepare for the transition out of sport.

#### **What type of participants are being sought?**

Participants will be elite cricketers who have a minimum of six years elite playing experience.

#### **What will participants be asked to do?**

Should you agree to take part in this project, you will be asked to take part in either a 45-60 minute face-to-face interview with one member of the research team. The interview questions will focus on your understanding of the term life-skills, what life-skills you perceive to develop through a career in elite cricket, and what life-skills you perceive as most beneficial in helping you prepare for the transition out of sport.

### **Can participants change their mind and withdraw from the project?**

You are free to decline to participate at any point in the research process without any disadvantage to yourself of any kind.

### **What data or information will be collected and what use will be made of it?**

The interviews will be audiotape recorded, transcribed verbatim, and analysed. Results of this project may be published but any data included in written reports, articles, or presentations will not include any individual participant's names. Every effort will be made to protect your anonymity.

Upon the completion of the interview, you are welcome to request a copy of the transcribed interview for your records. The data collected will be kept anonymous and securely stored in such a way that only Dr. Ken Hodge and his colleague Adam Miles (University of Otago) will be able to gain access to it. At the end of the project any personal information will be destroyed immediately except that, as required by the University's research policy, any raw data on which the results of the project depend will be retained in secure storage for five years, after which it will be destroyed.

### **What if participants have any questions?**

If you have any questions about the project, either now or in the future, feel free to contact:

Dr Ken Hodge, School of Physical Education, Sport and Exercise Sciences, University of Otago

Telephone Number: 03 479 8991

E-mail: [ken.hodge@otago.ac.nz](mailto:ken.hodge@otago.ac.nz)

(This study has been approved by the University of Otago Human Ethics Committee. If you have any concerns about the ethical conduct of the research you may contact the Committee through the Human Ethics Committee Administrator (ph034798256). Any issues you raise will be treated in confidence and investigated and you will be informed of the outcome).

**Appendix B. Study One: Informed Consent Document**

***Identifying the life-skills needs of elite cricketers in New Zealand***

**INFORMED CONSENT FORM FOR PARTICIPANTS**

I \_\_\_\_\_ (please print name) have read the Information Sheet concerning this project and understand what it is about. All my questions have been answered to my satisfaction. I understand that I am free to request further information at any stage.

I know that:

- My participation in the project is entirely voluntary;
- I am free to withdraw from the project at any time without any disadvantage;
- Personal identifying information (i.e. demographic information) will be destroyed at the conclusion of the project but any raw data on which the results of the project depend will be retained in secure storage for five years, after which they will be destroyed;
- The results of the project may be published and will be available in the University of Otago Library (Dunedin, New Zealand), and that every attempt will be made to protect my confidentiality and anonymity.
- The results of the study will be treated in strict confidence. Within these restrictions, results of the study will be made available to me at my request.

I agree to take part in this project.

.....

(Signature of participant)

.....

(Date)

This study has been approved by the University of Otago Human Ethics Committee. If you have any concerns about the ethical conduct of the research you may contact the Committee through the Human Ethics Committee Administrator (ph034798256). Any issues you raise will be treated in confidence and investigated and you will be informed of the outcome.

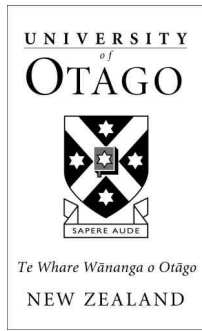
## **Appendix C. Study One: Interview Guide**

### **STUDY ONE: INTERVIEW GUIDE**

#### **Introduction**

- Introduction and thanks
- Explain the interview procedure
- Insight into the skills possessed by professional cricketers
- Approximately 30 minutes
- Recorded on a Dictaphone
- “Cricketers can choose not to answer any of the questions in this interview and are welcome to withdraw at any time.”
- Information sheet
- Sign informed consent
- Complete background information sheet





Name:	
Age:	
Place of birth:	
Education:	
Number of years playing cricket:	
Number of years as a professional cricketer:	

## **Main Interview**

### **Part I: Skills that promote on-field excellence – Skills used during performance**

For the first part of this interview I would like you to think about cricketers that have had long and successful careers in cricket. In particular, I would like you to think about the types of skills that these cricketers use to be successful on the field.

#### **Q1. Batsmen**

- 1a. What skills do successful batsmen possess?
- 1b. Please give an example of where that skill is important?
- 1c. Is this a skill that is developed throughout a career in cricket?
  - 1ci. If so, what situations enable batsmen to develop that particular skill?
  - 1d. How useful do you think that skill is in other areas of that player's life?
    - 1di. Can you provide me with an example of how the player might use that skill elsewhere?

Probes to fully explore all aspects of on-field performance:

- Technical
- Tactical
- Physical
- Mental

## **Q2. Bowlers**

- 2a. What skills do successful bowler possess?
- 2b. Please give an example of where that skill is important?
- 2c. Is this a skill that is developed throughout a career in cricket?
  - 1ci. If so, what situations enable bowlers to develop that particular skill?
- 2d. How useful do you think that skill is in other areas of that player's life?
  - 2di. Can you provide me with an example of how the player might use that skill elsewhere?

Probes to fully explore all aspects of on-field performance

- Technical
- Tactical
- Physical
- Mental

## **Q3. Fielders/wicketkeepers**

- 3a. What skills do successful fielders/wicketkeepers possess?
- 3b. Please give an example of where that skill is important?
- 3c. Is this a skill that is developed throughout a career in cricket?
  - 1ci. If so, what situations enable fielders/wicketkeepers to develop that particular skill?
- 3d. How useful do you think that skill is in other areas of that player's life?
  - 3di. Can you provide me with an example of how the player might use that skill elsewhere?

Probes to fully explore all aspects of on-field performance:

- Technical
- Tactical
- Physical
- Mental

**Part II - Skills that promote off-field excellence – Skills used during organisational situations in cricket (e.g., travel, training, media communications, etc.)**

I would now like you to think about what a career as a professional cricketer looks like off of the field. I am interested in understanding the types of skills that are required to be successful off of the field.

**Q4. Could you describe what is expected of cricketers during their careers away from their playing commitments?**

- 4a. What skills are necessary to successfully progress through a career in professional cricket?
- 4b. What types of situations help to develop that skill?
- 4c. Why is that skill important?

**Part III: Do better people make better players?**

**Q5. Having listed a number of skills that cricketers who have had a long and successful career in cricket might possess, to what extent do you think that developing a number of these skills would be beneficial to future players?**

Probes:

- Are cricketers in New Zealand aware of the types of skills that they use on a daily basis to be as successful as possible?
- Why might this be?

## **Appendix D. Study One: Example Transcript**

AM: As I have explained, this is essentially about the skills that cricketers acquire over their career. For the duration of the interview I would like you to think about the skills you have acquired during your career that has allowed you to be in the position you are today as a current professional cricketer or other cricketers that you have played alongside who have had long and successful careers in the game. They may be recently retired cricketers that you grew up with when you were young and coming into the system or guys that you are still playing with. So just feel free... It doesn't have to be a personal example. Feel free to talk in the third person about someone that you know or knew and the skills that were used in particular situations if that is easier for you.

So the first part of this interview is about skills that promote on-field excellence. These are skills that you use when you are on the park competing. I'm going to ask you about batsmen, bowlers, and fielders just in case there are any differences between the types of skills they use as they might be different.

We are going to start with batsmen. What skills do successful batsmen possess in your eyes?

Mark: I think ownership, like knowing exactly what your role is. So getting role clarification and knowing exactly what your role is in the team dynamics and just trying to perform that role as well as you can. So when I say ownership, its taking ownership and responsibility for your role in the team. It might change from day-to-day depending on what scenario you are in during the game. You might be playing a four-dayer and you need to save the game or you are going out to chase runs or set up a declaration.

So another one could be adaptable as well. For batsmen to be adaptable you need to adapt to different conditions as well. I think those are the two main ones in terms of skills but also communication is massive too. You have to communicate back to the dressing room on what the surface is doing and what you think a par score is for you to get in 50-overs or 20-overs or whatever. So communication also out in the middle with your partner when it is you and him versus eleven players. So I think that communication is a big skill around all three formats.

AM: So the first one around ownership of your role. Could you give me an example of how that might be different between an opening batsman in any given game or if you are asked to go in at a different stage of the innings?

Mark: So with role clarification in relation to the opening batsman in four-day cricket you are trying to get through the first session and take the shine off of the ball. That's the same role as your number three and four depending on what the surface is doing. Then you get your guys who can play some more shots with a bit more freedom in terms of their role. They come in in the middle order and lower order. They can come in and play some shots and play with a bit more freedom so if you get caught nicking out it is not as bad as it gets looked upon if you are an opener playing a cover-drive in the second over. So that's in four-day cricket. Then in one-day and 20-20 it's the other way round you get the license at the top to go and score and you know your role is specifically to go out at the top during the Powerplay. I think those are the main examples of both.

AM: So how do you go about understanding your role and how do you gain information prior to the game?

Mark: It mainly comes from the coach and captain at the start of the campaign really. There is a set formula or set way that they want to go about playing their cricket. At the moment we are playing 20-20 so you have a set formula that your attacking batsman and your best batsmen face the majority of the overs. So in the Auckland side we have got two guys that are attacking at the top and then we have got our better batsmen coming in at three or four that could face the majority of the balls. That's our role to bat from overs three or four or six overs and try to get to the fifteenth so you can have batsman in hand.

So it usually comes from the coach. You need to know your role and if you don't understand your role its pretty important to actually go and ask about your role and communicate with the coach.

AM: So is that something that the coach imposes on you? For example, will he set you a specific role or is it down to a specific skills set that you might have as the batsman?

Mark: I think it's a little bit of both. It comes down to... Personally, for me, I like to go and hit the ball so I want to go out and play with freedom. It's a case of see-ball, hit-ball. As soon as I start to think about the technical side of things and worry about other things I don't really watch the ball 100%. So for me it's about keeping things really simple and watching the ball and to react to the ball coming down. So I think that it is individual. I think that some guys need that constant feedback from the coach about their role and that they are doing their role really well but for me it's about playing to the best of my ability and I think that will help the team.

AM: Sure. So it's the coaches job to put this blueprint in place to how you play your batting innings and he puts the pieces of the puzzle together around the batsmen's strengths. As a



result, the players need to acquire the information and what's expected from you by the coach and that aligns with your skills that allows you to perform the way you would like to perform.

Mark: Yes.

AM: I think you touched on something quite interesting around just watching the ball and reacting and around the concept, particularly for you, that when you are cluttered with other thoughts your performance decreases. What skills allow you to do that?

Mark: I think a way for me is staying in the now and in the process... Staying in the now with my plan and with my process. It's something that I have worked on for the last two years in particular. It's trying to keep busy when I am at the crease rather than just standing still waiting for the bowler to get back to his mark. Sometimes you just stand there without doing anything and you get a lot of thoughts in your mind. For example, "if the balls up I'm hitting it over his head" or "if it is a bouncer I am going to do this or if it is a Yorker I am going to do that." It's just keeping busy whether it is walking down and talking to my partner at the other end or doing some gardening on the wicket even if its flat as hell. You know, you can go down the wicket and pretend that you are doing some gardening or you can walk towards the square leg umpire and back. I just like to make sure that I am busy and active the whole time. As soon as I start standing still and just waiting for the bowler or whatever those thoughts in your mind come. You need to be as clear as possible.

AM: It sounds as if you keep yourself preoccupied between balls with behaviours such as moving around or chatting to your partner...

Mark: Yeah... I tried things like using key words like "stay in the now... stay present", things like "watch the ball" but then it just becomes words. Mine are more actions rather than words so I like to keep busy. Like I said, I like to keep preoccupied rather than letting those thoughts come in.

AM: So your ability to concentrate as a batsman sounds pretty important. Is that right?

Mark: Yeah absolutely. You have to concentrate but when you concentrate in a four-dayer and bat for six hours you cannot concentrate for the whole time. It's having that ability to concentrate the right amount at the right time. So when you are at the non-strikers end you are not trying to concentrate too much. Obviously you need to concentrate on running but little things like you don't have to watch the ball or think about where the game is going when you are at the non-striker's end. So when you are on strike you need to be attentive and on to it and make sure you concentrate. On the other hand, trying to... not concentrate...

AM: Switch off?

Mark: Switch on and switch off. That's a good way of putting it. For me that's very important as well, especially as cricketers you need to switch on and switch off at the right times. Even at the end of the game you need to switch off. You cannot just think of cricket the whole time because it consumes everything. Especially if you aren't having a great time of it, it can get you down.

AM: So would you say that successful batsmen are those batsmen who can bat for long periods of time or those batsmen that are effective in the shorter form are good at knowing when to concentrate and be able to distract themselves with behaviours or switch off at the non-striker's end. Do you think that is a trait that is quite common within batsmen?

Mark: Yeah I think so... You see some guys who get out and you think "what are you thinking there?" Nine times out of ten they would probably put it down to under-thinking or over-thinking. There is a fine line between staying in the now and over-thinking things. Whether its a case of "crap, I need nine an over" or "I need to go from ball one" but with todays wickets and how flat they are and the boundaries and stuff, you can get nine an over quite easily with knocking it around and getting one boundary an over. As opposed to thinking that every ball needs to go for four or six. I think it's very important for batsmen to be able to switch on and off.

AM: That's quite an interesting point. If we go back to what you originally said around communication... I think that was the third skill that you initially listed. Could you explain to me a little bit more on why communication is so important in the middle?

Mark: I think it's huge in terms of... You obviously do your scouting before games and you know that a certain bowler will bowl outswing and a certain bowler will bowl inswing. You've got out the back of the hand slower ball and you come in with all your preparation but on a certain day it might swing a bit more or it might not swing at all. So, that communication needs to get back to the dressing room as soon as possible. For example, the wickets not doing too much or we thought the wicket would be quite slow but it's actually a really good for batting. You also will have a target in mind and what the team needs to achieve and whether you might need to reshuffle your batting order or give people different plans. So I

think for me, communication is massive in terms of the guys in the middle communicating together because... You know... You might think that the wicket is flat because you are batting really well but the guy at the other end might not be seeing it too well and might think that the ball is moving around a little bit. So that communication needs to go back to the dressing room. If someone is in form they can bat on any surface really and make it look really easy and then if you come off and go that's a 320 wicket people go out there and start playing some shots but if it's moving around you can get stuck short a bit.

So communication is one of the biggest skills I think. Even from your coach through to you... That communication needs to be clear. Sometimes the communication is needed before games and after games. It needs to be really direct. You cannot beat around the bush. You need to tell people things directly and that's where people in [*country*], coming from [*country*], we can beat around the bush a little bit and not be direct because you don't want guys to get down. I think. for me, if I messed up this time I want to know what I can do better the next time. The other side is, if you are playing well you get the positives.

AM: So that direct communication, is that a skill that can be developed as a batsman in that environment?

Mark: Yes. It comes down to the environment as well. Going back to when I first made my debut in 2006 as a bowler I wouldn't ask any questions because we had a really senior team. I would just run up and bowl and keep things as simple as possible. Now I am more of a senior player within the team I like to communicate and expect people to listen. Sometimes it's hard as a new guy to come into the team and start asking questions because you are afraid of asking a stupid question or you don't want people to take the piss out of you. I think times are changing now with the younger guys because they are coming through and

are a lot more confident. Especially in the dressing room we try to have a really open policy of anyone can speak at any time. If the senior players aren't pulling their weight it is quite important for a younger guy to say something. Because if a young guy is saying that you aren't pulling your weight then it hits home a little bit harder than another senior player coming and telling you.

AM: Do you think that environment actually allows the younger guys to be more confident and comfortable to talk and express their opinion?

Mark: Yes. I think it comes down to the individual too. I don't know if it's upbringing or confidence... It's just a confidence thing really, if they feel confident in the group and that's what the environment can provide. If you have got an open line of communication and the guys can chew the fat over a beer or whatever and if they can tell the guys what they did or didn't do well. If the young guys start hearing that from the senior players, then they might just jump on board. For example, they might say that you could do this better or at least be a little more open to communication rather than being closed off because they have dominated under 19 or A cricket and think they can do the same in first class cricket.

AM: Do you think that is more conducive to a learning environment and the success of your club?

Mark: Yeah I think so. We used to have [*name*] for about six or seven years and he was in charge of [*team name*]. He tried to create that environment where people could just talk and be open and honest without really getting shut down. We try to carry that on now with [*name*] as captain.

It comes down to the environment massively. Sometimes, even if you are an old head going to a new team, you aren't going to talk as much unless you are given a leadership role. If you are going into another team you are going to find your feet a little bit before you are going to say things.

AM: So that license for anyone to speak at any stage coming from the leadership and management group, do you think that translates into the middle and on-field performance? Whether it be the communication between batsmen or passing on information between the guys in the changing room.

Mark: Yeah I think so. If they feel really part of the group off the field it is going to help them on the field. Even if they are going through a rough patch they are more likely to feel that we are going to be right there with them all the way. If there are only a few cliques that are talking and having a chat and they keep their communication close to their chests or not express how they are feeling at certain times... Like I said, cricket is quite a lonely game when you are not playing because you are not making the headlines or you know that people aren't talking about you. It can be quite lonely sometimes. I think if you are a young player you need to be open with your communication and feedback as well.

AM: With that communication, do you think that allows you function better as a team on the field? So if we think about as a fielding group this time.

Mark: Yeah... Fielding is definitely built on communication. Especially in the short form, all 11 of us try to be active every single ball. Whether the ball has been hit out to the off side, the guys on the leg side are communicating who has got the left of the stumps, right, who's backing the keeper. There is a lot of communication in the field when we are fielding well.

When you are fielding badly there doesn't seem to be a lot of communication. I think that communication plays a huge role in team cohesion when you are on the field, when you are helping towards an excellent performance that we are looking for in the field.

AM: So would you say that communication underpins teamwork and team effectiveness?

Mark: Yeah I think that communication is massive.

AM: What about the environment that is created away from the match days? For example, in the nets with an environment that allows the players to learn and progress their games. What type of communication styles works best in that environment?

Mark: I think that it depends on the individual. Some people take on verbal communication really well and some people might be looking at somebody batting and thinking "oh that's the way to do it." Those guys are the visual learners and it takes a little bit of everything. I think that training is the best place to learn and get that communication going. Like when I first came into the squad there wasn't much talking around training and guys were quite closed off towards their own performance. But now, in today's environment people are talking at training. For example, "what's your plan here?", "these are the death overs and this is my field." You get a match scenario within your training as well. This really helps young guys get themselves into a match situation. It gives you the confidence to go out in the middle and perform too.

AM: Great. So, just going back to batsmen, I guess you have touched on ownership, understanding your role, your strengths, then coach communication, understanding the plan. You've touched a little bit on the mental side in the middle and being able to switch on and switch off.

Is there anything else you think that sets apart the most successful batsmen that have had long careers?

Mark: I think, I don't know if it's a skill, but being really smart around trainings. I think a lot of people hit balls for the sake of hitting balls and you are not actually training anything specific at that time. For example, a guy who played for [*team name*] a couple of years ago who was a child prodigy who played really well, every free time he would go and hit balls. Literally by the end of it you were like "what are you hitting balls for?" and he would say "I've got some free time I thought I would hit some balls" and he had a burn out and didn't enjoy his cricket much and gave it up for some studies. Now he is looking to get back involved in the next year or two. So, if you look at that, if you put things in perspective, you have to do the work but there is a fine line between just hitting balls for the sake of it and doing something specifically. So I reckon, well it's not really a skill, but knowing yourself and knowing what you need to do to achieve an excellent performance. So even today, if I wasn't sick, I would be running and just doing a few little, maybe some underarm drills or working on a sweep shot trying to develop my game in that way rather than just facing bowlers in the nets for 20-minutes.

AM: Do you think that comes with time in the game and a bit of education from the coaches?



Mark: Yeah... I spoke to a few guys in the team and sometimes they think that you have to earn that right by having some good performances and knowing your role. If an 18-year-old comes into the team and doesn't have any nets and wants to just bat in the middle and then doesn't perform people are going to start asking question. If he is a senior batsman and he isn't doing the work or hitting extra balls and doesn't perform the same questions probably won't be asked. This is mainly because he is experienced and he knows the way he needs to prepare. So there is a fine line between looking to do the right thing and not doing the right because it all comes back to performance.

AM: So the bottom line is no matter what you do around training it has got to count in the middle?

Mark: It's got to count in the middle... 100%.

AM: So around those skills that you have listed for the batsmen, are there any that are particularly useful in other areas of the players' lives?

Mark: Communication. It's huge everywhere. You go home after a bad day to the wife or the girlfriend or even mum and dad who might not understand cricket that well and just think its sport. You know, you have good days and bad days but if you are down in a rut then you might take it out on them sometimes. So being able to communicate with them and say I've had a crap day so give me half an hour or an hour just to come together and get my thoughts together and I'll be fine. It obviously depends on your family and if they know cricket really well then they'll know to give you ten minutes or whatever you need. Communication is massive.

As well knowing yourself too and being able to turn off. As we spoke about, if you go home... My example, before having kids I lived and breathed cricket all the time. I would go home to my girlfriend and still be talking about the game. I did this well or I was crap at this and just living that the whole time and never getting any down time away from the game. Even though I am at home with my family you are still living and talking about cricket. Since having a child, it has really put things in perspective and cricket is just cricket. As soon as you walk in the door whether you have scored a 100 or if you have scored a pair, she doesn't know the difference. She runs for a hug, "daddy", gives you a high five and gives you a cuddle; you put your dad hat on and then you are away. You don't even think about cricket so in a way that has helped my game massively. I think if you are going to talk to young guys they need to learn how to switch off from cricket and just stay away from the game.

AM: So do you think that having something else in your life has allowed you to, when it comes to work time on the park or in training you get out of it what you need to get out of it and then when it comes to time away from that....

Mark: Yeah... When you have a family at home you cannot just train four or five hours a day. You might only have twenty minutes in the nets and get as much out of it as you can. You might then do a top up session but you'd be really specific rather than just hitting volumes for the sake of it. Just because you need to get home and pick up your wife from work or pick up the kid from kindergarten. You have other priorities in life I suppose. I think that some guys do have their study as well. I have only just started back studying now and that has taken the load off. Especially when I am overseas and you don't have the family with you the whole time. It's good to have a break and just study every now and again just to break up that cricket time. Some guys go and play golf and step away from the game.

AM: So those distractions, do you think those are the sort of things you engage in as you are a little bit older and further into your career and when you are more comfortable with your skills and where you are at in the game?

Mark: Yeah, early on I think guys are trying to understand the way they play and understand their games I suppose. The older you get you know what you can and you cannot do. Obviously there is time for development. Even if you are an old dog you can always learn new tricks but as a young guy you still are trying to learn your game so you are hitting as many balls as you can to try and formulate your technique.

AM: Excellent. Moving onto the bowlers. Are there any skills that they might need to have long and successful careers in the game?

Mark: I'm not too sure about bowlers really. It's very similar skills to the batsmen in terms of communication and communicating what lines and lengths you need to bowl on certain wickets. Definitely switching on and off between balls and even overs. You cannot control what happened with the last ball or in the last over. You need to stay switched on during the next over because a catch is going to come your way or there will be a run out. I think bowlers, I'm not sure if it's a skill, I don't really know with bowlers.

AM: So you spoke about line and length... Is there any stage that bowlers would change their line and length depending on whose batting?

Mark: Yeah that would come down to communication and the scouting that you do before the game. You might have a batsman that is weak outside the off stump and you keep it there. You might have batsmen that are stronger when you bowl wider so you want to communicate that with your bowlers and your bowling team. For example, you could bowl closer to the stumps and bowl middle, middle and leg stump to certain batsmen to try and close them off in one area. Again, I think all of those skills like adaptability and all that comes together in all three games... Batsmen, bowlers, and fielders. You have different surfaces whether you are talking about the pitch or the outfield, we are told to think on your feet when you are in the field. Sometimes you are playing in [*location*] where the outfields are bumpy and crappy and you have to get your body behind it so the old long barrier might come out a couple of times. So I think just being adaptable is up there with communication with the types of skills you can develop. You need to be able to adapt to different situations and different surfaces.

AM: Would that adaptability be the equivalent of problem-solving?

Mark: Yes definitely... It's just another word I suppose. Like I say, sometimes you might have plan A to a batsman and this is how you are going to get him out. However, over the winter he might have worked on that weakness that you talked about and he might get off to a flyer. So then you have to go to plan B and that's problem-solving and it's probably the first person to adapt to that and solve that problem will be more successful than the guy who sticks with plan A.

AM: Excellent... We haven't touched on this yet but the physical skills that bowlers possess are quite important. Is that correct?

Mark: Yeah... Bowlers need to be disciplined. Cricket is quite a taxing game on your body and you are out there five, six, seven hours sometimes. Being disciplined on what you eat when you are playing games and even before training and things like that. Some days are quite long in terms of if you have conditioning before training and then you might have a pool session or an ocean swim or something like that afterwards. So you know, your days can drag on a little bit so being disciplined and hardworking is important as well.

AM: Do you think that is something that is quite unique to cricket in a sense that there are very few sports like in terms of how it plays out over hours and days?

Mark: Yeah... Even if you aren't in the mood for a rugby game you just have to rock up for 80-minutes and then it's over. If you aren't too keen on cricket and you know you have to play for five days you need to get your head right for that. That's when your mental skills come into it.

AM: I can imagine it's pretty difficult to get yourself up when you know you have another six hours in the park?

Mark: Yeah... Especially when you are on a flat one and you have been rolled early and there is a team who is on 300 and putting you under pressure. Anyone in their right mind wouldn't want to go out in the park the next day but as cricketers we just want to come back and perform well and that's what keeps us coming back. It's that unpredictability of what's going to happen.

AM: I appreciate that you need to be hardworking and disciplined to get through those days but are there any specific skills you might use to get through that when you know it is going to be a long day in the dirt?

Mark: For me personally, it's about enjoyment. You are out there with 11 blokes... You might not get along with them all the time or they might not be your close mates... but you have got two or three guys in there who are your close mates because you live with them six months of the year. So you feed off their energy as well and try to feed off your mate's energy. It might only be for half an hour and then they might need your help in the next hour or something. For me, I know that I need to enjoy my cricket. If I am not enjoying it then it is a hard slog.

Other people are motivated by just watching the overs go down. You know, "one less over to go... We are away." For me it's massive... It's just about enjoyment and it keeps me motivated. If I keep enjoying the game, then I will keep on playing as long as I can.

AM: Yeah... I guess you have given an example of enjoyment versus other guys counting down the hours or counting down the overs. If you can set some goals during the tough days you can work towards that whether that's just enjoying your mates company.

Mark: Sometimes it's just, in cricket, for me, it's not necessarily a thinking negative kind of thing... But you need to get your head around fielding all day. You are going to spend 98 overs in the field whether you like it or not. Nine times out of ten you are back putting the pads on in the 80th over and then you can take that as a positive day. Sometimes in cricket I think people are massive goal setters but for me it's just a case of getting out there and enjoying and having no expectation what so ever. Like guys say that getting 50 isn't good enough anymore but I think you need to celebrate all scores. If you get a good 40-odd in a 20-20 then you need to celebrate those because they are few and far between. The best players in the world score 50s one in three so if you are getting one out of four or five you need to celebrate it.

AM: That's a good way of looking at it. I guess it would be easy to get down on yourself when you have a lean patch?

Mark: Yeah absolutely. I suppose when you see guys around the country getting hundreds and you aren't that person you can get very down. But you need to find the positives and know that 40s and 50s aren't bad either... You need to know your day will come.

If you celebrate those 40s and 50s and those little scores, then the hundred will just be around the corner but if you are down and saying "it's only 40 I am never going to get a hundred" and you are in that negative mind-set then perhaps those hundreds won't come.

AM: Great... Just moving on, I guess we have spoken around bowlers and fielders really. I quite keen to move on to the types of skills that promote off-field excellence. I mean that in a sense that around the other things or activities or obligations that you have as a professional cricketer during your career. A few examples might be travel, training, media communications, etc.

So could you give me a brief description of what is expected from cricketers across their career?

Mark: I think it's just to be professional in terms of... You cannot be sloppy walking around airports as a team. When you are addressing the media you must make sure you address them properly. They are there to promote the game and promote your sport that you enjoy. They aren't there... Sometimes they'll ask some tough and stupid questions... You need to answer them the best you can because they are trying to promote you as a person, your team,

and your sport. In New Zealand it's important to keep the media on your side because of how small it is.

Public speaking as well. Like for the CPA we have certain days we need to go and do. One of the days is a hooked on cricket day. They get all the primary school kids to come around and that's where all the communication can come in. Sometimes you go to corporate events where you have to talk to people and you have Q&A sessions with people. It does teach to come out of your comfort zone sometimes as a professional cricketer. Sometimes you walk through the airport and people will ask you if you are a poker team, so you have a chat to them and tell them that you are a cricket team. They will often ask you "what's cricket?" so you start talking to them about cricket. We try to promote our game and our sport. I think as individuals with cricket it's how we present ourselves and how we want to be seen. That's in a professional manner and make sure that when there's public around and we are not swearing too loudly or doing those types of things because you can get looked upon as a higher status when you're amongst a general population because you are in a professional team. It's sometimes hard to deal with because we are just people at the end of the day.

Yeah I think that those are the biggest things. We just need to be professional in the way that we conduct ourselves. That's with the media and our fans. Sometimes when you lose a home game and you have to go out and sign autographs for the kids... It's not just signing the autographs you need to interact with them and ask them how their day was... Even though you don't really 100% want to be out there you need to put on a good face and make their day as well so they keep coming back to watch us and help promote the game.

AM: So you are promoting cricket as an organisation?



Mark: Yeah... You also don't want to be known as a bit of a dick because you haven't spoken to someone or not signed an autograph. You want to go back to your childhood and when you went to a cricket game or a soccer game if someone took the time out of their day whether it was just five seconds "hey bud, how's it going? Would you like me to sign your bat?" That can go a long way to them thinking "that guys quite cool." It might make them think about being a professional cricketer one day or a sportsman or whatever. I think that's pretty important... Looking after your fans.

AM: So whilst you are doing that, you need to be seen to be engaging in these behaviours, talking to fans, etc., do you think that with time throughout a career in professional cricket you actually develop those sets of skills as well?

Mark: Yes, definitely. Now I have got kids and that type of thing it is slightly easier to go and sign autographs for the kids and go and muck around with them on the side of the field and play backyard cricket. It's so much easier now than when you are an eighteen- and nineteen-year-old when you didn't want to go and sign autographs too much. Now you realise that those people are important in terms of buying tickets... At the end of the day they are probably paying your wages really. As long as you are keeping them 100% happy and you are making sure that you are taking that five-minutes out of your day to sign a hundred autographs it's not too much to ask.

AM: I guess one example around the media and the way you promote the organisation or cricket club. What else do you guys have to go through on a day-to-day basis when you are not playing?

Mark: Ummmm... With [*team*] I think it's sort of semi-professional. So we are not really too... For example, on days off we have to do recovery sessions. On recovery days you sometimes think you would rather spend the day with your family than do a pool session. That's where the discipline and hard work comes into it. If you look at the Blackcaps you have to do media on your days off. People say there is a lot of down time and there are times when you want to sit down and do nothing but you have a photo-shoot or commercial to do. You might have to sign autographs or shirts for sponsors. You know, trying to keep those people happy as well.

AM: So I guess there might be a perception in the general public that sports people have quite a nice lifestyle in which they play their sport and in-between games they kick back but that's obviously not the case.

Mark: Don't get me wrong, it is a good lifestyle but there are times when there's a lot of hard work going on behind the scenes and you aren't really getting benefits individually from it. The organisation might be getting benefits but you as a person aren't going to get any benefits from signing 150 jerseys for sponsors. It's just knowing that will help the game in New Zealand or help the game wherever you are playing. So I think that it is a great lifestyle don't get me wrong there is quite a bit of hard work around the scenes.

AM: So you still need to manage your time away from your playing commitments? You don't just rock up and play, you do have a few things around the periphery that need to be done.

Mark: Definitely.

AM: So, if you were to think of a consummate professional and ticked all the boxes on and off the park, are there any skills that that player might have engaged in that we haven't already spoken about?

Mark: You can look at a few... We can look someone like [*player name*] who was quite a selfish player in terms of the way he batted. Like, if you look at his test stats they were awesome and his one day stats were awesome but as someone who is only striking at 73 you are looked at as being selfish. But that's what motivated him to score the runs and be hungry and that is why he is one of the best batsman to ever play. So I think, I'm not sure if he was self-obsessed with the way he played or if it was just him being hungry and making sure he did what he needed to do but it was looked upon as being selfish too. Again, it's a fine line because if he did score runs then [*name of country*] would win and if he didn't they would lose. Again thinking about it, it's not the best example but people are either selfish and sometimes really arrogant can help.

AM: He obviously saw where his role fitted in with the side because ultimately he wouldn't have had the career he did if he wasn't winning games for [*name of country*].

So do you think that you have to be totally dedicated and commitment to doing your job to be successful? So that might be averaging 50 and striking at 75 or averaging 30 and striking at 120 you need to be pretty motivated towards achieving the goals and standard that you set for yourself.

Mark: Sometimes with the coach telling you what your role is you might not think that is the best use of your skills set. Obviously you are in the team to do that job but you need to do that job to the best of your ability. So if you don't buy into it then you aren't going to get those results. So you need to be motivated and dedicated and know that you do have the ability to do that role otherwise the coach wouldn't be telling you to do that role.

AM: So there's a quote used in the All Blacks camp that Better People Make Better All Blacks have you heard of that?

Mark: Yep.

AM: How applicable do you think that is to sport on the whole and specifically cricketers?

Mark: Yeah and no... I think when you get out on the park people change and you can be a great person off the park but as soon as you get on the park the competitive edge comes out. You might turn into a complete idiot on the field but that's what drives you and keeps you up. Then you look at the other models where [*name*] wants to be seen as nice and this is how we play the game in the spirit of cricket so we play it this way. They want to be remembered as nice guys and it's working at the moment because they are playing decent cricket but if they weren't playing decent cricket would we be those people. That's a question I ask. Are they picking players on performance or are they picking players on being good people? That's something... If that slogan starts flying around then it's going to stop a lot of players playing. When I play against opposition around the country who are the dickheads on the field, they are often the guys that I see as mates off the field and chew the fat but as soon as you cross that white line we are there to win a game of sport for your country or province or your club. If you are a competitive person then that is going to come out.

I don't think that's true but on the other hand better people are more approachable for coaches to talk to rather than being an arrogant young player. If you have got a good down to earth dude who is happy and content with life he is probably going to be more adaptable, more coachable, more open to new ideas rather than a total idiot that has got his barriers up and doesn't want anything to do with it because he thinks he is the best player in the world. So it's a fine line but people judge you as a sportsman rather than the person. They don't know you as a person and they'll think that that guys an idiot on the field but take any time to get to know you off of the field. There are plenty of people who are idiots on the field and great people off the field. So knowing that person is probably key.

AM: So you have spoken about people who show more sportsmanship than those who are ultra-competitive and in your face competitors. In relation to the skills that you have listed that make successful cricketers... If you could foster all those skills in an individual do you think that it will result in a better cricketer longer term?

Mark: Yeah definitely... If you can develop all of those skills and enhance those skills throughout your career, you'll be on the right track to having a good career.

AM: Just the last couple of minutes here... We have touched on quite a lot of skills here that you feel determines a successful cricketer and well-rounded people off the park. How aware do you think cricketers are of the types of skills sets that they possess and how readily transferable are those skills to other environments?

Mark: When you start you aren't aware of anything really. All you want to do is play cricket and make the team. Then when you are in the team all you want to do is hold your spot. I think when you get a little bit older like I am now in your late twenties you start to think about those transferable skills and what those skills can help with. Can they open doors for me after cricket or even while I'm playing cricket...? It's important for players whether they are just starting out or whatever to know what skills they have already and also enhances those skills because they will be strengths but also working on some of those skills that they aren't so strong in. Some people might not be open in communication and that might be a weak point. So that's something when you are working towards a career... most jobs you need to communicate with people on a daily basis. So if you struggle with your communication then it's going to be tough to find jobs after cricket or find a career that will make you happy after cricket.

AM: So do you think that if you build those skills during your career whether you are actively doing rather than indirectly that leads to a better cricketer as well as a better person who can use those skills in other areas of their lives?

Mark: I'm not sure it will make them a better cricketer but it will make them a better person and a better person after cricket and in general. That's not a bad thing but if you are working on those skills it could make you a better cricketer. It's hard to know because there are so many variables in the game but if you are hardworking and dedicated and working on those mental skills that you need to do then if you are ticking all the right boxes then those guys that are doing those things get rewarded. Sometimes the luck runs the way of the people that are working the hardest.

AM: That's awesome. I appreciate your time. Thank you.

## Appendix E. Study One: Example Case Report

### Case Report: Participant One

This document contains a case report for the interview conducted by Adam Miles (lead researcher) and Participant One on Wednesday 2<sup>nd</sup> December 2015. The case report contains segments of text from the interview transcript that have been determined as meaningful. These segments of text have been allocated a tag by the lead researcher. Each tag consists of a sentence that represents the lead researchers' interpretations of each segment of text.

Please read each **segment of text** and *tag* carefully. Following this, please email the lead researcher stating whether you approve or disapprove with the tags allocated to each segment of text. This case report will be deemed as approved if the lead author does not receive an email by Friday 1<sup>st</sup> April 2016.

Thank you for participating in this study. The lead author will send you a copy of the article for this study upon publication.

### Section One

What skills underpin long term successful performance during competition in cricket?

**1.1 I think ownership, like knowing exactly what your role is. So getting role clarification and knowing exactly what your role is in the team dynamics and just trying to perform that role as well as you can. So when I say ownership, its taking ownership and responsibility for your role in the team. It might change from day-to-day depending on what scenario you are in during the game. You might be playing a four-dayer and you need to save the game or you are going out to chase runs or set up a declaration.**

*Tag: take ownership for their role within the team*

**1.2 So another one could be adaptable as well. For batsmen to be adaptable you need to adapt to different conditions as well. I think those are the two main ones in terms of skills.**

*Tag: understand the match situation and adapt tactics/strategy/game plan accordingly*

**1.3 Communication is massive too. You have to communicate back to the dressing room on what the surface is doing and what you think a par score is for you to get in 50-overs or 20-overs or whatever. So communication also out in the middle with your partner when it is you and him versus eleven players. So I think that communication is a big skill around all three formats.**

*Tag: communicate tactical information during competition*

**1.4 I think a way for me is staying in the now and in the process, staying in the now with my plan and with my process. It's something that I have worked on for the last two years in particular. It's trying to keep busy when I am at the crease rather than just standing still waiting for the bowler to get back to his mark. Sometimes you just stand there without doing anything and you get a lot of thoughts in your mind. For example, "if the balls up I'm hitting it over his head" or "if it is a bouncer I am going to do this or if it is a Yorker I am going to do that."**

*Tag: cope with negative thoughts to stay in the process*



**1.5 You have to concentrate but when you concentrate in a four-dayer and bat for six hours you cannot concentrate for the whole time. It's having that ability to concentrate the right amount at the right time. So when you are at the non-strikers end you are not trying to concentrate too much. Obviously you need to concentrate on running but little things like you don't have to watch the ball or think about where the game is going when you are at the non-striker's end. So when you are on strike you need to be attentive and on to it and make sure you concentrate.**

*Tag: concentrate at the right time*

**1.6 Like I say, sometimes you might have plan A to a batsman and this is how you are going to get him out. However, over the winter he might have worked on that weakness that you talked about and he might get off to a flyer. So then you have to go to plan B and that's problem-solving and it's probably the first person to adapt to that and solve that problem will be more successful than the guy who sticks with plan A.**

*Tag: problem-solve to come up with alternative tactics/strategy/game plan*

**1.7 For me personally, it's about enjoyment. You are out there with 11 blokes, you might not get along with them all the time or they might not be your close mates, but you have got two or three guys in there who are your close mates because you live with them six months of the year. So you feed off their energy as well and try to feed off your mate's energy. It might only be for half an hour and then they might need your help in the next hour or something. For me, I know that I need to enjoy my cricket. If I am not enjoying it then it is a hard slog. ... Sometimes in cricket I think people are massive goal setters but for me it's just a case of getting out there and enjoying and having no expectation what so ever.**

*Tag: find enjoyment during competition*

## Section Two

What skills underpin successful performance in the cricket environment outside of competition?

**2.1 Communication is one of the biggest skills I think. Even from your coach through to you, that communication needs to be clear. Sometimes the communication is needed before games and after games. It needs to be really direct. You cannot beat around the bush.**

*Tag: use direct communicating with coach/management*

**2.2 For me that's very important as well, especially as cricketers you need to switch on and switch off at the right times. Even at the end of the game you need to switch off. You cannot just think of cricket the whole time because it consumes everything. Especially if you aren't having a great time of it, it can get you down.**

*Tag: switch off from cricket at the end of competition*

**2.3 I think that training is the best place to learn and get that communication going. Like when I first came into the squad there wasn't much talking around training and guys were quite closed off towards their own performance. But now, in today's environment people are talking at training. For example, "what's your plan here?", "these are the death overs and this is my field." You get a match scenario within your training as well. This really helps young guys get themselves into a match situation. It gives you the confidence to go out in the middle and perform too.**

*Tag: communicate tactical/strategical information with teammates at training*

**2.4 I think, I don't know if it's a skill, but being really smart around trainings. I think a lot of people hit balls for the sake of hitting balls and you are not actually training anything specific at that time. For example, a guy who played for [team name] a couple of years ago**

who was a child prodigy who played really well, every free time he would go and hit balls. Literally by the end of it you were like “what are you hitting balls for?” and he would say “I’ve got some free time I thought I would hit some balls” and he had a burn out and didn't enjoy his cricket much and gave it up for some studies. Now he is looking to get back involved in the next year or two. So, if you look at that, if you put things in perspective, you have to do the work but there is a fine line between just hitting balls for the sake of it and doing something specifically. So I reckon, well it's not really a skill, but knowing yourself and knowing what you need to do to achieve an excellent performance.

*Tag: train smart to avoid burnout*

**2.5 Communication.** It's huge everywhere. You go home after a bad day to the wife or the girlfriend or even mum and dad who might not understand cricket that well and just think its sport. You know, you have good days and bad days but if you are down in a rut then you might take it out on them sometimes. So being able to communicate with them and say I've had a crap day so give me half an hour or an hour just to come together and get my thoughts together and I'll be fine. It obviously depends on your family and if they know cricket really well then they'll know to give you ten minutes or whatever you need. Communication is massive.

*Tag: communicate their feelings to their family*

**2.6 Cricket is quite a taxing game on your body and you are out there five, six, seven hours sometimes. Being disciplined on what you eat when you are playing games and even before training and things like that. Some days are quite long in terms of if you have conditioning before training and then you might have a pool session or an ocean swim or something like that afterwards. So you know, your days can drag on a little bit so being disciplined and hardworking is important as well.**

*Tag: have the discipline to look after their body*

**2.7 Like guys say that getting 50 isn't good enough anymore but I think you need to celebrate all scores. If you get a good 40-odd in a 20-20 then you need to celebrate those because they are few and far between. The best players in the world score 50s one in three so if you are getting one out of four or five you need to celebrate it. ... you need to find the positives and know that 40s and 50s aren't bad either, you need to know your day will come. If you celebrate those 40s and 50s and those little scores, then the hundred will just be around the corner but if you are down and saying "it's only 40 I am never going to get a hundred" and you are in that negative mind-set then perhaps those hundreds won't come.**

*Tag: celebrate all successes to help them remain positive*

**2.8 I think it's just to be professional in terms of, you cannot be sloppy walking around airports as a team. When you are addressing the media you must make sure you address them properly. They are there to promote the game and promote your sport that you enjoy. They aren't there, sometimes they'll ask some tough and stupid questions, you need to answer them the best you can because they are trying to promote you as a person, your team, and your sport. In New Zealand it's important to keep the media on your side because of how small it is.**

*Tag: promote themselves, their team, and their sport in a professional manner*

### Section Three

Out of all the skills that underpin long term successful performance in cricket, what skills can be transferred into non-sport domains?

**3.1 Public speaking as well. Like for the CPA we have certain days we need to go and do. One of the days is a 'hooked on cricket' day. They get all the primary school kids to come around and that's where all the communication can come in. Sometimes you go to corporate events where you have to talk to people and you have Q&A sessions with people. It does teach to come out of your comfort zone sometimes as a professional cricketer.**

*Tag: communication skills they use during coaching/media events to other public speaking events*

### Section Four

To what extent do cricketers see their skills as transferable to non-sport domains?

**4.1 When you start you aren't aware of anything really. All you want to do is play cricket and make the team. Then when you are in the team all you want to do is hold your spot. I think when you get a little bit older like I am now in your late twenties you start to think about those transferable skills and what those skills can help with. Can they open doors for me after cricket or even while I'm playing cricket? It's important for players whether they are just starting out or whatever to know what skills they have already and also enhances those skills because they will be strengths but also working on some of those skills that they aren't so strong in.**

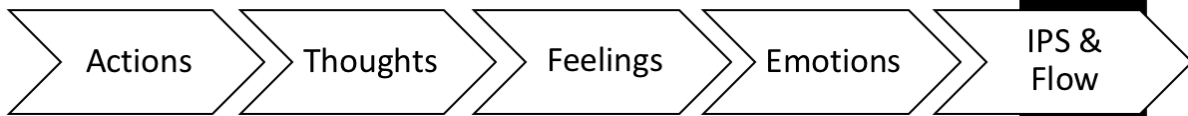
*Tag: cricketers only consider how mental/life skills transfer when they get older and are considering their career after sport*

## Appendix F. The Performance Supply Chain (NZC Original)

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### Performance Supply Chain (PSC)

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## Appendix G. Teaching Plan and Slides for the Performance and Personal Excellence Programme (Prior to Study Two)

Performance and Personal Excellence Programme (PPEP)			
Introduction			
Programme Introduction			
Slide No.	Time (mins)	Overall Learning Objective	To build rapport with the potential participants, familiarise the participants with the PPEP, and gain informed consent from the participants
15	50	Sub-Section	Sub-Section Outline and Key Learning Points (Participants will learn...)
			Teaching Method
1 & 2	5	Overview of the programme introduction	The programme leader (PL) introduces himself to the group: the programme leaders background and expertise The PL asks each member of the group to introduce themselves the names and home towns of the other participants in the group The PL explains the structure of this session what is meant by mental skills training (MST) the structure and content of the PPEP what is required from them
3 & 4	15	MST	The PL asks the group what they understand by the term MST and how they might benefit from MST: MST promotes knowledge and acquisition of mental skills to help individuals reach their ideal performance state (IPS) on a consistent basis MST can help to develop specific mental skills to support performance, support the development of learning, and support the development of their private and professional selves
5 - 11	15	Overview of the PPEP	The PL provides an overview of the PPEP: the PPEP was developed specifically for cricketers in New Zealand and we would like to evaluate the effectiveness of this programme we interviewed 12 first class cricketers regarding the skills that underpinned successful performance in and out of cricket to develop this programme

			<p>that skills associated with managing emotions and learning from past experiences were the viewed as most important by the group of interviewees</p> <p>the aim of this programme is to help develop knowledge and skills associated with managing emotions and learning from past experiences across multiple life domains (e.g., in cricket [performance excellence] and outside of cricket [personal excellence])</p> <p>this programme consists of six sessions (Ideal Performance State [IPS] In and Out of Cricket, Roles and Goals, Learning from our Responses [1], Learning from our Responses [2], Reflection and Self-Regulation, Self-Regulation and Self-Talk) and nine online take-home tasks (OTHT)</p> <p>this programme is likely to help them develop reflective practice skills that will help increase their self-awareness, engage in identity exploration, manage their emotions, and set goals for the future</p> <p>they are required to engage in group discussions and tasks during the sessions and complete nine OTHT over a 12-week period</p>	PL
12 & 13	10	Evaluating the PPEP	<p>The PL discusses that evaluating this programme will inform the future MST received by cricketers in New Zealand:</p> <p>they are required to complete nine online questionnaires over a 10-month period</p> <p>how to complete the online questionnaires</p>	PL
14 & 15	5	Summary of programme introduction	<p>The PL summarises the programme introduction:</p> <p>the PPEP is designed to help performance inside and outside of cricket through the developing knowledge and teaching skills that are transferrable across life domains</p> <p>this programme consists of six sessions and nine OTHT</p> <p>they are required to complete nine online questionnaires over 10-months to evaluate the effectiveness of this programme</p>	PL



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# Performance and Personal Excellence Programme

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New Zealand Cricket

Winter Training Squad

May – August 2016

NZC HPU, Lincoln University



Adam Miles, M.Sc.



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## Overview

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- Knowledge in the room...
- About this programme...
- What are the aims of this programme?
- How might this programme help you?
- What do you need to do?





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## Past Experiences With Mental Skills Training (MST)

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Let's hear from you:

- What do you understand by the term MST?
- Why might cricketers use MST?
- Is MST only useful for cricket (sport) performance?  
-Yes/No: Why?



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## What is Mental Skills Training (MST?)

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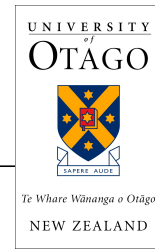
### WHAT:

- Promotes knowledge and acquisition of mental skills to help individuals reach their ideal performance state (IPS) on a consistent basis

### WHY:

- Develop specific mental skills to support performance
- Support the development of learning
- Support the development of private and professional self





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## About This Programme...

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- Understand: What skills underpin excellence in and out of cricket?
  - Develop: Use information gathered from experienced professional cricketers as foundation for this programme
  - Deliver: Provide players the opportunity to develop knowledge and skills that can help them achieve PPE
  - Evaluate: Was the programme worthwhile? Inform current and future MS programmes to assist with player development
- 



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## About This Programme...

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- What types of MS underpin excellence in cricket?
  - On the field (in competition)
  - Off the field (e.g., in training or at MA functions)
  - Outside of cricket
- 12 experienced professional cricketers ( $M^{age} = 28.83\text{yrs}$ ;  
 $M^{experience} = 8.25\text{yrs}$ )
  - Two professional cricketers from each of the six MAs





## What Was Found?

### MS used **on the field**:

- 8 skills
- Managing emotions and focusing attention = 42%

### MS used **off of the field**:

- 10 skills
- Learning from past experiences and motivation = 29%
  - Managing thoughts and emotions = 7%

### MS used **outside of cricket**:

- 8 skills
- Leadership and communication = 40%
  - Managing emotions = 15%

### Overall

- 12 skills
- Managing thoughts and emotions = 18%



## What Is the Aim of This Programme?

To provide the WTS with the opportunity to develop knowledge and skills that can help them achieve performance and personal excellence.

Develop knowledge and skills associated with:

1. Creating a foundation for excellence
2. Self-awareness to help players learn from their responses
3. Reflecting-on-action and reflecting-in-action to help players learn from their experiences





## What and When?

### Camp 1

Introduction to the MSP

### Camp 2

- Session 1: Creating a foundation for excellence: IPS in and out of cricket
- Session 2: Creating a foundation for excellence: Roles and goals

### Camp 3

- Session 3: Self-awareness to enhance excellence: Learning from our responses (1)
- Session 4: Self-awareness to enhance excellence: Learning from our responses (2)

### Camp 4

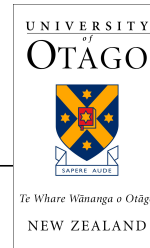
- Session 5: Learning from experience: Reflecting-on-action
- Session 6: Learning from experience: Reflecting-in-action



## How Might This Programme Help You?

- Develop knowledge of how your roles and goals might influence IPS in and out of cricket
- Enhance knowledge of how and why you might respond to performance settings in certain ways
- Practice skills that can help you to learn from past experiences more effectively





## What Do You Need To Do?

- Attend sessions
  - Engage in group discussion and tasks
- Complete online take-home tasks
  - Complete nine 15-minute take-home tasks over 11 weeks

	Weeks																		
Dates	9/5	16/5	23/5	30/5	6/6	13/6	20/6	27/6	4/7	11/7	18/7	25/7	1/8	8/8	15/8	22/8	29/8	5/9	12/9
Week	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
WTS Camp No.	1					2					3					4			5
PPEP Session No.	Intro					1&2					3&4					5&6			
PPEP THT No.							1	2	3	4		5	6	7	8		9		

Notes: WTS Camp No. = Winter Training Squad Camp Number; PPEP Session No. = Performance and Personal Excellence Programme Session Number; PPEP THT No. = Performance and Personal Excellence Programme Take-Home Task Number

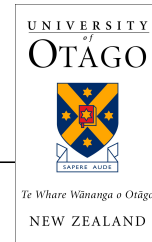
## Are These Sessions Helping You To Develop?

- Nine questionnaires over a ten-month period
  - Each questionnaire will take no longer than 15-minutes



	Pre-Programme					Programme										Post-Programme						
Dates	9/5	16/5	23/5	30/5	6/6	13/6	20/6	27/6	4/7	11/7	18/7	25/7	1/8	8/8	15/8	22/8	29/8	5/9	12/9	3/10	28/11	20/12
Week	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	22	30	42
WTS Camp No.	1					2					3					4			5			
QA	X		X		X				X				X							X	X	X
QB																		X				
P-P Interview																			X			

Notes: M'ment = measurement; WTS = Winter Training Squad; QA = questionnaire A; QB = questionnaire B; P-P Interview = Post-programme interview



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## Are These Sessions Helping You To Develop?

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There are two purposes for this questionnaire:

- (1) To understand if this programme has helped you develop as a player and as a person
- (2) To help inform future MS programmes delivered by NZC providers

Example link:

**Follow this link to the Survey:**

[Take the Survey](#)

Or copy and paste the URL below into your internet browser:

[https://otago.au1.qualtrics.com/SE?Q\\_DL=8B8doePResTvW2p\\_5iF1p2d8IrlGMQZ\\_ML\\_RP\\_3gbxtDJRtflEO7b&Q\\_CHL=email](https://otago.au1.qualtrics.com/SE?Q_DL=8B8doePResTvW2p_5iF1p2d8IrlGMQZ_ML_RP_3gbxtDJRtflEO7b&Q_CHL=email)

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## Summary

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To provide the WTS with the opportunity to develop knowledge and skills that can help them achieve performance and personal excellence.

Developing knowledge and skills associated with:

- Self-awareness
- Learning from past experiences

Understand how this programme is helping your development:

- Completing a questionnaire on 9 different occasions



**PPEP  
Workshop 1**

**Creating a Foundation for Excellence: IPS In and Out of Cricket**

<b>Slide No.</b>	<b>Time (mins)</b>	<b>Overall Learning Objective</b>	<b>Participants understand the concept of IPS and how it can benefit their performance across various contexts. They will also learn about the link between the performance supply chain (PSC) and their IPS.</b>	
		<b>Sub-Section</b>	<b>Sub-Section Outline and Key Learning Points (Participants will learn...)</b>	<b>Teaching Method</b>
22	50			
1 - 3	7	Review of programme introduction	The PL reintroduces themselves and asks the group to reflect on and discuss what they learned from the programme introduction: the PPEP is designed to help performance inside and outside of cricket through the developing knowledge and teaching skills that are transferrable across life domains this programme consists of six sessions and nine OTHT they are required to complete nine online questionnaires over 10-months to evaluate the effectiveness of this programme	Facilitated group discussion
4 & 5	3	Overview of session 1	The PL introduces the structure of this session: about the types of knowledge and skills that promote performance and personal excellence how to develop performance and personal excellence what is meant by the PSC how the IPS helps promote excellence	PL
6 - 10	10	Performance excellence	The PL divides the group in two and asks the groups to discuss the meaning of performance excellence and the types of skills that might be associated with performance excellence: performance excellence concerns both on field and off field behaviours in the cricket environment the importance of managing their emotions and learning from experience to develop performance excellence	Two groups
11 - 13	10	Personal excellence	The PL divides the group in two and asks the groups to discuss the meaning of personal excellence and the types of skills that might be associated with personal excellence: personal excellence concerns their development person and not just as a cricketer the importance of managing their emotions and learning from experience to develop performance excellence	Two groups
14 & 15	5	Performance and personal excellence	The PL discusses the link between performance and personal excellence: this programme aims to enhance their knowledge and skills of reflective practice throughout several OTHT that focus on learning from experience and managing their emotions the same knowledge and skills that promote performance excellence also promote personal excellence	PL



16 - 20	12	PSC and IPS	<p>The PL highlights the relationship between the PSC and IPS:  numerous factors influence how we behave in any context  behaviours associated with performance and personal excellence occur when individuals achieve or are close to their IPS  who they perceive themselves to be and the goals associated with those perceptions influence the types of demands that evoke cognitive, emotional, and behavioural responses. Each of these responses can influence their IPS and ability to achieve performance and personal excellence. This can be understood using the PSC</p>	PL
21 & 22	3	Summary of session 1	<p>The PL reviews the key learning points from session 1:  what performance and personal excellence means to themselves and other members of the group  the importance of learning from their experiences to help manage their emotions  the aim of this programme is to help them develop knowledge and skills associated with achieving excellence across multiple life domains  that the PSC influences their IPS and, ultimately their behaviours</p>	PL

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# Performance and Personal Excellence Programme

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New Zealand Cricket

Winter Training Squad

May – August 2016

NZC HPU, Lincoln University



Adam Miles, M.Sc.



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## Performance and Personal Excellence Programme Outline

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Understand → Develop → Deliver → Evaluate

- What types of mental skills underpin excellence in cricket?
    - On the field (in competition)
    - Off the field (in training)
    - Outside of cricket
  - What skills are going to help to develop better cricketers and better people?
    - What skills do cricketers develop through playing cricket and apply to other areas of their lives?
-



## Performance and Personal Excellence Programme Outline

### Camp 1

Introduction      The Performance and Personal Excellence Programme

### Camp 2

Session 1:      Creating a Foundation for Excellence: Ideal Performance State In and Out of Cricket  
Session 2:      Creating a Foundation for Excellence: Roles, Goals, and Situational Demands

### Camp 3

Session 3:      Developing Self-Awareness to Enhance Excellence: Learning From Our Responses (1)  
Session 4:      Developing Self-Awareness to Enhance Excellence: Learning From Our Responses (2)

### Camp 4

Session 5:      Learning From Experience: Reflection and Self-Regulation  
Session 6:      Learning From Experience: Self-Regulation and Self-Talk

## Performance and Personal Excellence Programme

Creating a Foundation for Excellence: Ideal Performance State In and Out of Cricket

NZC WTS

14<sup>th</sup> June, 2016

NZC HPU, Lincoln University



Adam Miles, M.Sc.





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## Overview

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- Identifying skills that promote performance and personal excellence in cricket
- Developing performance and personal excellence
- Performance supply chain
- Ideal performance state and excellence



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## What Types of Skills Promote Excellence?

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In groups:

What does **performance** excellence mean to you?

Discuss the types of skills that underpin **performance** excellence in cricket.

Think about:

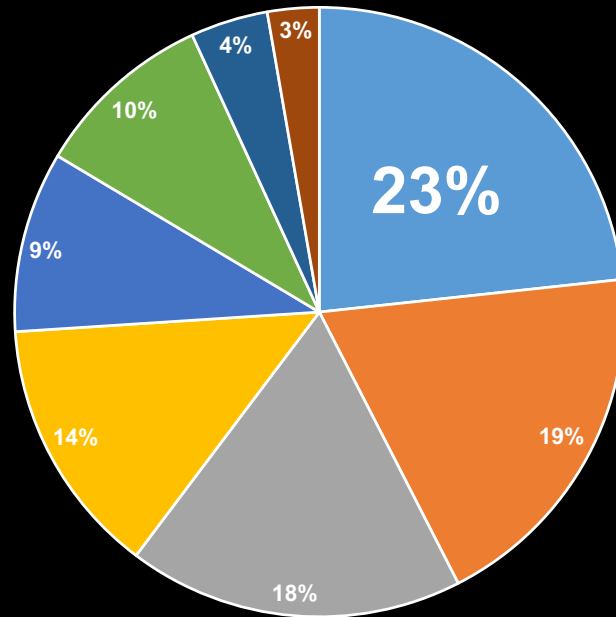
- On the field (in competition)
- Off the field (e.g., in training or at MA functions)



## Mental Skills Used on the Field



Total: 73 quotes



8 skills

- Manage Emotions
- Focus Attention
- Decision-making
- Manage Thoughts
- Source Confidence
- Motivation
- Communication
- Goal Setting

## Mental Skills Used on the Field



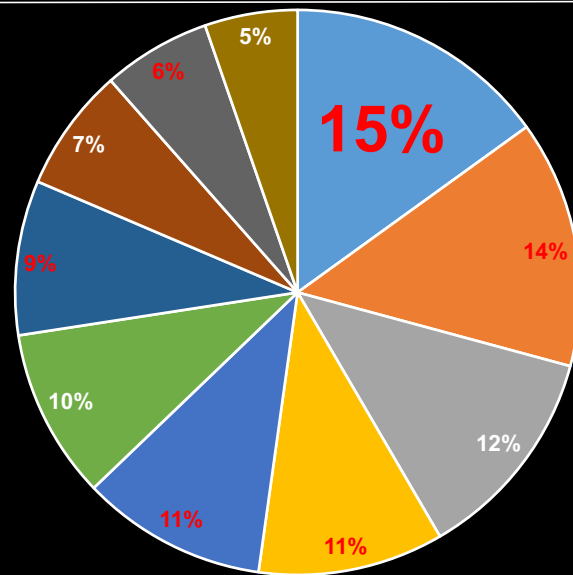
“The big thing as a bowler is the emotion. It's similar to batting where **you try to stay calm and keep those emotions level**; it helps you to get through a tight over or a tight spell or when someone drops a catch and the next ball goes for four or six.”

Player Five

## Mental Skills Used off the Field



Total: 113 quotes



### 10 skills

- 4 also used on the field
- 6 specific to off the field

- |                                  |                              |
|----------------------------------|------------------------------|
| ■ Learning From Past Experiences | ■ Motivation                 |
| ■ Communication                  | ■ Leadership                 |
| ■ Preparation                    | ■ Goal setting               |
| ■ Life Balance                   | ■ Manage Thoughts & Emotions |
| ■ Time management                | ■ Confidence                 |

## Mental Skills Used off the Field



“Ultimately it's **the guys that adapt the fastest that are more successful** rather than the guys that meander through three, four, five years making the same mistakes and who are slow to adjust to certain situations.”

Player Six



## What Types of Skills Promote Excellence?

In groups:

What does **personal** excellence mean to you?

Discuss the types of skills that underpin **personal** excellence.

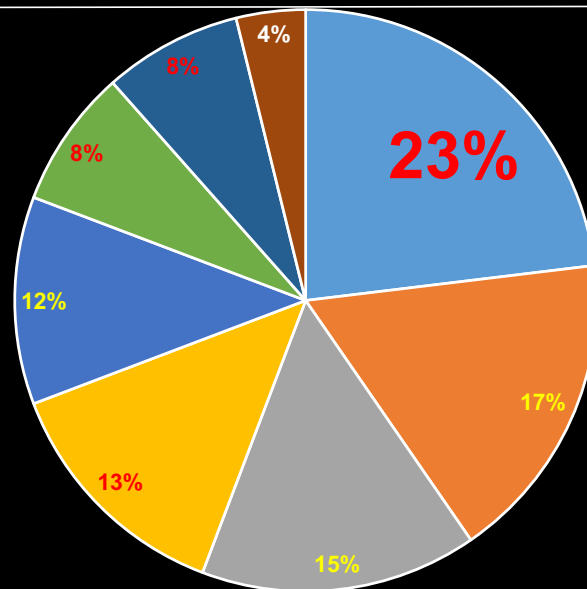
Think about:

- The types of skills that you use in different performance settings.



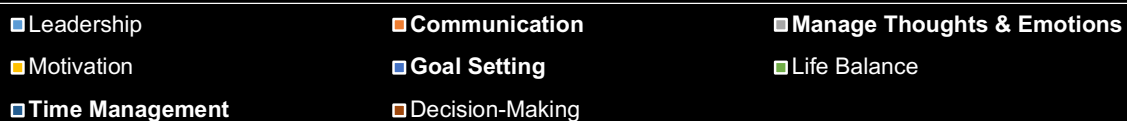
## Mental Skills Used Outside of Cricket

Total: 52 quotes



### 8 skills

- 1 also used on the field
- 4 also used off the field
- 3 used on and off the field





## Mental Skills for Performance and Personal Excellence

### MS used on the field (73 quotes):

- 8 skills
- **Managing emotions** = 23%

### MS used off the field (113 quotes):

- 10 skills
- Learning from past experiences = 15%
  - **Managing thoughts and emotions** = 7%

### MS used outside of cricket (52 quotes):

- 8 skills
- Leadership and communication = 40%
  - **Managing emotions** = 15%

### Overall (238 quotes)

- 14 skills
- **Managing thoughts and emotions** = 18%



## Performance and Personal Excellence Programme



### Managing emotions

- Understand how emotions influence behaviour.
- Raise awareness about how managing thoughts and emotions can help to enhance performance.
- Introduce and practice self-regulation as a tool for managing emotions and to help enhance performance.

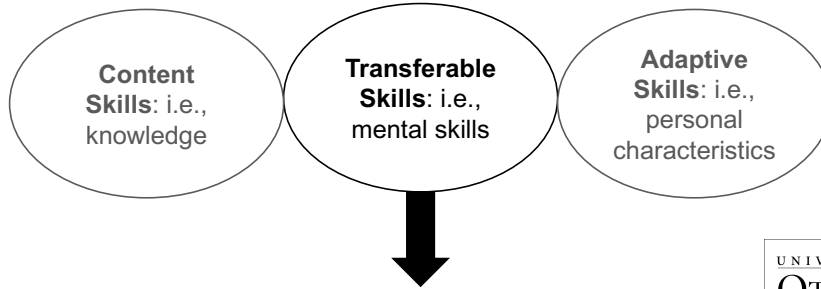
### Learning from experience

- Understand how reflection promotes learning.
- Use reflective practice to better understand and learn from experiences (performance and personal).
- Incorporate reflective practice into winter training to raise awareness of emotional responses.





## Performance Excellence ↔ Personal Excellence



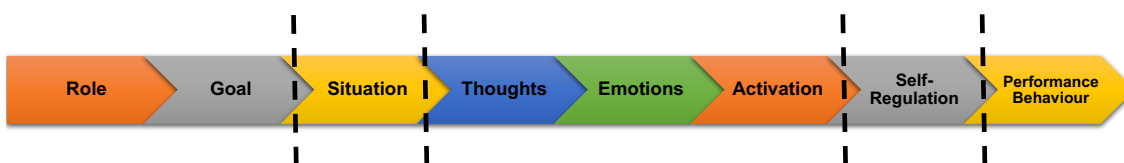
Skills that can be used across **different performance settings**.

Skills associated with:

- Managing emotions (e.g., self-regulation)
- Learning from past experiences (e.g., reflective practice)



## So, Why Focus on Managing Emotions?



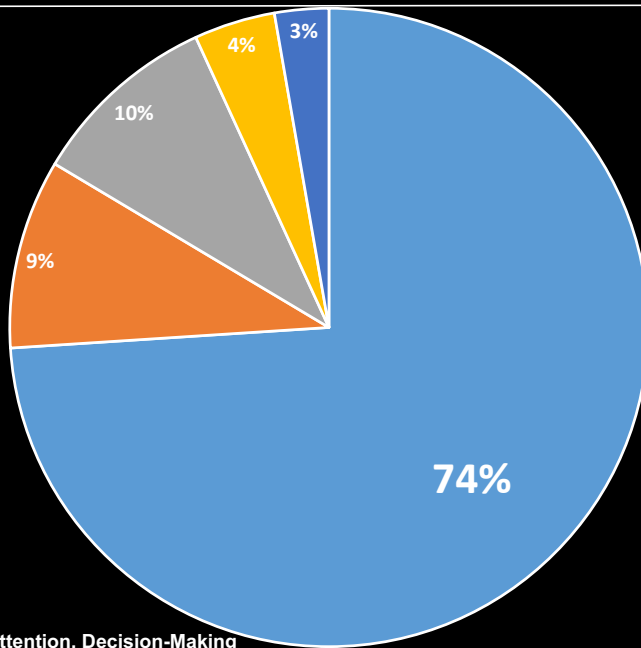
- Performance supply chain
- Activation
  - State for best possible performance across **different performance settings**.
  - Mental and physical



# Mental Skills Used On The Field



Total: 73 quotes

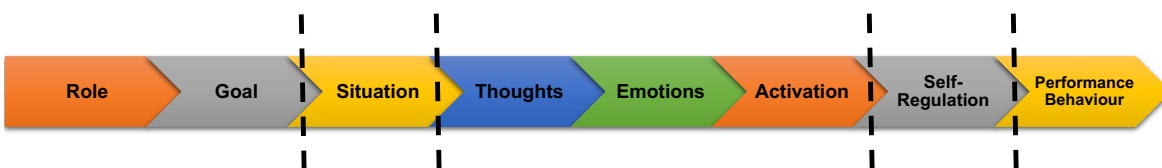


8 skills

- Thoughts, Emotions, Attention, Decision-Making
- Source Confidence
- Motivation
- Communication
- Goal Setting



## So, Why Focus on Managing Emotions?

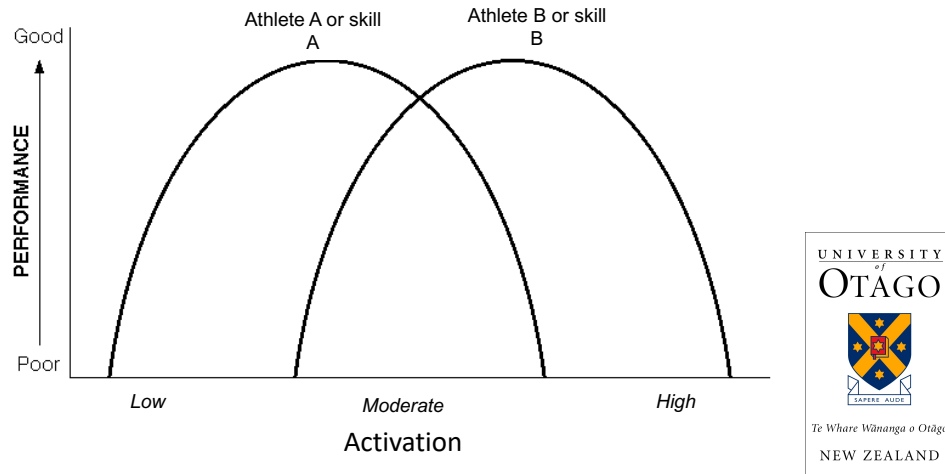


- Performance supply chain
- Activation
  - State for best possible performance across **different performance settings.**
    - Mental and physical

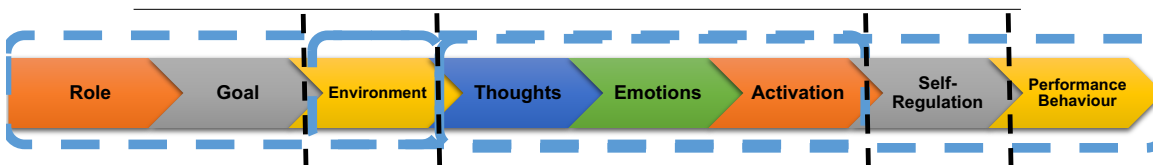




## Ideal Performance State (IPS)



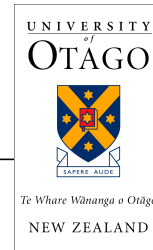
## Performance Supply Chain



Provide players with knowledge and skills to enable them to achieve best possible performances across **different performance domains**.

- Information sharing (develop knowledge and skills)
- Group discussion (applied practice)
- Take-home tasks: Reflecting-on-action (learning)
- Task-home tasks: Reflecting-in-action (performing)





## Summary

- Develop knowledge and skills associated with performance excellence.
  - Managing emotions
  - Learning from past experiences
- Help players manage their responses **across performance domains.**
  - On the field
  - Off of the field
  - Outside of cricket



Thank you for your time.

Questions?

**PPEP  
Workshop 2**

<b>Creating a Foundation for Excellence: Roles, Goals, and Situational Demands</b>				
<b>Slide No.</b>	<b>Time (mins)</b>	<b>Overall Learning Objective</b>		
33	50	<b>Sub-Section</b>	<b>Sub-Section Outline and Key Learning Points (Participants will learn...)</b>	<b>Teaching Method</b>
1 - 3	7	Review of session 1	Participants will learn that who they perceive themselves to be and how they would like to be perceived in the future influences their goals. These goals, in turn, influence their perceptions of situational demands. They will also learn how reflective practice can enhance their awareness of their thoughts and emotions and use this awareness to implement self-regulation skills associated with obtaining IPS.	
1 - 3	7	Review of session 1	The PL asks the group to reflect on and discuss what they learned from the session 1: what performance and personal excellence means to themselves and other members of the group the importance of learning from their experiences to help manage their emotions the aim of this programme is to help them develop knowledge and skills associated with achieving excellence across multiple life domains that the PSC influences their IPS and, ultimately their behaviours	Facilitated group discussion
4	3	Overview of session 2	The PL introduces the structure of this session: why it is difficult to achieve their IPS how situational demands compete for our attention and influence IPS why some situational demands attract our attention more than others how reflective practice can help them to understand their behaviours in various environments how to complete OTHT 1 - 4	PL
5 & 6	2	The challenge of finding our IPS	The PL discusses the challenges associated with obtaining an IPS using practical examples: multiple demands compete for their attention when they are trying to perform it is difficult to achieve their IPS, however they can maximise their potential of achieving their IPS by increasing their self-regulatory skills	PL
7 - 10	13	Understanding the situation	The PL discusses how different situational demands can influence behaviours: demands perceived as meaningful can alter their thoughts, emotions, activation, and behaviours The PL divides the group in two and asks the participants to discuss what types of demands might be perceived as meaningful in and out of their sporting environments: competitive, organisational, and personal demands are interrelated	PL and facilitated discussion in two groups

11-14	5	Roles, goals, and situational demands	The PL discusses how the participants' perceptions of who they are can help explain their behaviours in various contexts: who they perceive themselves to be and the goals that they set for themselves determine how they respond to situational demands their self-identity is comprised of multiple roles (e.g., cricketer, friends, brother, son) and each role has associated conscious and subconscious goals how we perceive ourselves and how we would like to be perceived in the future influences how we interpret each situation and affects their behaviours	PL
15 & 16	3	Using reflective practice to understand the PSC	The PL explains how reflective practice can help the participants to better understand who they perceive themselves to be and their behaviour in various life domains: reflective practice can help them understand the various aspects of self that they deem most important reflective practice can illuminate the types of goals that they have at stake in different contexts and help to explain their behaviours about the <i>well, better, how</i> reflective practice model and the importance of asking themselves three questions (what went well? What might have gone better? How might you perform better next time?)	PL
17-24	10	Case study: John	The PL introduces a case study for the participants to implement the reflective practice model. PL reads out the case study and reiterates the questions before dividing the group in two and asking them to work through the questions: how to apply the <i>well, better, how</i> reflective practice model to a cricket-specific case study	PL and facilitated discussion in two groups
25-31	5	OTHT	The PL introduces OTHT 1 - 4 and explains how to complete the OTHT: that they will receive one OTHT each week for the next four weeks via email detailed responses to the questions will promote a more vivid reflection to contact the PL via email or phone if they have any issues with the questions	PL
32 & 33	2	Summary of session 2	The PL reviews the key learning points from session 2: meaningful situation demands compete for their attention in multiple life domains who they perceive themselves to be and the goals that they have at stake influence their behaviours to learn from their past experiences, they need to understand how different roles, goals, and situational demands might affect how they perform the <i>well, better, how</i> reflective practice model consists of three questions that they will apply to four OTHT over the next four weeks	PL

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## Performance and Personal Excellence Programme

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New Zealand Cricket

Winter Training Squad

May – August 2016

NZC HPU, Lincoln University



Adam Miles, M.Sc.



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## Performance and Personal Excellence Programme

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Creating a Foundation for Excellence: Roles, Goals,  
and Situational Demands

NZC WTS

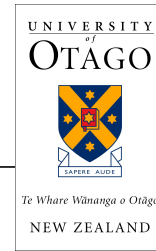
15<sup>th</sup> June, 2016

NZC HPU, Lincoln University



Adam Miles, M.Sc.





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## Review

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- Basis of programme
    - Managing emotions
    - Learning from experience
  - Performance supply chain
    - Thoughts, emotions, attention, and decision-making
  - Ideal performance state (IPS)
    - Mental and physical activation
- 



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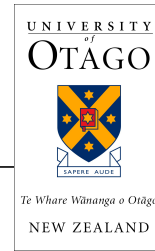
## Overview

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- The *challenge* of finding our ideal performance state
- Situational demands
- Roles
- Goals
- Case study
- Take-home tasks







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## The *Challenge* of Finding IPS

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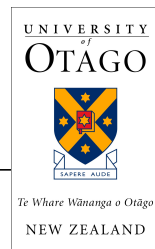
“Getting into the true zone only happens once or twice a season so it's obviously not an easy thing to do.”

Player Ten

“When you play on TV and there's all these thoughts in back of your mind, you know, “this is broadcast to the whole of New Zealand”, “how am I looking?”, “how am I performing?” On top of that you have the scoreboard pressure and you know people and the commentators are saying a lot of things about me...”

Player Nine

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## The *Challenge* of Finding IPS

---

“Getting into the true zone only happens once or twice a season so it's obviously not an easy thing to do.”

Player Ten

“When you play on TV and there's all these thoughts in back of your mind, you know, “**this is broadcast to the whole of New Zealand**”, “**how am I looking?**”, “**how am I performing?**” On top of that you have the **scoreboard pressure** and you know **people and the commentators are saying a lot of things about me...**”

Player Nine

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## Understanding the Situation

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A number of *things* might warrant our attention in any given situation (e.g., during competition or sitting an exam).

- *Things* = situational demands.
- Situational demands = demands in any given situation that attract our attention and provoke thought.

These demands can change our thinking, emotions, and attention when we interpret them as **meaningful**.

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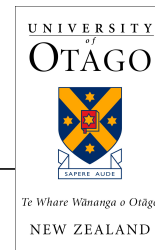
## What Might These Demands Look Like?

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### Group Task

- *Competitive*
  - On the field
- *Organisational*
  - Off the field
- *Personal*
  - Outside of cricket





---

## What Might These Demands Look Like?

---

### Group Task

- *Competitive (on the field)*
    - e.g., opposition, wicket, fitness/injury, match scenario, etc.
  - *Organisational (off the field)*
    - e.g., training commitments, MA marketing functions, coach/teammate relationships, etc.
  - *Personal (outside of cricket)*
    - e.g., study, secondary occupation, relationships, social life, etc.
- 



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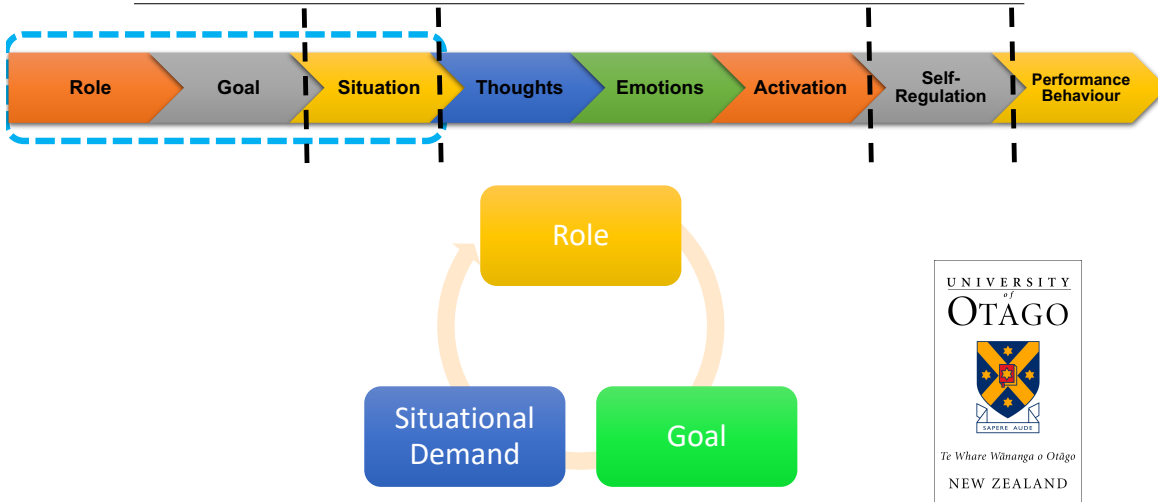
## Situational Demands: Isolated or Interrelated?

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## Why Makes Situational Demands Meaningful?

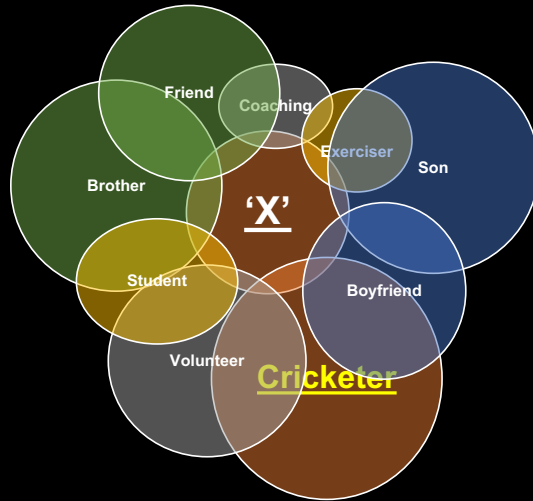


## Roles and Goals in Cricket





# Roles and Goals Outside of Cricket



## Towards Understanding the Performance Supply Chain

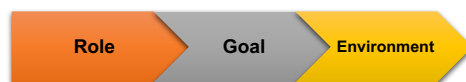
To give players the opportunity to perform well across a variety of **performance settings**.

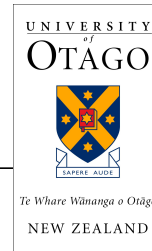
Role: Cricketer

- On the field (competitive demands)
- Off the field (organisational demands)

Role: e.g., student

- Outside of cricket (personal demands)





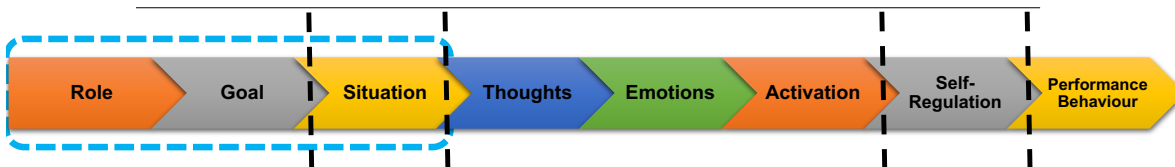
## Reflecting on Past Experiences

Reflecting on past experiences **in and out of cricket:**

- What did you do **WELL**?
- What might you have done **BETTER**?
- **HOW** might you perform better in these situations next time?



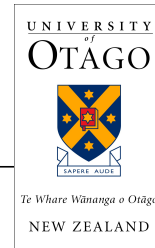
## Towards Understanding the Performance Supply Chain



Situational demands are interpreted as **meaningful** when they relate to our goals.

- Situation and outcome
- Goals
- Demands
- Strategies/skills used





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## Case Study One

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John is a 25-year old wicket-keeper who has held his position for the past three seasons. During day 2 of a first class match against Auckland last season, John's team needed to break a long-standing partnership if they were to have any chance of dictating terms in the game. Given that John's team consisted of several experienced players over the age of 30, John didn't usually offer his opinion on bowling plans. However, John had an idea that might give his team the opportunity to make the breakthrough. At the drinks break, John suggested his idea to the captain and it leads to a breakthrough. For the remainder of the season, John offered his opinion more regularly during matches.

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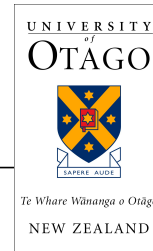
## Case Study One: WELL

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What did John do **WELL**?

1. Describe the situation in case study one.
2. What was John trying to achieve in this situation?
3. What demands did John encounter in this situation?
4. What did John do to achieve the outcome from this situation?





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## Case Study One: BETTER, HOW

---

What might John have done **BETTER**?

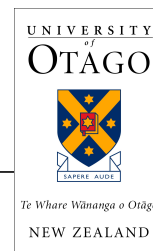
5. What barriers did John encounter in this situation and how did he overcome these barriers?

**HOW** might John perform better in this situation next time?

6. How might John do even better in this situation next time?

7. What have you learned from reflecting on John's experience?

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## Case Study One

---

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## Case Study One: BETTER, HOW

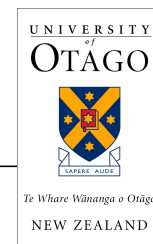
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What might John have done **BETTER**?

5. What barriers did John encounter in this situation and how did he overcome these barriers?

**HOW** might John perform better in this situation next time?

6. How might John do even better in this situation next time?
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- 





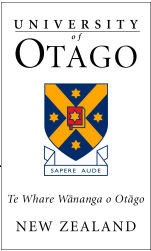
## Take-Home Task 1 & 2: WELL

Take-Home Task 1 & 2.
<b>ON AND OFF THE FIELD</b>
<b>What did you do WELL?</b>
<b>1. Describe a situation that occurred several times on/off the field last season where you performed/did something well.</b>
<b>This situation will be referred to as Situation A.</b>
<b>2. What were you trying to achieve during this situation?</b>
<b>3. What demands did you encounter during this situation?</b>
<b>4. What did you do to achieve the outcome from this situation?</b>



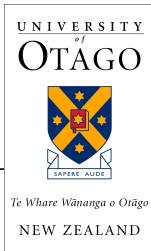
## Take-Home Task 1 & 2: BETTER

Take-Home Task 1 & 2.
<b>ON AND OFF THE FIELD</b>
<b>What might you have done BETTER?</b>
<b>5. Describe a situation that occurred several times on/off the field last season where you might have performed/done something better.</b>
<b>This situation will be referred to as Situation B.</b>
<b>6. What were you trying to achieve during this situation?</b>
<b>7. What demands did you encounter during this situation?</b>
<b>8. What did you do to try and overcome the demands in this situation?</b>



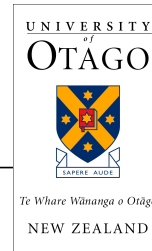
# Take-Home Task 1 & 2: HOW

<b>Take-Home Task 1 &amp; 2.</b>
<b>ON AND OFF THE FIELD</b>
<b>HOW might you perform better in these situations next time?</b>
<b>9. How might you perform/do even better in Situation A next time?</b>
<b>10. How might you perform/do better in the Situation B next time?</b>
<b>11. What have you learned from reflecting on Situation A?</b>
<b>12. What have you learned from reflecting on Situation B?</b>



# Take-Home Task 3 & 4: WELL

<b>Take-Home Task 3 &amp; 4.</b>
<b>OUTSIDE OF CRICKET</b>
<b>What did you do WELL?</b>
<b>1. Describe a situation that occurred outside of cricket where you did something well in the last 7-days.</b>
<b>This situation will be referred to as Situation A.</b>
<b>2. What was your role? (E.g., student, employee, son, etc.)</b>
<b>3. What were you trying to achieve during this situation?</b>
<b>4. What demands did you encounter during this situation?</b>
<b>5. What did you do to achieve the outcome from this situation?</b>



## Take-Home Task 3 & 4: BETTER

Take-Home Task 3 & 4.
OUTSIDE OF CRICKET
What might you have done BETTER?
6. Describe a recent situation that occurred outside of cricket where you might have done something better in the last 7-days.
This situation will be referred to as Situation B.
7. What was your role? (E.g., student, employee, son, etc.)
8. What were you trying to achieve during this situation?
9. What demands did you encounter during this situation?
10. What did you do to try and overcome the demands in this situation?



## Take-Home Task 3 & 4: HOW

Take-Home Task 3 & 4.
OUTSIDE OF CRICKET
HOW might you perform better in these situations next time?
11. How might you perform/do even better in Situation A next time?
12. How might you perform/do better in the Situation B next time?
13. What have you learned from reflecting on Situation A?
14. What have you learned from reflecting on Situation B?



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## The Next Four Weeks...

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Week One: Competitive demands (on the field)

Week Two: Organisational demands (off the field)

Week Three: Personal demands (outside of cricket)

- Questionnaire

Week Four: Personal demands (outside of cricket)



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## Summary

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- **Meaningful** situational demands compete for our attention across performance settings.
  - To learn from our past experiences, we need to understand how different **roles, goals, and situational demands** might affect how we perform.
  - Over the next four weeks, you have the opportunity to reflect and learn from your previous experiences.
    - Well
    - Better
    - How
-



**Thank you for your time.**

**Questions?**



**PPEP  
Workshop 3**

**Developing Self-Awareness to Enhance Excellence: Learning From Our Responses (1)**

<b>Slide No.</b>	<b>Time (mins)</b>	<b>Overall Learning Objective</b>	<b>Participants learn how they can advance their reflective practice skills and understand the link between cognitive appraisal how and how they respond to certain situations</b>	
		<b>Sub-Section</b>	<b>Sub-Section Outline and Key Learning Points (Participants will learn...)</b>	<b>Teaching Method</b>
19	50			
1 - 3	10	Review of sessions 1 and 2	<p>The PL asks the group to reflect on and discuss what they learned from the last two sessions by reflecting on session 1 and 2.</p> <p><u>Workshop 1</u>            what performance and personal excellence means to themselves and other members of the group            the importance of learning from their experiences to help manage their emotions            the aim of this programme is to help them develop knowledge and skills associated with achieving excellence across multiple life domains            that the PSC influences their IPS and, ultimately their behaviours</p> <p><u>Workshop 2</u>            meaningful situation demands compete for their attention in multiple life domains            who they perceive themselves to be and the goals that they have at stake influence their behaviours            to learn from their past experiences, they need to understand how different roles, goals, and situational demands might affect how they perform            the <i>well, better, how</i> reflective practice model consists of three questions that they will apply to four OTHT over the next four weeks</p>	Facilitated group discussion
4	3	Overview of session 3	<p>The PL introduces the structure of this session:            about the detail of their OTHT and how to reflect in more detail            how reflective practice increase their awareness of their thoughts and their influence on their behaviours            how cognitive appraisal influences our behaviours</p>	PL
5 & 6	8	OTHT 1 - 4	<p>The PL asks the group to get into pairs and discuss the OTHT process and their learnings:            how their partner found the structure, questions, and process. Also, what their partner learned from OTHT 1 - 4            The PL discusses what the participants did well and how they might improve when they complete OTHT 5 - 8</p>	Pairs; facilitated by PL
7 - 10	5	Understanding reflective practice	<p>The PL provides a more detailed overview of reflective practice:            reflective practice can promote personal growth and development            reflective practice develops knowledge-in-action (personal and practical knowledge) which can be used to alter their behaviours</p>	PL



			<p>reflective practice can be spontaneous, planned, personal, public, conversational, or written.</p> <p>how to develop their reflective practice skills with questions concerning their thoughts and emotions and how to make sense of their experiences</p>	
11 & 12	10	Understanding our responses	<p>The PL introduces a case study for the participants to provide an understand of how thoughts can influence behaviours. PL reads out the case study and reiterates the questions before dividing the group in two and asking them to work through the questions:</p> <p>how Andy's role (identity) and goals influence how he is perceives the approaching situation</p> <p>how situational demands can alter Andy's thoughts based during his performance</p> <p>that the outcome Andy's performance will influence his progress towards his goal and feelings of competence. These factors are likely to affect his thoughts when he encounters a similar situation in the future</p>	Facilitated discussion in two groups
13 - 17	10	Managing our responses	<p>The PL discusses how different types of thoughts are associated with different cognitive appraisals (e.g., challenge or threat):</p> <p>how their roles, goals, and the situational demands influence their thoughts through discussion about the PSC</p> <p>in the present, two types of appraisal exist. Challenge appraisals are associated with feelings of competence. Whereas threat appraisals are associated with situations when achieving their goals is less likely</p> <p>they should not judge their thoughts and commit to the task to help reappraise the situation as a challenge</p>	PL
18-19	4	Summary of session 3	<p>The PL summarises the key learning points from session 3:</p> <p>about the quality of their OTHT and how they can improve their reflective practice skills</p> <p>how are thoughts are linked with how they appraisal any situation. To help reappraise the situation as a challenge, they should not judge their thoughts and commit to the task</p>	PL

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## Performance and Personal Excellence Programme

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New Zealand Cricket

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May – August 2016

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## Performance and Personal Excellence Programme

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## Review

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- **Meaningful** situational demands compete for our attention across performance settings.
  - To learn from our past experiences, we need to understand how different **roles, goals, and situational demands** affect how we perform.
  - Brief introduction to reflection and take-home tasks
- 

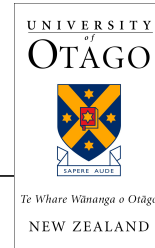


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## Overview

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- Take-home tasks: General feedback
  - Reflection and knowledge-in-action
    - Developing self-awareness
  - Understanding how we respond to different situations
    - Appraisal
-



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## Take-Home Tasks 1 - 4

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- (What went) **WELL**?
- (What might have gone) **BETTER**?
- **HOW** (might I perform better next time)?

### Feedback

In pairs:

In general, how did you find the take-home tasks?

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## General Feedback on Take-Home Tasks 1 - 4

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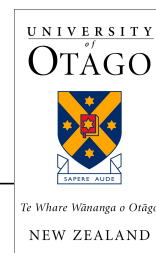
- Differentiating between situations
    - On the field (i.e., competition; skill execution, managing emotions)
    - Off the field (i.e., cricket environment excluding competition; conditioning, skill acquisition)
    - Outside of cricket (i.e., non-cricket; study, work, social)
  - Task 3 and 4
    - Personal demands can promote similar responses to cricket-specific demands
-



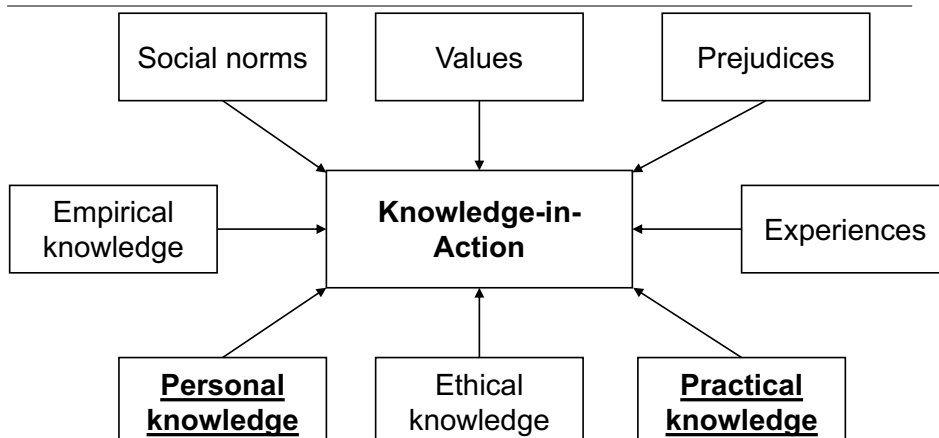
## Reflecting... What's the Point?

Put simply:

- To get better at what you do via learning from past experiences
  - Professional development
  - Personal growth
    - Develop **knowledge-in-action**



## Knowledge-in-Action





## Knowledge-in-Action

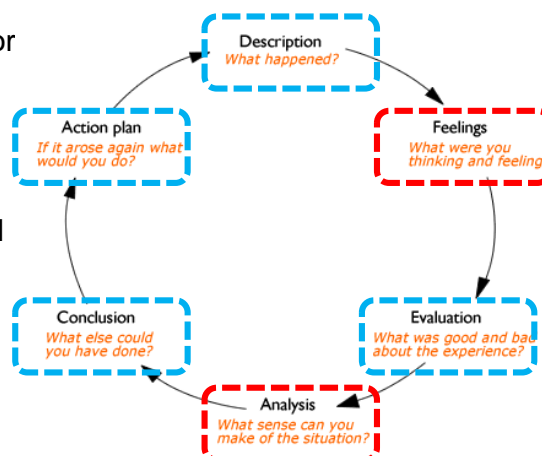
- Empirical
  - Scientific, theoretical and evidence-based
    - (e.g., core skills)
- Practical
  - Applying empirical knowledge to a given situation
    - (e.g., when is the right time to take the new ball?)
- Personal
  - Self-awareness (intra- and inter-personal)
    - (e.g., skill execution under high demand)



## How Can We Reflect?

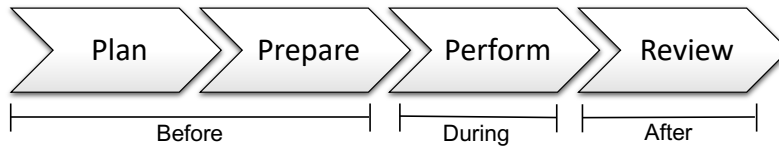


- Spontaneous or planned
- Personal or public
- Conversational or written





## Understanding Our Responses



**Case Study Two:** Andy is about to make his first class debut/sit his final exam/interview for a job.

What might affect Andy's thoughts about this situation? (i.e., his perception that he can be successful)

- **Before**
- **During**
- **After**



## Understanding Our Responses

**Case Study Two:** Andy is about to make his first class debut/sit his final exam/interview for a job.

### **Before**

- Role and goal in relation to perceived situational demands
- Perceived ability to overcome perceived situational demands

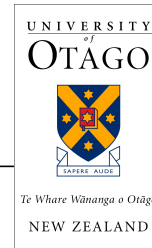
### **During**

- Ever-changing performance environment
- Actual ability to overcome situational demands

### **After**

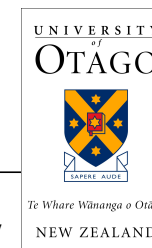
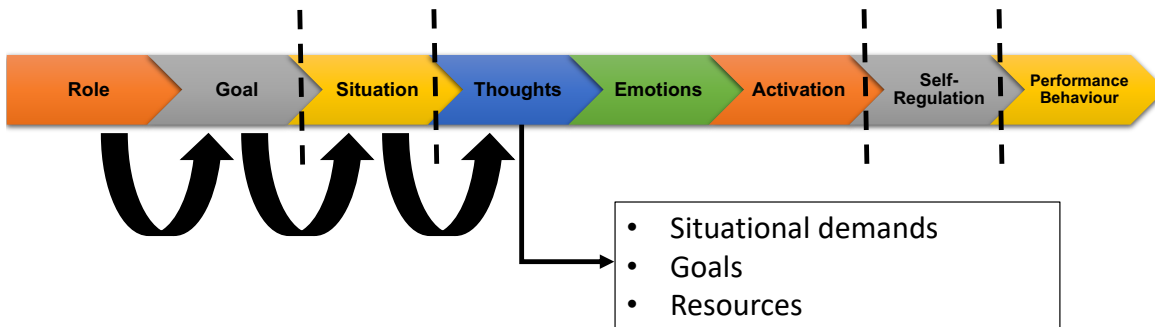
- Outcome (i.e., progression towards or regression from goal)
- Feedback about competence from outcome





## Managing Our Responses

**Ongoing** transaction between the situational demands and a person's resources.



## Managing Our Responses Effectively



**Appraisal** – judging demands in relation to goals and resources.

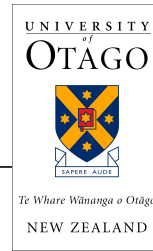
Primary

- Situation evaluated with respect to personal values, situational intentions goal commitments, and well-being.

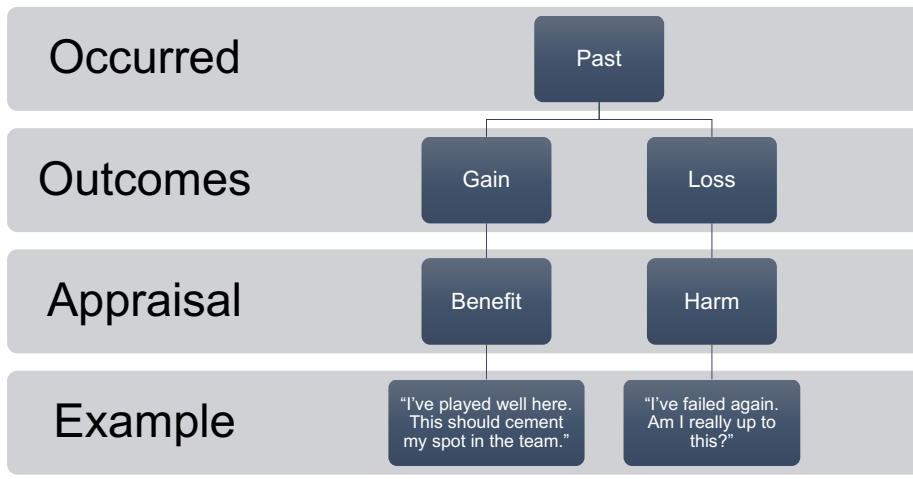
Secondary

- Focuses on minimising harm or maximising gains in line with resources

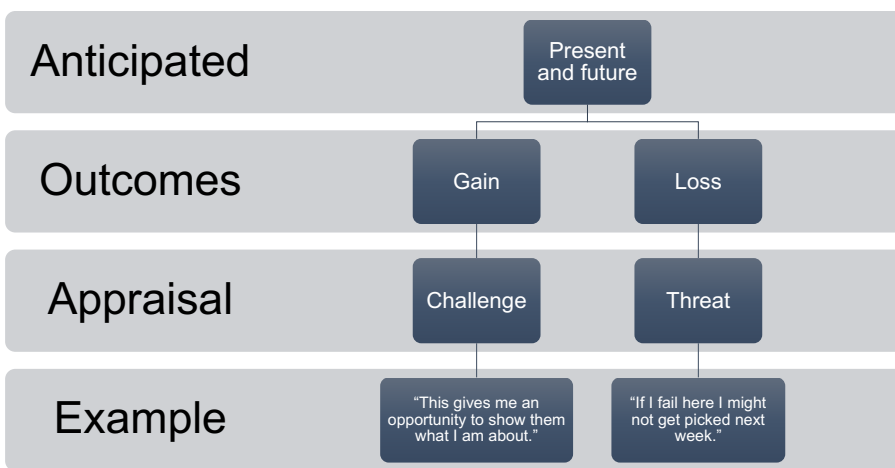




## Managing Our Responses: Past



## Managing Our Responses: Present and Future





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## Up For The Challenge

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### Challenge – Fight?

- Emotional response (**accepting**)
- Task relevant focus
- Increased confidence
- Increased effort and persistence
- Approach behaviours

### Threat – Flight?

- Emotional response (**controlling**)
- Task irrelevant focus
- Decreased confidence
- Decreased effort and persistence
- Avoidance behaviours



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## Summary

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- Reflecting on past performances gives athletes an opportunity to develop their knowledge-in-action
    - Practical
    - Personal
  - Individuals are constantly judging the situation and subconsciously ask two questions:
    - What is at stake here?
    - What resources can I utilise?
  - Challenge appraisals enhance potential of successful skill execution
- 





**Thank you for your time.**

**Questions?**



**PPEP**  
**Workshop 4**

**Developing Self-Awareness to Enhance Excellence: Learning From Our Responses (2)**

<b>Slide No.</b>	<b>Time (mins)</b>	<b>Overall Learning Objective</b>	<b>Participants learn how their emotions influence their behaviours, how to manage their emotions, and further develop their reflective practice skills.</b>	
<b>22</b>	<b>50</b>	<b>Sub-Section</b>	<b>Sub-Section Outline and Key Learning Points (Participants will learn...)</b>	<b>Teaching Method</b>
1 - 3	5	Review of session 3	The PL asks the group to reflect on and discuss what they learned from session 3: about the quality of their OTHT and how they can improve their reflective practice skills how are thoughts are linked with how they appraisal any situation. To help reappraise the situation as a challenge, they should not judge their thoughts and commit to the task	Facilitated group discussion
4	3	Overview of session 4	The PL introduces the structure of this session: why they experience certain emotions in a variety of performance domains how their emotions influence their IPS how self-regulation skills can be used to manage their responses (i.e., thoughts, emotions, and behaviours) how to reflect on their thoughts, emotions, and subsequent behaviours and use these experiences to plan for similar situations that might arise in the future experiences	PL
5 - 8	15	Managing our Responses Effectively	The PL discusses the PSC and revisits how participants' roles and goals influence the types of situational demands that evoke responses: thoughts influence emotions, activation, and performance behaviours The PL asks the group to work in pairs and discuss how their thoughts and emotions influence their behaviours in and out of cricket: to accept emotions as natural responses and how to use reappraisal to help them recommit to the task	PL, pairs, PL
9 & 10	5	Ideal performance state and excellence	PL discusses how thoughts and emotions influence the participants IPS and how to differential between a task-focus and self-focus: acknowledging irrelevant thoughts and intense emotions likely to result in under- and over-arousal develop self-regulation skills (e.g., self-talk, breathing techniques) can help them obtain optimal arousal and accept and commit to the task	PL
11	5	Reflective practice (2)	PL introduces participants to second stage of reflective practice: how to reflect to enhance their self-awareness of their thoughts, emotions, and behaviours to enhance their reflective practice skills, they must ask themselves about their thoughts and feelings and attempt to make sense of why they were thinking/feeling that way	PL

12-20	12	Case study three: Dave	The PL introduces a case study three which provides the participants the opportunity to engage in advanced reflective practice. PL reads out the case study and reiterates the questions before dividing the group in two and asking them to work through the questions: how to advance their reflective practice skills using <i>well, better, how</i> model.	Facilitated discussion in two groups
21 & 22	5	Overview of OTHT 5 - 8 and summary of session 4	The PL introduces OTHT 5 - 8 and explains how to complete the OTHT: that they will receive one OTHT each week for the next four weeks via email detailed responses to the questions will promote a more vivid reflection to contact the PL via email or phone if they have any issues with the questions that they will use reflective practice to focus on how they manage their responses to: Competitive demands (OTHT 5) Organisational demands (OTHT 6) Personal demands (OTHT 7) Personal demands (OTHT 8) The PL summarises the key learning points from session 4: emotions arise as a result of the appraisal process focusing on emotions can influence IPS emotions are neither helpful or unhelpful if athletes can manage their responses and redirect their focus back to the task ( <u>accept and commit</u> ) reflecting on and making sense of our thoughts and feelings can help athletes better understand their behaviours and plan for similar situations that might arise in the future	PL

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## Performance and Personal Excellence Programme

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New Zealand Cricket

Winter Training Squad

May – August 2016

NZC HPU, Lincoln University



Adam Miles, M.Sc.



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## Performance and Personal Excellence Programme

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Developing Self-Awareness to Enhance Excellence:  
Learning From Our Responses (2)

NZC WTS

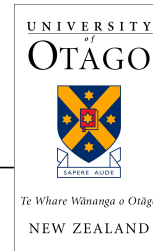
July, 2016

NZC HPU, Lincoln University



Adam Miles, M.Sc.





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## Review

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- Reflecting on past performances gives athletes an opportunity to develop their knowledge-in-action
    - Practical
    - Personal
  - Individuals are constantly judging the situation and subconsciously ask two questions:
    - What is at stake here?
    - What resources can I utilise?
  - Challenge appraisals enhance the potential of successful skill execution
- 



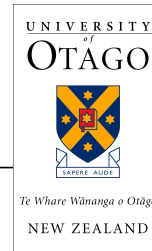
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## Overview

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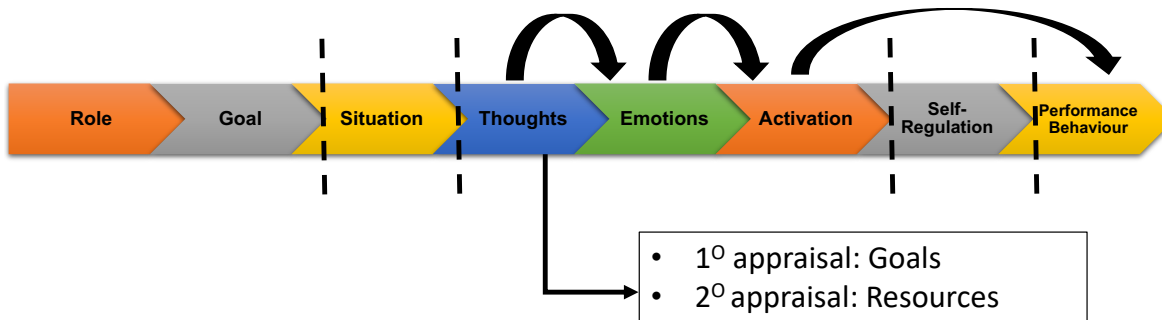
- Emotional responses
- Activation and ideal performance state (IPS)
- Opportunities to manage our responses
- Reflecting on our experiences



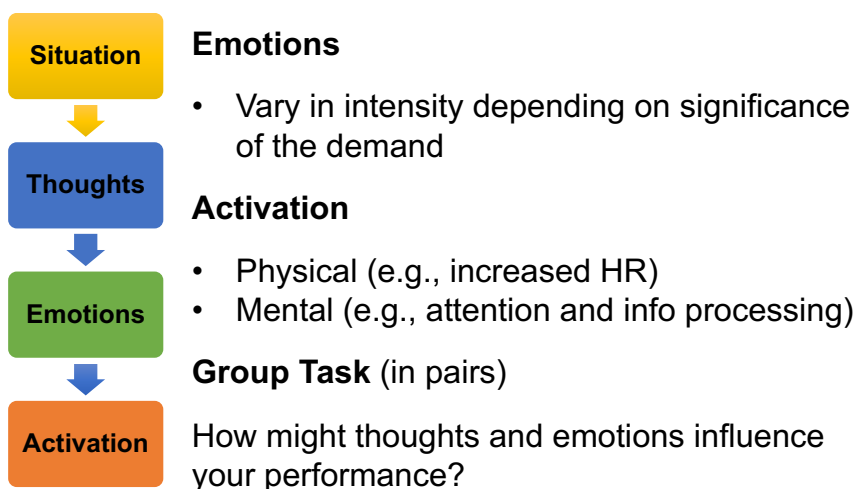


# Managing Our Responses Effectively

**Ongoing** transaction between the environmental demands and a person's resources



# Managing Our Responses







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## Up For The Challenge

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### Challenge – Fight?

- Emotional response (accepting)
- Task relevant focus
- Increased confidence
- Increased effort and persistence
- Approach behaviours

### Threat – Flight?

- Emotional response (controlling)
- Task irrelevant focus
- Decreased confidence
- Decreased effort and persistence
- Avoidance behaviours



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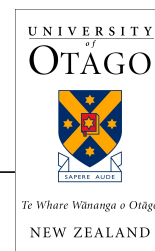
## Managing Our Responses

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- We are likely to use a lot of mental energy trying to ‘cope’ with emotions

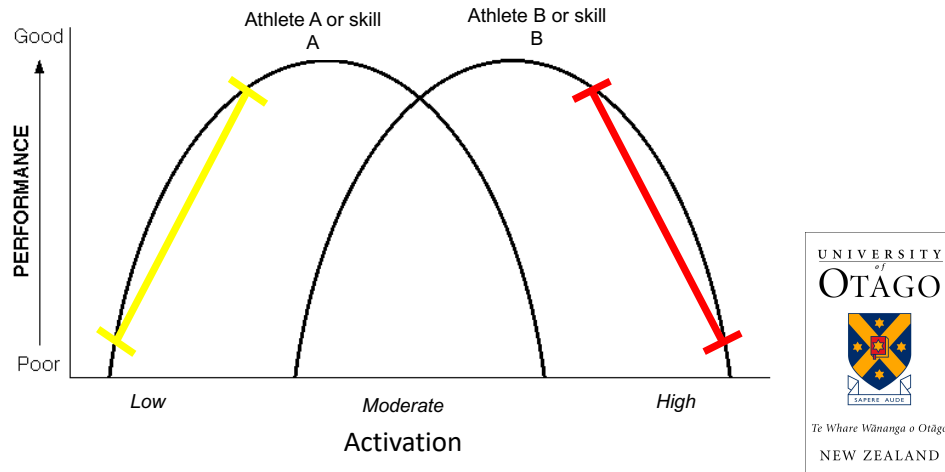
### ‘Ideal’ scenario

- View priming response as useful to skill execution
- **Accept** associated responses and redirect focus to the task (**commit**)
  - Perception of readiness (preparation and planning)
  - Confidence (past performance accomplishment)
  - Be rational about what is at stake (goals)

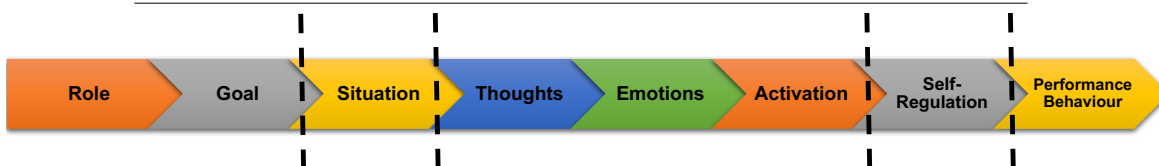




## Activation



## Ideal Performance State & Excellence



### Helpful scenario (accept and commit)

- Task-focused
- Thoughts and emotions task-relevant
- *Up for the challenge*

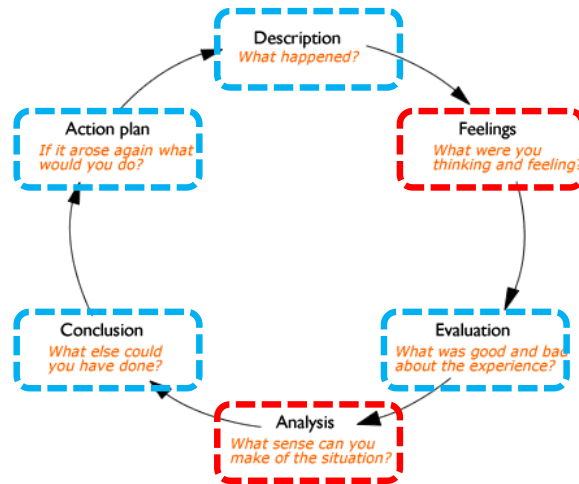
### Unhelpful scenario

- **Self-focused**
- Thoughts and emotions task-irrelevant
- Task demands perceived as *threatening*





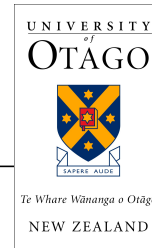
## Take Home Task 5-8



## Case Study Three



Dave is a 21-year old middle-order batsman. Dave made his List A debut against Canterbury in January 2016. Dave's team were chasing 320 to win from their 50-overs and when he made his way to the crease the score was 220-4 from 40-overs. Needing 10s, Dave rotated the strike effectively in the early stage of his innings. He was on 10 runs from 10 balls, yet his partner had only scored 4 from the last 10 balls that he had faced. Dave was aware that the run-rate needed to increase if his team were to have a chance of winning. In the following over, Dave decided to try and hit the off-spinner over extra-cover for 6 (a shot that Dave would not usually consider his strength) and was caught. This experience was not unfamiliar to Dave; he had got out in a similar way on three occasions during the 'A' tournament in early January.



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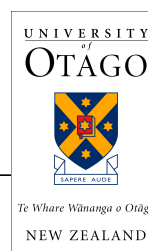


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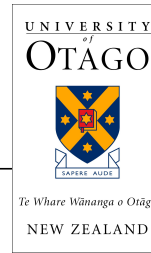


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## Case Study Three: WELL

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What did Dave do **WELL** in this situation?

1. Describe what Dave did well.
  2. What might have Dave been thinking in this situation?
  3. How might Dave have been feeling in this situation?
  4. How might Dave's thoughts and feelings have contributed to his performance in this situation?
  5. What sense can you make of Dave's performance in this situation?
- 



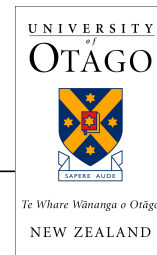
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## Case Study Three: HOW

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**HOW** might Dave perform better in these situation next time?

6. How might Dave perform even better in this situation next time?
  7. What have you learned from reflecting on Dave's situation (Part I)?
-



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## Case Study Three: BETTER

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What might Dave have done **BETTER** in this situation?

8. Describe what Dave might have done better.
  9. What might have Dave been thinking in this situation?
  10. How might Dave have been feeling in this situation?
  11. How might Dave's thoughts and feelings have contributed to his performance in this situation?
  12. What sense can you make of Dave's performance in this situation?
- 



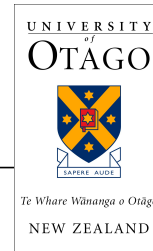
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## Case Study Three: HOW

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**HOW** might Dave perform better in these situation next time?

13. How might have Dave perform better in this situation (Part II) next time?
  14. What have you learned from reflecting on Dave's situation (Part II)?
-



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## The Next Four Weeks...

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Week One (THT5): Competitive demands (i.e., net)

Week Two (THT6): Organisational demands (off the field)

- Questionnaire

Week Three (THT7): Personal demands (outside of cricket)

Week Four (THT8): Personal demands (outside of cricket)

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## Summary

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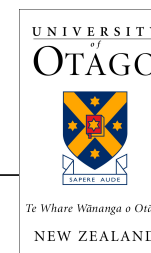
- Emotions arise as a result of the appraisal process.
  - The process of appraisal judgements and emotional responses are transactional and ongoing.
  - Emotions are associated with mental and physical activation.
  - Emotions are neither helpful or unhelpful if athletes can manage their responses and redirect their focus back to the task (**accept and commit**)
  - Reflecting on and making sense of our thoughts and feelings can help athletes better understand their performances
-





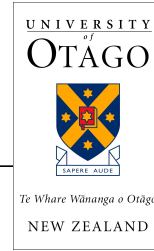
## Take-Home Task 5 & 6: WELL

Take-Home Task 5 & 6
ON AND OFF THE FIELD
What did you do WELL?
1. Describe a recent competitive net/situation in the cricket environment in the last seven days where you performed/did something well in the past week.
This situation will be referred to as Situation A.
2. What were you thinking during this competitive net/situation in the cricket environment?
3. How were you feeling during this situation?
4. How might have these thoughts and feelings contributed to your performance/behaviour in this situation?
5. What sense can you make of your performance in/the outcome from this situation?



## Take-Home Task 5 & 6: BETTER

Take-Home Task 5 & 6
ON AND OFF THE FIELD
What might you have done BETTER?
6. Describe a recent competitive net/situation in the cricket environment in the last seven days where you could have performed better.
This situation will be referred to as Situation B.
7. What were you thinking during this competitive net/situation in the cricket environment?
8. How were you feeling during this situation?
9. How might have these thoughts and feelings contributed to your performance/behaviour in this situation?
10. What sense can you make of this performance/the outcome from this situation?



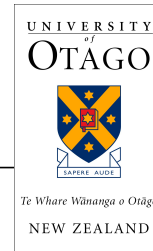
## Take-Home Task 5 & 6: HOW

Take-Home Task 5 & 6	
ON AND OFF THE FIELD	
HOW might you perform/do better in these situations next time?	
11. How might you perform/do even better in Situation A next time?	
12. How might you perform/do better in the Situation B next time?	
13. What have you learned from reflecting on Situation A?	
14. What have you learned from reflecting on Situation B?	



## Take-Home Task 7 & 8: WELL

Take-Home Task 7 & 8.	
OUTSIDE OF CRICKET	
What did you do WELL?	
1. Describe a situation outside of cricket in the last seven days where you did something well.	
This situation will be referred to as Situation A.	
2. What was your role?	
3. What were you thinking during this situation?	
4. How were you feeling during this situation?	
5. How might have these thoughts and feeling contributed to your behaviour in this situation?	
6. What sense can you make of the outcome from this situation?	



## Take-Home Task 7 & 8: BETTER

Take-Home Task 7 & 8.
OUTSIDE OF CRICKET
(What you might have done) BETTER?
7. Describe a situation outside of cricket in the last seven days where you could have done something better.
This situation will be referred to as Situation B.
8. What was your role in this situation?
9. What were you thinking during this situation?
10. How were you feeling during this situation?
11. How might have these thoughts and feelings contributed to your behaviour in this situation?
12. What sense can you make of the outcome from this situation?



## Take-Home Task 7 & 8: HOW

Take-Home Task 5 & 6
OUTSIDE OF CRICKET
HOW might you perform better in these situations next time?
13. How might you do even better in Situation A next time?
14. How might you do better in the Situation B next time?
15. What have you learned from reflecting on Situation A?
16. What have you learned from reflecting on Situation B?



**Thank you for your time.**

**Questions?**



**PPEP  
Workshop 5**

**Learning From Experience: Reflection and Self-Regulation**

<b>Slide No.</b>	<b>Time (mins)</b>	<b>Overall Learning Objective</b>	<b>Participants learn that reflective practice can help accelerate their learning and help them to self-regulate before and during performance. They also understand that self-regulation is linked with their attentional focus and can influence their behaviours in multiple life domains.</b>	
<b>20</b>	<b>50</b>	<b>Sub-Section</b>	<b>Sub-Section Outline and Key Learning Points (Participants will learn...)</b>	<b>Teaching Method</b>
1 - 3	5	Review of session 3 and 4	<p>The PL asks the group to reflect on and discuss what they learned from the last two sessions by reflecting on session 3 and 4.</p> <p><u>Workshop 3</u> about the quality of their OTHT and how they can improve their reflective practice skills how are thoughts are linked with how they appraisal any situation. To help reappraise the situation as a challenge, they should not judge their thoughts and commit to the task</p> <p><u>Workshop 4</u> that they will receive one OTHT each week for the next four weeks via email detailed responses to the questions will promote a more vivid reflection to contact the PL via email or phone if they have any issues with the questions emotions arise as a result of the appraisal process focusing on emotions can influence IPS emotions are neither helpful or unhelpful if athletes can manage their responses and redirect their focus back to the task (<u>accept and commit</u>) reflecting on and making sense of our thoughts and feelings can help athletes better understand their behaviours and plan for similar situations that might arise in the future</p>	Facilitated group discussion
4	3	Overview of session 5	<p>The PL introduces the structure of this session: about the detail of their OTHT and how to reflect in more detail how they can use reflective practice before, during, and after performance in various life domains how reflective practice can be used to help develop self-regulatory skills how to use their attentional focus to self-regulate during performance across domains</p>	PL
5 & 6	10	Reflection on take-home tasks	<p>The PL asks the group to get into pairs and discuss the OTHT process and their learnings: how their partner found the structure, questions, and process. Also, what their partner learned from OTHT 5 - 8</p> <p>The PL discusses what the participants did well and how they might improve when they complete OTHT 9</p>	Pairs; facilitated by PL
7-10	10	Types of reflection	<p>PL asks the group to discuss how reflective might help their development as a person across multiple life domains:</p>	PL and facilitated group discussion

			<p>anticipatory-reflection can be used to reflect on past experiences prior to performance in familiar situations</p> <p>reflecting-in-action is a self-regulatory skill that can influence behavioural outcomes during performance</p> <p>reflecting-in-action is underpinned by awareness of their thoughts and emotions (PSC)</p>	
11-13	10	Self-regulation	<p>PL asks the group to split into pairs and discuss the types of strategies that they use to self-regulate during performance:</p> <p>problem-focused self-regulation strategies are proactive (e.g., practice and planning)</p> <p>emotion-focused self-regulation strategies tend to be reactive (e.g., self-talk and relaxation)</p> <p>self-regulation strategies and reflecting-in-action are complementary. However, they must develop skills (e.g., self-talk) to enhance they can influence their performances</p> <p>these skills are learned like their physical sports skills (e.g., planning, preparing, performing, and reviewing) across a multiple life domains</p>	Facilitated group discussion
14-18	10	Self-regulation and performance	<p>The PL discusses the link between self-regulation and performance before asking the group to discuss a practical example demonstrating self-regulations influence on performance:</p> <p>performance is determined by our attention focus with can be internal, external, broad, and narrow</p>	PL and group discussion
19 & 20	2	Summary of session 5	<p>The PL reviews the key learning points for session 5:</p> <p>reflective practice can help accelerate learning and assist before, during, and after performance</p> <p>reflecting-in-action is underpinned by an awareness of their thoughts and emotions which informs self-regulation strategies/skills</p> <p>self-regulation skills (e.g., self-talk) can help control their attentional focus which will influence their performance across multiple life domains</p>	PL

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## Performance and Personal Excellence Programme

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New Zealand Cricket

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Adam Miles, M.Sc.



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## Performance and Personal Excellence Programme

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Learning From Experience: Reflection and Self-  
Regulation

NZC WTS

August, 2016

NZC HPU, Lincoln University



Adam Miles, M.Sc.





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## Review

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### Learning from your responses

- Understanding your responses
    - Comparing what you want to achieve vs. task demands
    - What skills have you got to help you achieve (planning, preparation, practice, and past performance)
      - Well prepared = Challenge
      - Under prepared = Threat
        - = Emotional response (mental and physical activation; IPS).
- 



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## Overview

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### Learning From Experience: Reflection and Self-Regulation

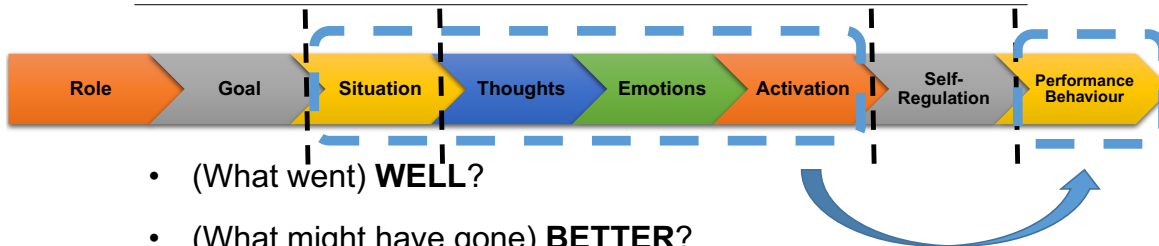
- Take-home tasks: Discussion and feedback
- Types of reflection
- Self-regulation
- Regulating your attention







## Take-Home Tasks 5 – 8: Discussion



- (What went) **WELL**?
- (What might have gone) **BETTER**?
- **HOW** (might I perform better next time)?

### Feedback

In pairs:

What did you learn from this process?



## Take-Home Tasks 5 – 8: Feedback

### Thoughts

- Well: Task-focused as a result of planning and preparation
- Better: Cluttered (“thinking about a lot”), “doubt”, etc.

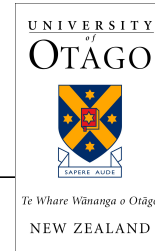
### Emotions

- Well: “anxious to start...”
- Better: “frustrated”, “hyped”, etc.

### But why?

- Time management: “routine” vs “underprepared”
- Commitment and confidence





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## Reflecting to Help Produce Performance and Personal Excellence

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- Accelerate Learning
    - Professional development
    - Personal growth
      - Reflecting-on-action (review; past)
      - Anticipatory-reflection (planning and preparation; future)
      - Reflecting-in-action (performance; present)
- 



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## Reflecting-on-Action

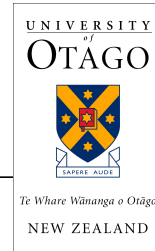
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- Previous experiences
  - Experiential knowledge
    - Practical and personal

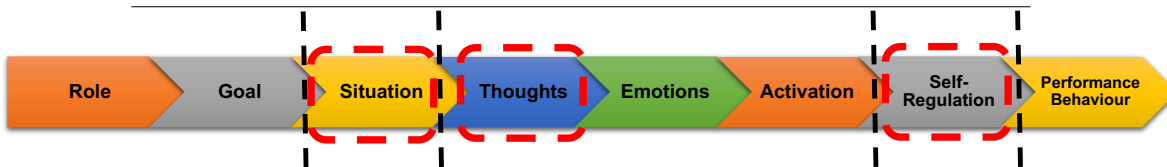
Based on your experiences, how might reflecting-on-action help your development as a cricketer and as a person?

- Holistic development
- Problem-based learning
- Competence and confidence
- Independent athletes





## Anticipatory Reflection

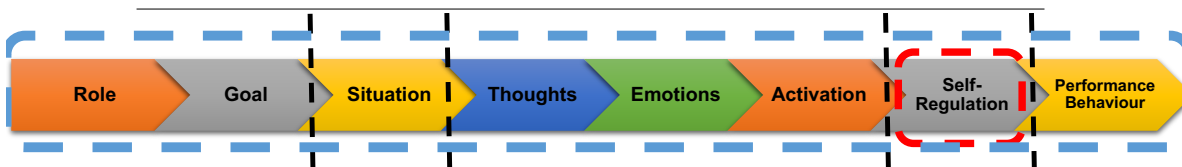


### Competence and confidence

- Familiarity
- Initial response
  - "Been there, done that"
  - "I've got the skills to be successful in this situation"



## Reflecting-in-Action

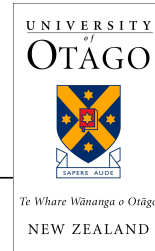


### Self-awareness

- Monitoring thoughts and feelings

### Self-regulation

- Effort to manage thoughts, feelings, and/or behaviours in pursuit of goals
- Fundamental to performance, learning, and well-being



## Types of Self-Regulation

Discuss the types of self-regulation skills that you might use to help your performance.

### Problem-focused

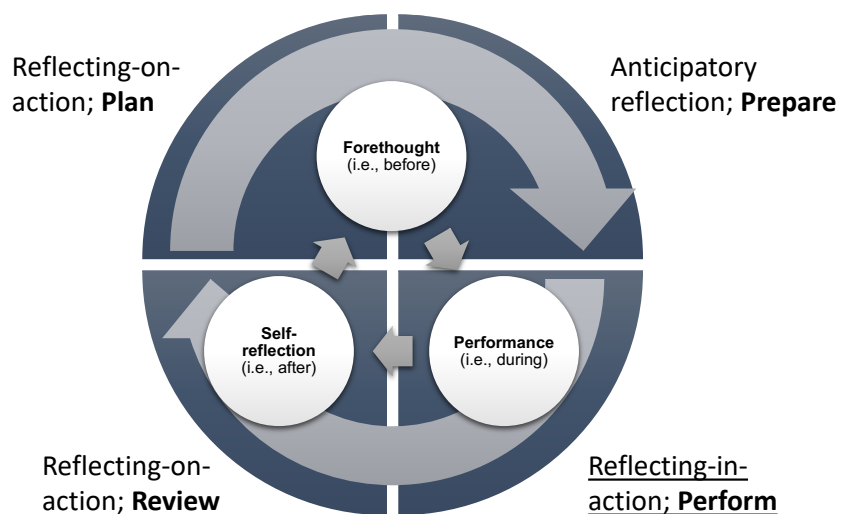
- Proactive (usually prior to performance)
- Often controllable demands
- e.g., practice, planning, organisation, social support, etc.

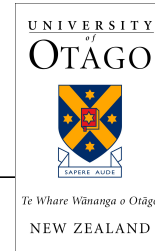
### Emotion-focused

- Reactive (usually during performance)
- Often uncontrollable demands
- e.g., relaxation, self-talk, etc.



## Self-Regulation





## Self-Regulation and Performance

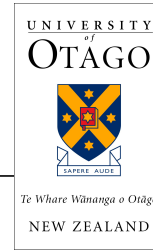
*“When you concentrate in a four-dayer and bat for six hours you cannot concentrate for the whole time. It's having that ability to concentrate the right amount at the right time.”*

- Attentional focus
  - Internal – Self-focused
  - External – Task- or situation-focused
  - Broad - General
  - Narrow - Specific



## Regulating Your Attention

		Direction	
		External	Internal
Width	Broad	Helpful: <b>Post-ball; Looking around the ground</b>	Helpful: Prior to bowler receiving the ball; reinforcing options against this bowler
	Narrow	Helpful: Batting – Focusing solely on the ball in bowler’s hand from top of run up until contact	Helpful: Pre-ball routine; use of imagery, self-talk, and breathing plus behaviours (i.e., grip, stance, etc.)



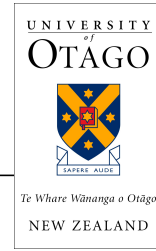
## Regulating Your Attention

		Direction	
		External	Internal
Width	Broad	Helpful: Post-ball; Looking around the ground	<b>Helpful: Prior to bowler receiving the ball; reinforcing options against this bowler</b>
	Narrow	Helpful: Batting – Focusing solely on the ball in bowler’s hand from top of run up until contact	Helpful: Pre-ball routine; use of imagery, self-talk, and breathing plus behaviours (i.e., grip, stance, etc.)



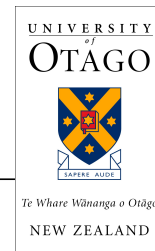
## Regulating Your Attention

		Direction	
		External	Internal
Width	Broad	Helpful: Post-ball; Looking around the ground	Helpful: Prior to bowler receiving the ball; reinforcing options against this bowler
	Narrow	Helpful: Batting – Focusing solely on the ball in bowler’s hand from top of run up until contact	<b>Helpful: Pre-ball routine; use of imagery, self-talk, and breathing plus behaviours (i.e., grip, stance, etc.)</b>



## Regulating Your Attention

		Direction	
		External	Internal
Width	Broad	Helpful: Post-ball; Looking around the ground	Helpful: Prior to bowler receiving the ball; reinforcing options against this bowler
	Narrow	<b>Helpful: Batting – Focusing solely on the ball in bowler’s hand from top of run up until contact</b>	Helpful: Pre-ball routine; use of imagery, self-talk, and breathing plus behaviours (i.e., grip, stance, etc.)



## Regulating Your Attention

<u>Internal</u>	<u>External</u>
<ul style="list-style-type: none"> <li>• Analysis &amp; problem-solving</li> <li>• Emotion-focused (i.e., breathing)</li> <li>• Interrupts the 'flow' of the movement</li> <li>• Associated with 'technical' concerns</li> </ul>	<ul style="list-style-type: none"> <li>• Gathering information</li> <li>• Less energy expenditure</li> <li>• Automatic and reactive response to skill execution</li> <li>• Fluent movements</li> <li>• Focus on requirements of the situation</li> </ul>



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## Summary

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- Reflection can help accelerate learning.
    - Reflecting-on-action enables you to make sense of your performances (increases self-awareness)
    - Anticipatory reflection helps you prepare for future performances.
    - Reflecting-in-action = self-awareness + self-regulation
  - Self-regulation helps you control your attention
    - Helps to focus your attention on the right thing at the right time.
- 





**PPEP**  
**Workshop 6**

**Learning From Experience: Self-Regulation and Self-Talk**

<b>Slide No.</b>	<b>Time (mins)</b>	<b>Overall Learning Objective</b>	<b>Participants learn about self-talk and how self-talk can influence their behaviours across multiple life domains. They understand how to complete their final OTHT and review the purpose of participating in the PPEP.</b>	
<b>21</b>	<b>50</b>	<b>Sub-Section</b>	<b>Sub-Section Outline and Key Learning Points (Participants will learn...)</b>	<b>Teaching Method</b>
1 – 4	5	Review of session 5	The PL asks the group to reflect on and discuss what they learned from session 5: reflective practice can help accelerate learning and assist before, during, and after performance reflecting-in-action is underpinned by an awareness of their thoughts and emotions which informs self-regulation strategies/skills self-regulation skills (e.g., self-talk) can help control their attentional focus which will influence their performance across multiple life domains	Facilitated group discussion
5	3	Overview of session 6	The PL introduces the structure of this session: about self-talk as a self-regulatory skill how awareness of self-talk can help them through the PSC and increase their potential of achieving IPS how to use self-talk to self-regulate how to complete OTHT 9	PL
6 - 7	7	Self-talk	The PL introduces self-talk as a skill to help the participants self-regulate by using examples: Self-talk is self-statements or inner thoughts which can be positive or negative, instructional or motivational	PL
8 - 10	12	Self-talk and self-awareness	The PL discusses the link between self-talk and self-aware before splitting the group in two. The participants are asked to discuss the types of self-talk they might experience before, during, and after performances where they have performed well and not so well: to be aware of the valence and tense of their self-talk prior to performance to differentiate between instructional vs motivational self-talk (task- or self-focused) to be conscious of the type of self-talk used post-performance. Specifically, to be conscious of the explanatory style of their self-talk (e.g., optimistic or pessimistic) the relationship between the type of self-talk that they use and experience and the effect on their motivation and confidence	Facilitated discussion in two groups
11 - 13	8	Self-talk and self-regulation	The PL describes and explains the link between self-talk and self-regulation: self-talk can be used to reappraise thoughts and emotions and/or redirect attentional focus (linked with PSC) self-talk can enhance skill execution and performance across a host of life domains self-talk patterns are learned and reinforced by experience	PL
14	2	Summary of session 6	The PL summarises the key learning points from session 6:	PL

			<p>self-talk is often an automatic response to any given situation</p> <p>monitoring self-talk can generate self-awareness of responses (reflecting-on-action)</p> <p>self-talk can be used to manage their responses and redirect their attention to the task (reflecting-in-action/self-regulation)</p>	
15 - 18	10	OTHT 9	<p>The PL explains that OTHT 9 contains two sections. The first section focuses on using anticipatory reflection to set goals associated with the various skills learned in the PPEP. Specifically, the PL asks the participants to reflect on how they will use the following skills on the field, off the field, and outside of cricket:</p> <p>reflection</p> <p>knowledge of the PSC</p> <p>self-regulation skills (e.g., self-talk)</p> <p>The PL explains that section two of OTHT 9 required the participants to reflect on their ability to self-regulate during performance. Participants are asked to identify how they used self-regulation skills to turn a poor performance into a good performance.</p>	PL
19 - 21	3	Summary of PPEP	<p>The PL reviews the key learning points from the PPEP:</p> <p>this programme consisted of six sessions and nine OTHT that were designed to enhance performance and personal excellence</p> <p>reflective practice was used to help participants develop knowledge associated with the PSC and skills to help manage their responses in multiple performance contexts</p>	PL

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# Performance and Personal Excellence Programme

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Learning From Experience: Self-Regulation and Self-Talk

NZC WTS

August, 2016

NZC HPU, Lincoln University



Adam Miles, M.Sc.

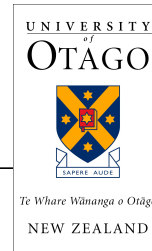


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## Review

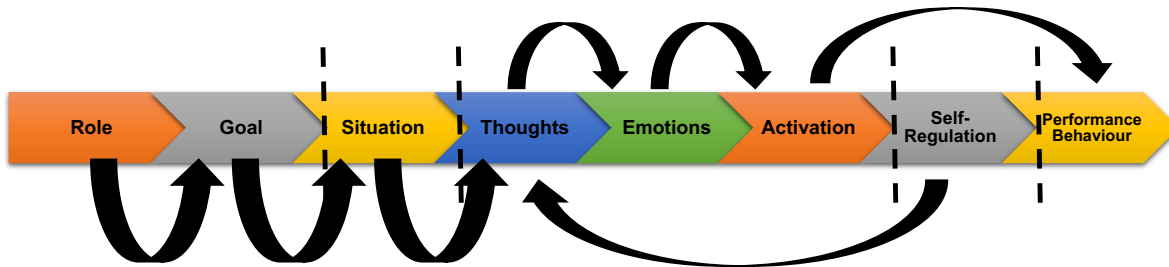
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- Reflection can help accelerate learning.
    - Reflecting-on-action enables you to make sense of your performances (increases self-awareness)
    - Anticipatory reflection helps you prepare for future performances.
    - Reflecting-in-action = self-awareness + self-regulation
  - Self-regulation helps you to control your attention
    - Helps to focus your attention on the right thing at the right time.
-



## Managing Our Responses Effectively

Performance supply chain: Ongoing process of monitoring the situation in relation to your goals

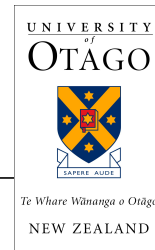


## Overview

### Learning From Experience: Self-Regulation and Self-Talk

- Self-talk
- Self-awareness and self-talk
- Self-regulation and self-talk
- Take-home task nine





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## Self-Talk

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*“There’s a point fielder and a deep extra cover, they’re both in a position for me to hit it hard and square of the wicket for four. So by predicting the shot I instantly commit to it, getting my body into position early. As the bowler runs into bowl I will watch the ball and react accordingly. The self-talk has allowed me to feel confident in taking on this run-scoring option.”*

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## Self-Talk

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- Self-statements or inner voice; conscious thoughts
- Positive or negative
- Instructional or motivational
- Out loud or internal

*“You can be on the field and doubting yourself... You get your own internal voice saying ‘you are not up to it’ or ‘you are missing balls’... it’s those times when it’s important to get yourself back in the moment as a batsman”*

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## Self-Talk and Self-Awareness

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### Group task:

Discuss the types of self-talk that you might experience **before**, **during**, and **after** performance for the following situations:

- a) When you are performing well
- b) When you could be performing better



---

## Self-Talk and Self-Awareness

---

### Before

- Positive or negative?
  - Represent *challenge* or *threat*?
- Tense (past, present, future)?

### During

- Non-judgmental
- Tense?
- Instructional or motivational?
  - Task-focused or self-focused?





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## Self-Talk and Self-Awareness

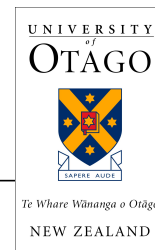
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### After

- Explanatory style
  - Optimistic or pessimistic

Does your self-talk indicate that your performance was...

- Repeatable?
  - Under your control?
  - Influenced by how you feel about other areas of your life?
- **Relationship with motivation and confidence**
- 



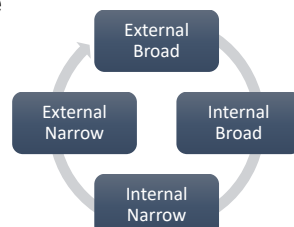
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## Self-Talk and Self-Regulation

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### Performance Excellence

- When athletes aren't thinking anything and totally immersed in the task (IPS)
- Self-talk can be used to help your performance become more instinctive





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## Self-Talk

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*They have moved the backward-point away and I say to myself, "that leaves reverse sweep open", I find myself not necessarily having to think about the shots that I play. I have subconsciously told myself that there is space and the shots happen naturally. By vocalising the fielding positions it allows me to play shots on instinct.*

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## Self-Talk and Self-Regulation

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### Practical Advice

#### **Skill execution**

- Focused on the present
- Task-focused
- Positive

#### **General**

- Increased motivation
- Increased confidence

#### **Learning**

- Self-talk patterns are learned and reinforced by experience







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## Summary of Session Six

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- Self-talk is often an automatic response to any given situation
  - Monitoring self-talk can generate self-awareness of responses (reflecting-on-action)
  - Self-talk can be used to manage responses and redirect attention to the task (reflecting-in-action; self-regulation)
- 



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## Take-Home Task 9a: Anticipatory Reflection (1)

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How will you use the <b>reflection skills</b> learned on the PPEP in future?
1. How will you use reflection skills to help your performance <i>on the field</i> ?
2. How will you use reflection skills to help you in situations <i>off the field</i> ?
3. How will you use reflection skills to help you in situations <i>outside of cricket</i> ?

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## Take-Home Task 9a: Anticipatory Reflection (2)

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How will greater knowledge and understanding of the **performance supply chain (i.e., self-awareness)** learned on the PPEP help you in future?

- |  |
|--|
| 4. How will being more self-aware help your performance <i>on the field</i> ?        |
|  |
| 5. How will being more self-aware help you in situations <i>off the field</i> ?      |
|  |
| 6. How will being more self-aware help you in situations <i>outside of cricket</i> ? |
|  |



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## Take-Home Task 9a: Anticipatory Reflection (3)

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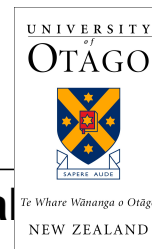
How will you use the **self-regulation skills (i.e., self-talk)** learned on the PPEP in future?

- |  |
|--|
| 7. How might you use self-talk to help your performance <i>on the field</i> ?        |
|  |
| 8. How might you use self-talk to help you in situations <i>off the field</i> ?      |
|  |
| 9. How might you use self-talk to help you in situations <i>outside of cricket</i> ? |
|  |



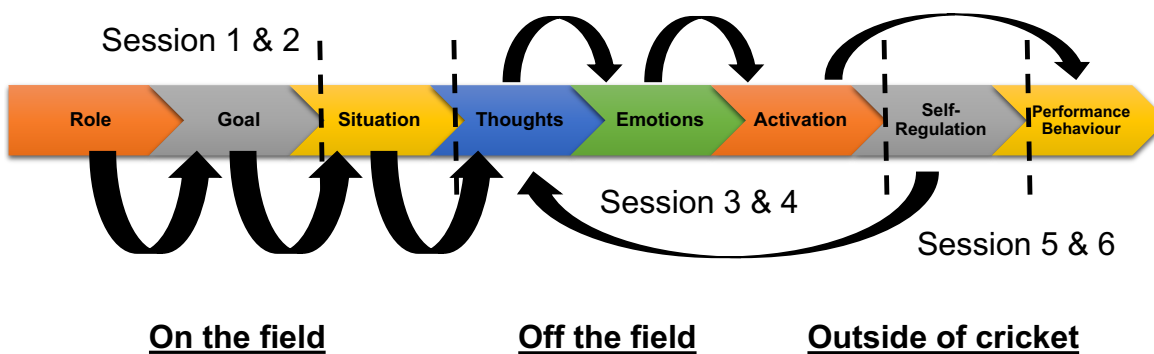
## Take-Home Task 9b: Identifying Reflection-in-Action

<b>Take-Home Task 9.</b>	<b>29<sup>th</sup> August – 4<sup>th</sup> September 2016</b>
<b>Role:</b>	
10. Describe a recent situation where you weren't performing well at the start but you managed to perform well in the end.	
11. What were you thinking and feeling prior to this situation?	
12. What were you thinking and feeling during this situation?	
13. What did you do to turn this performance around?	
14. What were you thinking and feeling as you started to perform better?	
15. What have you learned from reflecting on this situation?	



## Summary of Performance and Personal Excellence Programme

Enhance self-awareness and develop self-regulatory skills through the use of reflective practice.





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## What Next...

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**Next week:** Take-home task nine and questionnaire six

**Camp 5:** Post-programme follow-up

**3<sup>rd</sup> October:** Questionnaire seven

**28<sup>th</sup> November:** Questionnaire eight

**20<sup>th</sup> February:** Questionnaire nine

**End of Season:** Post-season follow-up

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**Thank you for your time.**

**Questions?**

## **Appendix H. Study Two: Information Sheet**

### **PERFORMANCE AND PERSONAL EXCELLENCE PROGRAMME PILOT: INFORMATION SHEET FOR PLAYERS**

Thank you for showing an interest in the Performance and Personal Excellence Programme (PPEP).

This document contains information on the PPEP for participants of the pilots for the PPEP. The information included in this document explains:

- The aims of the PPEP
- The requirements of the players should they choose to participate in the PPEP.

#### **What is the aim of this PPEP?**

To provide participants of the PPEP with the opportunity to develop knowledge and skills to help their development as a cricketer and person.

#### **What is required from you?**

##### **PPEP**

- Attend six, 60-minute sessions.
- Complete several take-home task between each session.
- Each take-home task will take approximately 15-minutes and can be completed at a time most convenient to you.

#### **Can you change you mind and withdraw from the project?**

You are free to withdraw your participation at any point during the PPEP without any disadvantage to yourself.

### **What information will be collected and what use will be made of it?**

- The programme leader will collect information on his experiences of delivering the PPEP.
- The information will be collected from reflections on the programme leaders experiences during programme delivery and entered in a diary
- The information will be used to make amendments to the PPEP
- This information may be published but any information included in written reports, articles, or presentations **will not** include any individual participants names. Every effort will be made to protect your anonymity.
- The information collected will be kept anonymous and securely stored in such a way that only Adam Miles will be able to gain access to it.
- At the end of the project any personal information will be destroyed immediately except that, as required by the University's research policy, any information on which the results of the project depend will be retained in secure storage for five years, after which it will be destroyed.

### **What if participants have any questions?**

Contact: Adam Miles, School of Physical Education, Sport and Exercise Sciences

E-mail: [adam.miles@postgrad.otago.ac.nz](mailto:adam.miles@postgrad.otago.ac.nz)

(This study has been approved by the University of Otago Human Ethics Committee. If you have any concerns about the ethical conduct of the research you might contact the Committee through the Human Ethics Committee Administrator [ph034798256]. Any issues you raise will be treated in confidence and investigated and you will be informed of the outcome.)

## Appendix I. Study Two: Informed Consent Document

### **PERFORMANCE AND PERSONAL EXCELLENCE PROGRAMME PILOT: INFORMED CONSENT DOCUMENT**

I \_\_\_\_\_ (please print name) have read the Information Sheet concerning the Performance and Personal Excellence Programme (PPEP) and I understand what it is about. All my questions have been answered to my satisfaction. I understand that I am free to request further information at any stage.

I know that:

- My participation in the project is entirely voluntary;
- I am free to withdraw from the project at any time without any disadvantage;
- Personal identifying information (i.e. demographic information) will be destroyed at the conclusion of the project but any raw data on which the results of the project depend will be retained in secure storage for five years, after which they will be destroyed;
- The results of the project might be published and will be available in the University of Otago Library (Dunedin, New Zealand), and that every attempt will be made to protect my confidentiality and anonymity;
- The results of the study will be treated in strict confidence. Within these restrictions, results of the study will be made available to me at my request.

I agree to take part in this project.

Name:

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Signature:

---

Contact No.:

---

Email:

---

(This study has been approved by the University of Otago Human Ethics Committee. If you have any concerns about the ethical conduct of the research you might contact the Committee through the Human Ethics Committee Administrator [ph034798256]. Any issues you raise will be treated in confidence and investigated and you will be informed of the outcome.)



## **Appendix J. Anderson's Reflective Practice Model**

### **Johns' (1994) Structured Reflection Procedures(as revised by Anderson, 1999a)**

Core question: What information do I need access to in order to learn through this consulting experience?

#### **Cue Questions**

##### ***1.0 Description of the Consulting Experience***

- 1.1: Phenomenon: Describe the "here and now" of the experience. (*where, when, what*)
- 1.2: Causal: What essential factors contributed to this experience? (*why*)
- 1.3: Context: Who are the significant background actors in this experience? (*who*)
- 1.4: Clarifying: Put it back together and establish what the key issues are in this experience that I need to pay attention to.

##### ***2.0 Reflection***

- 2.1: What was I trying to achieve?
- 2.2: Why did I intervene as I did?
- 2.3: What internal factors influenced my actions? (*thoughts, feelings, previous experience*)
- 2.4: What external factors influenced my actions? (*other people, organizational factors, time*)
- 2.5: What sources of knowledge did/should have influenced my decision making?

##### ***3.0 Consequences of Actions***

- 3.1: What were the consequences of my actions for? (*what did I learn/realize -cognitive component: myself, the athlete, the people I work with*)
- 3.2: How did I feel about this experience *when it was happening?* (*affective*)
- 3.3: How did the athlete feel?
- 3.4: How did I know what the athlete felt like?

##### ***4.0 Alternative Tactics***

4.1: Could I have dealt with the situation better?

4.2: What other choices did I have?

4.3: What would be the consequences of these choices?

### ***5.0 Learning***

5.1: How do I now feel about this experience?

5.2: How have I made sense of this experience in light of past experiences and future practice?

5.3: Action: Write down the key lessons in your notebook.

## **Appendix K. Study Three: Information Sheet**

# **PERFORMANCE AND PERSONAL EXCELLENCE PROGRAMME NEW ZEALAND CRICKET WINTER TRAINING SQUAD 2016 INFORMATION SHEET FOR PARTICIPANTS**

Thank you for showing an interest in the Performance and Personal Excellence Programme (PPEP).

This document contains information on the PPEP for the New Zealand Cricket (NZC) Winter Training Squad (WTS) 2016. The information included in this document explains:

- The aims of the PPEP
- The requirements of the players should they choose to participate in the PPEP.

### **What is the aim of this PPEP?**

To provide players in the NZC WTS 2016 with the opportunity to develop knowledge and skills to help their development as a cricketer and person.

### **What is required from you?**

#### **PPEP**

- Attend six, 60-minute sessions over a 12-week period between WTS Camp 2 and WTS Camp 5.
- Complete one take-home task each week between Camp 2 and 5 (nine in total).
- Each take-home task will take approximately 15-minutes and can be completed at a time most convenient to you.
- The questionnaires will be completed online via confidential survey software. You will receive link via email so that you can complete each questionnaire at a time that is most convenient to you.

## **Evaluation**

- Complete a questionnaire on nine occasions over an 11-month period (2 in May, 1 in June, 1 in July, 2 in August, 1 in October, 1 in November, and 1 in February)
- Eight of the questionnaires will take approximately 10-minutes to complete and one of the questionnaires will take approximately 15-minutes to complete.
- The questionnaires will be completed online via confidential survey software. You will receive link via email so that you can complete each questionnaire at a time that is most convenient to you.
- Participate in a follow-up interview during Camp 5. The interview will take approximately 30-minutes.

## **Can you change you mind and withdraw from the project?**

You are free to withdraw your participation at any point during the PPEP without any disadvantage to yourself.

## **What information will be collected and what use will be made of it?**

- The information in the questionnaires will be used to understand if the PPEP has helped your development as a cricketer and as a person.
- The information from the follow-up interviews will be used to understand the effectiveness of the PPEP.
- This information may be published but any information included in written reports, articles, or presentations **will not** include any individual players' names. Every effort will be made to protect your anonymity.
- The information collected will be kept anonymous and securely stored in such a way that only Adam Miles will be able to gain access to it.

- At the end of the project any personal information will be destroyed immediately except that, as required by the University's research policy, any information on which the results of the project depend will be retained in secure storage for five years, after which it will be destroyed.

### **What if participants have any questions?**

Contact:

Adam Miles

School of Physical Education, Sport and Exercise Sciences

E-mail: [adam.miles@postgrad.otago.ac.nz](mailto:adam.miles@postgrad.otago.ac.nz)

(This study has been approved by the University of Otago Human Ethics Committee. If you have any concerns about the ethical conduct of the research you might contact the Committee through the Human Ethics Committee Administrator [ph034798256]. Any issues you raise will be treated in confidence and investigated and you will be informed of the outcome.)

**Appendix L. Study Three: Informed Consent Document**

**PERFORMANCE AND PERSONAL EXCELLENCE PROGRAMME NEW  
ZEALAND CRICKET WINTER TRAINING SQUAD 2016 INFORMED  
CONSENT DOCUMENT**

I \_\_\_\_\_ (please print name) have read the Information Sheet concerning the Performance and Personal Excellence Programme (PPEP) and I understand what it is about. All my questions have been answered to my satisfaction. I understand that I am free to request further information at any stage.

I know that:

- My participation in the project is entirely voluntary;
- I am free to withdraw from the project at any time without any disadvantage;
- Personal identifying information (i.e. demographic information) will be destroyed at the conclusion of the project but any raw data on which the results of the project depend will be retained in secure storage for five years, after which they will be destroyed;
- The results of the project might be published and will be available in the University of Otago Library (Dunedin, New Zealand), and that every attempt will be made to protect my confidentiality and anonymity;
- The results of the study will be treated in strict confidence. Within these restrictions, results of the study will be made available to me at my request.

I agree to take part in this project.

Name:

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Signature:

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Contact No.:

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Email:

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(This study has been approved by the University of Otago Human Ethics Committee. If you have any concerns about the ethical conduct of the research you might contact the Committee through the Human Ethics Committee Administrator [ph034798256]. Any issues you raise will be treated in confidence and investigated and you will be informed of the outcome.)

## **Appendix M. Study Three: Questionnaires**

There are two purposes for this questionnaire:

- (1) to find out more about you and your involvement in cricket.
- (2) to understand if the PPEP has helped you develop as a cricketer and as a person.

The first part of this questionnaire asks you to provide some basic information about yourself.

The main part of this questionnaire consists of 43 statements across three separate sections. Each section requires you to respond to statements using a different scale. For each section, you will be asked to respond to the statements on the following scales:

- (1) 1 (strongly agree) to 7 (strongly disagree)
- (2) 1 (no agreement) to 5 (much agreement)
- (3) 1 (yes definitely) to 4 (not at all)

This questionnaire will take approximately 10-minutes to complete.

**REMINDER: The information that you provide in this questionnaire will only be available to Adam. The information provided will remain anonymous and confidential.**

What is your date of birth?

Which country were you born?

Which country did you attend high school?

What age did you start playing cricket?

How many years have you been contracted to a NZC Major Association?

Do you have an occupation other than cricket?



What is your occupation?

What type of contract are you on in this occupation?

What is your highest academic qualification?

Please select the description that best matches your current physical condition.

Please describe your injury and its effect on your participation in physical activity.

### **Section One**

This section contains 7 statements (S1 - S7). Please select a number from 1 (strongly agree) to 7 (strongly disagree) that best reflects the extent to which you agree or disagree with each statement regarding your participation in **cricket**.

1. I consider myself a cricketer.
2. I have many goals related to cricket.
3. Most of my friends are cricketers.
4. Cricket is the most important part of my life.
5. I spend more time thinking about cricket than anything else.
6. I feel bad about myself when I do poorly at cricket.
7. I would be very depressed if I were injured and could not play cricket.

## Section Two

This section contains 18 statements (S8 - S25). Please read each of the following statements carefully, thinking about your **life experiences in the past week**, and then select a number from 1 (no agreement) to 5 (much agreement) to indicate how true it is to you.

8. I felt a sense of contact with people who care for me, and whom I care for.
9. I was lonely.
10. I felt close and connected with other people who are important to me.
11. I felt unappreciated by one or more important people.
12. I felt a strong sense of intimacy with the people I spend time with.
13. I had disagreements or conflicts with people I usually get along with.
14. I was successfully completing difficult tasks and projects.
15. I experienced some kind of failure, or was unable to do well at something.
16. I took on and mastered hard challenges.
17. I did something stupid, that made me feel incompetent.
18. I did well even at the hard things.
19. I struggled doing something that I should be good at.
20. I was free to do things my own way.
21. I had a lot of pressures I could do without.
22. My choices expressed my "true self."
23. There were people telling me what I had to do.
24. I was really doing what interests me.
25. I had to do things against my will.

### Section Three

This section contains 18 statements (S26 - S43). Please rate whether you have engaged in the following activities **in the last week**. Please rate your experiences by selecting a number between 1 (yes definitely) and 4 (not at all).

26. Tried doing new things.
27. Tried a new way of acting around people.
28. Started thinking about my future.
29. Thought about who I am.
30. I set goals for myself.
31. Learned to find ways to achieve my goals.
32. Learned to consider possible obstacles when making plans.
33. Learned to push myself.
34. Learned to focus my attention.
35. Observed how others solved problems and learned from them.
36. Learned about developing plans for solving a problem.
37. Used my imagination to solve a problem.
38. Learned about organising time and not procrastinating (not putting things off).
39. Practiced self-discipline.
40. Learned about controlling my temper.
41. Became better at dealing with fear and anxiety.
42. Became better at handling stress.
43. Learned that my emotions affect how I perform.

## **Appendix N. Study Three: Qualitative Follow-Up Interview Guide**

### **STUDY THREE: QUESTIONNAIRE FOLLOW-UP INTERVIEW GUIDE:**

#### **PARTICIPANT A**

##### **Introduction**

- Introduction and thanks
- Interview Procedure
- Approximately 60-minutes
- Recorded on a Dictaphone
- Participants can choose not to answer any of the questions in this interview and are welcome to withdraw at any time.

##### **Main Interview**

Over the past 10-months, you participated in the PPEP, completed nine take-home tasks related to the PPEP, and responded to nine questionnaires. The main purpose of this interview is to explore your experiences over this period. To do this, I have constructed an interview guide based on some of the information that you provided in the take-home tasks and the questionnaires. The questionnaire that you completed consisted of three separate questionnaires. The first questionnaire measured the extent to which you identified as a cricketer. The second questionnaire measured your well-being. The third questionnaire measured the extent to which you had engaged various developmental tasks associated with the promoted knowledge and skills in the PPEP (e.g., managing your emotions).

I have divided the interview guide into two sections. The first section has been designed to explore your experiences between May and September 2016 (i.e., the off-season). The second section has been designed to explore your experiences between October 2016 and February 2017. Each section contains a similar sequence of questioning concerning the extent to which you identify as a cricket, your well-being, and the types of developmental tasks in which you engaged.

## Section One

I would like to talk to you about your experiences between May and September 2016 (off-season). I would like to ask you about your commitments and experiences over this period. Specifically, commitments refer to the tasks or activities that you engaged in during the off-season. For example, the Winter Training Squad was a commitment. Experiences refer to one-off instances that weren't necessarily planned but influenced your life in some way. An example of an experience might be meeting a significant other or having a discussion that changes your plans.

### ***Q. What commitments did you have between May and September 2016?***

- Cricket commitments
- University papers
- Vocational experiences
- Social commitments
- Family commitments
- Other
- Can you describe approximately when you had this commitment? (i.e., approximate dates)
- Can you describe what this commitment required of you?
- How important was this commitment to you?
- Why was this commitment important to you?
- How much choice did you have over this commitment?
- How interested were you in this commitment?
- How much time did you spend thinking about this commitment?
- When engaging in this commitment, how connected did you feel with other people who were important to you?
- How would you describe your relationship with people that were important to you?

- How did this commitment make you feel?
- How did you feel if you could not meet this commitment?
- What was the outcome of this commitment?
- How did this outcome influence your emotions and behaviours?

***Q. What other commitments did you have between May and September 2016?***

- Cricket commitments
- University papers
- Vocational experiences
- Social commitments
- Family commitments
- Other
- Can you describe approximately when you had this commitment? (i.e., approximate dates)
- Can you describe what this commitment required of you?
- How important was this commitment to you?
- Why was this commitment important to you?
- How much choice did you have over this commitment?
- How interested were you in this commitment?
- How much time did you spend thinking about this commitment?
- When engaging in this commitment, how connected did you feel with other people who were important to you?
- How would you describe your relationship with people that were important to you?
- How did this commitment make you feel?
- How did you feel if you could not meet this commitment?

- What was the outcome of this commitment?
- How did this outcome influence your emotions and behaviours?

*Repeat process and sequence of questioning in line with any other commitments*

***Q. Did you have any other notable experiences between May – October 2016?***

- Can you describe approximately when this happened? (i.e., approximate dates)
- How did this experience make you feel?
- What were the consequences of this experience?
- How important was this experience to you?
- Why was this experience important to you?
- How much choice did you have over this experience?
- During this experience, how connected did you feel with other people who were important to you?
- How would you describe your relationship with people that were important to you?
- How did this experience influence your emotions and behaviours?

*Repeat process and sequence of questioning in line with any other experiences*

**Section Two**

I would like to talk to you about your experiences between October 2016 and March 2017 (i.e., 2016-17 season). I would like to ask you about your commitments and experiences over this period. Specifically, commitments refer to the tasks or activities that you engaged in during the off-season. For example, the Canterbury Cricket Association programme and playing schedule might have been a commitment. Experiences refer to one-off instances that weren't necessarily planned but influenced your life in some way. An example of an experience might be meeting an injury or having a discussion that changes your plans.

***Q. What commitments did you have between October 2016 and March 2017?***

- Cricket commitments
- University papers
- Vocational experiences
- Social commitments
- Family commitments
- Other
- Can you describe approximately when you had this commitment? (i.e., approximate dates)
- Can you describe what this commitment required of you?
- How important was this commitment to you?
- Why was this commitment important to you?
- How much choice did you have over this commitment?
- How interested were you in this commitment?
- How much time did you spend thinking about this commitment?
- When engaging in this commitment, how connected did you feel with other people who were important to you?
- How would you describe your relationship with people that were important to you?
- How did this commitment make you feel?
- How did you feel if you could not meet this commitment?
- What was the outcome of this commitment?
- How did this outcome influence your emotions and behaviours?



***Q. What other commitments did you have between October 2016 and March 2017?***

- Cricket commitments
- University papers
- Vocational experiences
- Social commitments
- Family commitments
- Other
- Can you describe approximately when you had this commitment? (i.e., approximate dates)
- Can you describe what this commitment required of you?
- How important was this commitment to you?
- Why was this commitment important to you?
- How much choice did you have over this commitment?
- How interested were you in this commitment?
- How much time did you spend thinking about this commitment?
- When engaging in this commitment, how connected did you feel with other people who were important to you?
- How would you describe your relationship with people that were important to you?
- How did this commitment make you feel?
- How did you feel if you could not meet this commitment?
- What was the outcome of this commitment?
- How did this outcome influence your emotions and behaviours?

*Repeat process and sequence of questioning in line with any other commitments*

***Q. Did you have any other notable experiences between October 2016 and March 2017?***

- Can you describe approximately when this happened? (i.e., approximate dates)
- How did this experience make you feel?
- What were the consequences of this experience?
- How important was this experience to you?
- Why was this experience important to you?
- How much choice did you have over this experience?
- During this experience, how connected did you feel with other people who were important to you?
- How would you describe your relationship with people that were important to you?
- How did this experience influence your emotions and behaviours?

*Repeat process and sequence of questioning in line with any other experiences*

**Section Three**

I would now like to talk about how you have used the skills that you learned in the PPEP during the last six-months. To do this, I will first reintroduce you to what you wrote in your final take-home task. In that take-home task, you were asked to describe how you will use your knowledge and skills of reflective practice, self-awareness, and self-talk on the field, off the field, and in life outside of cricket in the future.

**Reflective practice.** We will start by focusing on your use of reflective practice skills.

***Q. Can you describe a specific example of when you used reflective practice to influence your behaviours/performances on the field?***

- How did this influence your behaviours/performances on the field?
- Why did this influence your behaviours/performances in that way?

***Q. Can you describe a specific example of when you used reflective practice to influence your behaviours/performances off the field?***

- How did this influence your behaviours off the field?
- Why did this influence your behaviours in that way?

***Q. Can you describe a specific example of when you used reflective practice to influence your behaviours in life outside of cricket?***

- How did this influence your behaviours?
- Why did this influence your behaviours in that way?

***Q. How would you describe your use of reflective practice during the last six months?***

Used:

- Can you provide a specific example please?
- Why have you used reflective practice in this way?
- In which area of your life have you used reflective practice the most?
- How did the use of reflective practice influence your behaviours?

Not used:

- Can you explain why you haven't used reflective practice?

**Self-awareness.** I would now like to discuss how self-awareness influenced your behaviours during the last six months.

***Q. Can you describe a specific example of how self-awareness influenced your behaviours/performances on the field?***

- How did this influence your behaviours/performances?
- Why did this influence your behaviours/performances in that way?

***Q. Can you describe any other specific examples of how self-awareness influenced your behaviours off the field?***

- How did this influence your behaviours?
- Why did this influence your behaviours in that way?

***Q. Can you describe any other specific examples of how self-awareness influenced your behaviours in life outside of cricket?***

- How did this influence your behaviours?
- Why did this influence your behaviours in that way?

***Q. How would you describe your use of self-awareness during the last six months?***

Used:

- Can you provide a specific example please?
- Why have you used self-awareness in this way?
- In which area of your life have you used self-awareness the most?
- How did self-awareness influence your behaviours?

Not used:

- Can you explain why you haven't used self-awareness?

**Self-talk.** I would now like to discuss how self-talk influenced your behaviours during the last six months.

***Q. Can you describe a specific example of how you used self-talk to influence your behaviours on the field?***

- How did this influence your behaviours?
- Why did this influence your behaviours in that way?

***Q. Can you describe a specific example of how you used self-talk to influence your behaviours off the field?***

- How did this influence your behaviours?
- Why did this influence your behaviours in that way?

***Q. Can you describe a specific example of how you used self-talk to influence your behaviours in life outside of cricket?***

- How did this influence your behaviours?
- Why did this influence your behaviours in that way?

***Q. How would you describe your use of self-talk during the last six months?***

Used:

- Can you provide a specific example please?
- Why have you used self-talk in this way?
- In which area of your life have you used self-talk the most?
- How did the use of self-talk influence your behaviours?

Not used:

- Can you explain why you haven't used self-talk?

## Appendix O. Study Three: Qualitative Follow-Up Interview Example Transcript

AM: Before we go into some of the questions I will give you a brief recap of the programme. The programme consisted of several sessions, take-home tasks, and questionnaires, and a follow-up interview. The purpose of this interview is to explore your experiences from the start of the programme to the present day. The first section of this interview has been designed to explore your experiences during the off-season (May and September). The second section has been designed to explore your experiences from October to the present day (March), and the third section of the interview has been designed to understand the skills that you have used that were taught in the programme

Experiences between May and September. When I refer to experiences, it could mean the Winter Training Camp. In life outside of cricket, it means a girlfriend or partner or having a discussion that changed your plans with regard to study or life after cricket. So, what experiences did you have between May and September 2016?

P1: So, the winter for me was being part of the winter squad. Working on my cricket skills and my s and c, that was the majority of my winter. I had University as well and I did some 300 level papers so the stress levels were high in terms of Uni because the challenge was a bit harder. The social side of things were steady. I lot of my close mates are in [*name of city*] now but I moved into a flat with [*name*] and [*name*] so two other cricketers who play for [*name of team*]. That was a significant move because it helped the training a lot as we were on the same programme and living the same lifestyle as those guys. You try and eat properly and you try and sleep properly and you get up and go to the gym at the same time. In terms of routines it made things a lot easier. I think that transition made things a lot easier to get things done because it was normal for all of us. If you compare living in a flat full of guys who are doing different things or full-time study they tend to get up at 10 in the morning and

they go to bed at 1am which has happened in the past. So being away from that was pretty helpful.

AM: What papers were you taking at University?

P1: In semester 1 I was taking business law papers. I'm doing a business degree in commerce and marketing so the Law side of things was quite new to me. So being a student-athlete you don't really progress your papers as quick as a lot of people your age would do. So, a lot of time you are studying on your own and you have to be independent on that front. You can meet people and they can help you out but it was a new way of learning for me with the law side of things. once I worked out how the Law side of things worked I found it quite enjoyable near the end. In the second semester, I was doing advanced financial accounting and the 200-level paper I did with financial accounting I found it quite tough and I knew that because of the season it can get really stressful. So, the things that I learned from previous years was to attend all my tutorials and get all the internal grades that i can and do as well as I can to make the back end of the year easier. I met someone on the course and that made it a lot better in terms of the tutorials and stuff like that and the way the schedule worked, last season there was an A series that came right around exam time, whereas this time there wasn't as much on. The cricket commitment wasn't as heavy this time and I was more planned around my time. Don't get me wrong, you are still cramming in the last couple of weeks prior to exams but it's nowhere near as tough as when you aren't planned. So, it's still a bit stressful but if I compared it to last year I made it a bit easier for myself. I don't think I would have passed if I wasn't that organised.

So, with regard to my flatmates they were working or studying at Lincoln which is a little more flexible but I still managed time to get things done.



AM: So, you are studying at [*name of university*]?

P1: Yep I was previously at the [*name of university*] and I changed to [*name of university*]. I did all my 100 level papers in [*name of university*] about two years ago and I've now got six more papers to do. I was a full-time student in [[*name of university*] in a hall and I was around 100s of people who were studying the same thing so you never really had to do an assignment on your own. I've been here for three seasons so it's been two and half years and I've been doing part time study since I returned home. When I first moved back to [*name of province*] I moved into the same flat with three cricketers. That was through the season and when the season finished I moved back home purely just to save money and then I stayed at home through the next summer and then through the next winter I moved back into that flat so I jumped back in and then there was another flat that I was in for four months and that was with a full-time drain layer and two full-time students and they were in there early 20s socialising and doing what young people do. So, they threw parties when I was away so that was a bit more distracting and like with flat dinners they wouldn't cook proper food so your preparation wasn't as good. So, I figured that my requirements were different to most average early 20 year olds. So, I had to be really disciplined or make it easy for myself and move in with lads who were doing similar things so when it came to cricket we would buy the same food and do the same thing rather than doing it independently or trying to fight against the other guys. It gave me that support network.

The main difference I had in the past was that I was doing my conditioning with Sharpie and he would train with me. That was so much better than going to a team training. So, some days you go to the gym and you aren't very motivated so this was different because he would push me and I would push him and the results were great. So, the one-to-one setting made training much more effective. I'd love to think I could get it done on my own but I

think that's just human nature. Having the coach with you all the time made me certain that I was also doing things right and I trusted the process. So that would happen every week, Monday, Wednesday, and Friday. I would do my cycling on Tuesday and Thursday so I would go to the spin classes because it was in a group. It was great to have someone trying with you. I think someone my age and that young in their career rarely knows what to do and what they need so that really helped and made me confidence and when you believe in it then you don't really engage.

I also ask a lot of questions about why we are doing this and if you understand it you then buy in to it more.

AM: So, what were your main goals across the winter?

P1: In university, I was happy with my grades and it was my second year in the winter squad so I knew what it was about and what they expected of us. I think when I first came into the winter squad I thought that it was a student teacher environment and I heard that it was quite military but I realised that it was very open and these guys are here to teach us but they do it so we can ask questions or doubt it or say no. Not they we did say no but we had that mental freedom and there were some things that we had to do and again it helped us develop our own way. Last winter I was still a believer that we were young players and they were asking us to drive it and, actually, we needed some guidance and we were putting trust in you guys and I had a chat with Stony and he was saying 'you need to do this' and I said 'Bob knows more about batting than I do' and all of these guys know more about it than I do so they need to give me advice and I was open to that but if you had a camp with 29/30 year olds then they could stand back a little bit but we need a more hands on approach. Unless it was a rare

case where someone knows their game really well and with coaches of that level in the winter squad you definitely can trust them.

So, one of the big things for me was developing a routine and being organised. The harder thing about getting into study or getting into anything is establishing that routine. Once you've got that routine the week just blows by and it becomes a hell of a lot easier. I think that was the main thing and being in the flat helped that. Being in the flat helped that and I knew I had times where I needed to be places and then I guess I realised the opportunities where I could get my study down or cash in on other things like relaxing or getting chores done. It was also breaking down things to understanding what it was I wanted to achieve in those blocks of study or those periods of time too; so, setting goals and achieving them.

AM: So, you mentioned that you had an injury...

P1: Yeah functionally I can do everything apart from run. It was a stress fracture so running would have set me back so I just biked instead of run. In fairness, they thought my lack of running would affect my bleep test score. I will take that into the winter and I will do things in groups on the bike with other people where someone else is driving it.

AM: Towards the end of the winter, did the injury affect you?

P1: Physically I was fine but mentally I was worried about the pain happening again. I was also looking for signs and being aware of pain down my lower leg. It was enjoyable and it got to the stage where I got used to it and in the winter when I got back to running I didn't have any pain so it was strange but I was always weary that the pain was going to return. I guess I was searching for something that I didn't need to be.

AM: What experiences did you have over the summer?

P1: So, after having a good winter I felt like I had ticked all of the boxes and I was excited to have a good season and then all of a sudden, my expectations went up quite a bit. The last two seasons I had jumped up every time and I had an even better winter so I was hoping for an even better summer and I jumped into the season to keen and I had two high expectations where I was trying to take wickets every ball and in terms of the start of the season it was below where I wanted and it was very disappointing. All of a sudden everyone was saying I was running into the crease a lot harder and you look rushed and I was wondering whether I was getting used to this new body or mentally I has all these expectations about performance. As a bowler in cricket, wickets are your currency but you can't really control what happens. So, I had a chat to [*name of mental skills trainer*] about this and we talked about standard rather than expectations. I guess that it was the first time... At the start of the season I had an article written about me and I said I'd like to take more wickets and win the Plunket Shield with [*name of team*] and that I was a senior bowler. So, the expectations were a lot higher but I was quite excited by that and the first couple of overs I bowled at the start of the season weren't great and I realised that these things weren't just going to fall into my lap. Just because I've done all the trainings didn't mean that I was going to get the outcomes. However, there were certain positives because I felt really fresh going into every spell that I bowled compared to last season where I felt quite tired. I was really just trying to hold on to the positives hoping that it would click and come back. But that was a mistake too by thinking that it would click and come back in one ball. I needed a mental shift rather than worrying about technique or worrying about myself rather than getting into the game scenario and worry about my role. I did need to make a technical change so I had a session with [*name of coach*] and then in the change I had a good focus on my mental state and what I should be focusing on. So, it did start to get better but cricket is an up and down game and

you've got to enjoy getting out of those slumps. It's all part of being a professional athlete and it's not going to be easy. So, it's about appreciating the low moment and when it does come right really being able to enjoy it.

AM: So, if you had to put a time period on this phase, when did it happen?

P1: There was five four-dayers at the start and I guess the first two I wasn't great and the ball didn't really swing for me but my numbers weren't that great. In the third game it was swinging but I didn't feel nay rhythm and then in Invercargill it rained for four-dayers and then against [*name of team*] and [*name of town*] I didn't take any wickets in the first innings but in the second innings it was flat and then we set them a carrot to chase and the spinners weren't really doing it so I could then rely on my fitness to pull through and then I came on and I wasn't feeling great but I realised that I could still take wickets and I could still win the game. I ended up taking five-fer and [*name of coach*] said it looked like I kept in the game when everyone else was saying that this wicket is too flat. So, I realised that that was a strength of mine. Staying competitive and if I could say to myself at the end of the game I didn't give up and I kept trying to whack it into the pitch and if the wickets happen that's great but if they don't at least I gave myself the best chance. So that's where my training became beneficial and it was controllable and now I'm in that physical state I can do it. So, it's getting into the game scenario and knowing the job that I had to do and doing it to my best. Rather than focusing on my front arm or searching for wickets.

AM: So, then you went into T20....

P1: Yeah so, I played all the T20s and there was a bit of... So, this was my first campaign and I wanted to see how I went and there weren't any expectations so it was exciting going into

each game. So, I found myself a little bit fearful of getting pumped in the past seasons or is the ball going to go where I want it to go but then when I finished my campaign I compare my campaigns and this year I did much better but mentally I felt much worse. My role changed a lot as I became a death bowler half way through the season so I had to bowl the super over which was... I wasn't expecting it and then they put confidence in me and when I did that I felt quite confident because I hadn't built up the moment in my head and I didn't care. The self-expectation makes a huge difference because I just did it and I didn't have any expectation about what it might look like.

So, I then got injured on the second of January which was our last round-robin T20 game so I missed all the one-day campaign and I thought my season was over. So mentally I took myself out of being a cricketer and that was quite different for me and it was quite scary for me. I remember going to my first training when I was still in a swing so I tried to throw one and it really hurt. The physio laughed and I remember being so gutted and knowing it was a bad injury and as much as I wanted to play I knew that I couldn't. So, the year before I had the injury but I could push through the pain where as this one I was out and it was the biggest injury that I've had. It wasn't even to do with bowling. I dived in the field so mentally it so tough. I tried umpiring and keeping myself around the team but I got really frustrated and had to sit out.

AM: So how did you spend your time?

P1: Well it was the summer holidays and everyone was away from Uni so I ended up booking flights to [*name of city*] and [*name of city*] and catching up with mates. I still went to the gym and tried to keep active and when I could run I started running again to keep the endorphins ticking over. So, I just tried to book things to look forward and live like a normal

23-year-old and it was a bit different and a mental shift going from being a cricketer to a, I shouldn't say normal 23-year-old, but it was a little bit like that. Then I played my first game back so it was mentally quite tough because I had to get myself back into being a cricketer so that was last week and when we got back into the first days play it was fine. It wasn't anything too crazy but it was a little different.

One thing I noticed was weekdays had a meaning and when you are in the cricket season a Monday can be a Saturday and they mean the same thing to you whereas then I knew that Monday to Friday was work time for people and then Saturday it was something to look forward to because I could hang out with friends. You can do that a little in the cricket season but not at much.

AM: So why does the weekend have more meaning?

P1: Well most of my trips were booked for the weekend and when you are on ACC you can't do any work. What happened as well is [name] got injured at a similar time so both of us were injured. Another significant thing was [name]'s girlfriend moved down to live with him so me and Kyle had to move out so we both moved in with my parents. So that was a bit of a pain in the middle of the season and I was injured so there was a massive change half way through the summer.

That time away from cricket you gain a bit of perspective and you realise that you actually have to enjoy cricket whilst you can because an injury can happen just like that. I guess it just changed my perspective a little and I had to become a cricketer again and regain those standards that I had in T20. If I take no wickets or five wickets it shouldn't make a difference because you should be happy if you just stick to your standards.

AM: Have you used reflective practice over the past six months?

P1: Yeah, a lot more informally I have used in an informal subconscious way than what we had in the workshops in terms of the questionnaires. So, I would always reflect on my training and try to understand how I could make it more purposeful and ask myself what I'm working on today. Or I tried to reflect on the mental state that I was in for the game and then link it with performances when I reflect on how I got myself into and how I might get myself out. I think about good spells and bad spells when I could see the result and sometimes it out of my control so I was always trying to look into the reality of things and that's a self-awareness thing and that's one thing that I've really experienced this season and it's being aware of the mental state that I am in or sticking to my routines.

AM: So, could you give an example of self-awareness?

P1: So, self-awareness links with the emotion that I am feeling going into a game or feeling at that time. If I can feel my heart racing as I go into a T20 compared to a club game where I know I need to get myself up for this. It's too completely different frames of mind...

AM: So, do you use different strategies in those situations?

P1: Yeah. So, if I am nervous in the T20 I will have a bowl to get it out but if I'm not up for it I will have a coffee to get a bit of energy. I became aware that you are not always going to feel the same on each day of cricket... I think when you come in and your young it's more similar because you are always trying to prove yourself but when you get settled in it fluctuates and sometimes you need to get up for it.



AM: And have you used any of those skills outside of cricket?

P1: I don't think I really have. One thing is more of an external thing rather than internal. If I am having a conversation when someone isn't given me much back then I think about how they are feeling and how that might be influencing them. That would be one of the things outside of cricket so you become more externally aware of what other people are going through rather than being so inward focused. I think that comes through life experience and understanding yourself. I found from the programme that it was really about being reflective and understanding yourself in each situation and that transfer to people when you think about how they might be feeling.

AM: Did you use self-talk?

P1: Self-talk was used in cricket to get myself into the moment and work out what the team needed from me rather than having a technical focus. What is in front of me right now.

AM: Did that change across the season?

P1: Self-talk helped get me in the right mental frame and that was geeing myself up or calming myself down. Even when things aren't feeling right I would use it in my head when it did feel good.

AM: Did you use self-talk outside of cricket?

P1: So, the demands I faced outside of cricket are quite different to what goes on in cricket. I guess you use little bits of self-talk here and there if it's a stressful environment or if you are having an argument. You use it to reflect during the situation and say, 'what's the best thing to do here?' and taking a little bit of extra time to figure out the best course of action. It's not so much around my anxiety or nerves it's more to find logical solutions to things.

AM: An example?

P1: So, it's a problem-solving thing. So, if you are in a group of people and you are a bit nervous you ask a few questions and if they don't respond well then you use it to appreciate that it's not your fault. So being in a social environment to rationalise the situation and figuring out what's actually going on.

AM: Thank you.

## **Appendix P. Study Three: Social Validation Questionnaire**

This section contains 8 open-ended questions.

Please comment on each of the questions in as much detail as possible.

- Q1. Describe what you have learned from participating in this programme?
- Q2. Describe how the programme has influenced your cricket performance?
- Q3. Describe how the programme has influenced your behaviours in other areas of your life?
- Q4. How will things learned in this programme help you in the future?
- Q5. What was your favourite part of the programme?
- Q6. What was your least favourite part of the programme?
- Q7. What could be improved?
- Q8. Would you recommend it to others? Why/why not?

## Appendix Q. Study Three: Social Validation Interview Guide One

### STUDY THREE: PROGRAMME FOLLOW-UP INTERVIEW GUIDE

- Introduction and thanks
- Interview Procedure
  - Gain insight into participants' perceptions of the Performance and Personal Excellence Programme
  - Approximately 45-minutes
  - Recorded on a Dictaphone
  - Participants can choose not to answer any of the questions in this interview and are welcome to withdraw at any time.

#### Main Interview

In this interview, I would like to discuss your experiences of the Performance and Personal Excellence Programme. This questions that will be asked during this interview are based on your responses to the final eight questions in Questionnaire Six. You completed this questionnaire the week following Camp Four. I have included a brief summary of your responses from Questionnaire Six to prompt your recall for each question.

**Q1. This question focuses on what you have learned from participating in this programme. In relation to what you learned from this programme, you stated:**

*The importance of self-reflection and how it accelerates my learning of myself and how to be a better person and cricketer*

Questions:

- a) Could you explain how self-reflection can accelerate your learning and help you become a better person and cricketer?
- b) What part of the programme helped you learn about self-reflection?

**Q2. This question is about how the programme has influenced your cricket performance.**

**When asked how the programme has influenced your cricket performance, you stated:**

*By knowing the process of my thoughts and how we as humans assess situations.*

Questions:

- a) Why does understanding your thought process help your cricket performance?

You also stated:

*By having a better understanding of what is actually going on in my brain and the theory behind my decisions I can now be more settled and I know myself better now, particularly under pressure as I am more familiar with it*

Questions:

- a) Why does understanding the theory behind decision-making help you to be more settled?
- b) Why does knowing yourself better help when you are under pressure?
- c) How do these things help with your cricket performance?

**Q3. This question focuses on how programme has influenced your behaviours in other areas of your life. When asked about how the programme has influenced your behaviours, you stated:**

*Same as my cricket and knowing how to lower my stress levels and avoid unwanted conflicts or troubles*

Questions:

- a) Why does understanding your thoughts and knowing how to lower your stress levels help you avoid unwanted conflicts or troubles?
- b) Why is this beneficial to you in other areas of your life?

**Q4. The fourth question was designed to understand how the things learned in this programme might help you in the future. In relation to this question, you stated:**

*Self-reflection and identifying what is/has been going well for me and what needs improving*

Questions:

- a) Could you explain what you mean by self-reflection?
- b) How will identifying things that are going well help you in the future?
- c) How will identifying things that need to be improved help you in the future?

**Q5. Question five focused on your favourite part of the programme. You stated that:**

*“knowing how it all came together and realising how my mind makes up it's decision by using the chain diagram”* was your least favourite part of the programme.

Questions:

- a) Could you explain what you mean by “knowing how it all came together?”
- b) What did you like about the chain diagram?
- c) Why did you enjoy learning about how you decision?

**Q6. Question six focused on your least favourite part of the programme. You said that “*the questioners became my least favourite however I knew the importance of them.*”**

Questions:

- a) Could you explain which questionnaires were your least favourite?
  - i. Psychological questionnaires
  - ii. Take-home tasks
- b) Why were these questionnaires your least favourite part of the programme?

**Q7. This question was designed to understand how the programme could be improved. To this question, you responded by stating:**

*Could be simplified and less theory based but more of a practical focus*

Questions:

- a) What was it about the programme that could have been simplified?
- b) How would you make this programme more practical?
  - i. What specifically would you do to achieve this?

**Q8. This final question concerned whether you would recommend this programme to others.**

**In response to this question, you stated:**

*Yes, especially to people who do not seem to have an organised life or routines where they are performing inconsistently and are stressed*

Questions:

- a) Why would this programme help someone who doesn't have an organised life?
- b) Why would this help them if they didn't have routines and were performing inconsistently?

## **Appendix R. Study Three: Social Validation Interview One Transcript Example**

AM: So, if I give you a brief recap of the programme that started in May. First there was an intro session that was real broad and really vague on my part. That was designed to give you guys an idea of what the programme was about and what you were signing up to, so to speak. Then there were six workshops from June to August at camps 2, 3, and 4. Then alongside the workshops you completed a number of take-home tasks with a series of questions. Those questions got you to review the performance supply chain and focus in on the things that you had done well, not so well, and how you were going to move forward and then there were a series of questionnaires that were based on psych skills and psych characteristics which came up every three weeks. So that's the overview.

The first question that I wanted to understand was about what you learned. In your questionnaire, you put the importance of self-reflection and how it accelerates your learning about yourself and being a person and cricket. Could you explain how you have come to learn this through the programme?

P1: I guess with regard to self-reflection, you kind of concentrate more on what you've actually done I guess rather than just being like, you know, you tend to avoid the old definition of insanity 'doing the same thing and expecting a different result'. I guess, in a way, it's the kind of thing that you look back and say, 'how did I tackle this' or 'what way did I go about it' and you find out 'this is the end result' and 'this is how I felt when it came to the test or performance'. So, you being to reflect some more and you can begin to say 'yup, my preparing was good' and you can say 'yep, that's me and that's what I need to do'. I think it gave me more of a purpose in the way I went about things and about your business rather than just being 'ah yeah, that went alright' and then you get to the next test and you do the same thing but you don't know how to get better or you don't remember what happened



before and you just do the same thing and you don't really build on it. You just ingrain habits that you would have got at school or when you were younger and it's hard to get over. That's what I found, especially when a lot of my examples from outside of cricket were based in my university stuff. I kind of, I mean, I didn't realise how much time I needed to give myself the opportunity to complete my study or get through the task or how I am going to go about my studies. With these reflections, I actually knew how much I was doing and could attribute my performances in my exams to the amount of study I had done.

AM: So, did you find you learned that through the take-home tasks or through the content of the workshops?

P1: The take-home tasks when we actually had to note down what we had done well and it was more than just a quick train of thought and we actually wrote it down.

AM: So, do you think this is a useful process for players moving forward?

P1: Yeah -- I guess everyone is different but I think that it is trying to do will be useful for players even if they just have a chat to someone or it might just be they note it down really to themselves. As long as they are getting away from a quick thought and then... If they've got it noted down in some way, just so they can have a reference to what they might have done. So, if it worked for them or if it didn't I think it gives them a better understanding of themselves as a person and how they operate. I think, especially in cricket, you can use the coach's way to prepare yourself for a game rather than taking it on yourself as a player. If you look at older players and if you can get to that stage at the age of 24 or 25 rather than 30 it will go a long way.

AM: And so, the actually formally engagement of the take-home tasks was the crux of that learning but moving forward it might be a similar set of question but in a different context. For example, your coach or a teammate or someone you can lean on...

P1: So, for me, I'd try not to be lazy and go through the motions of the season and then it's knowing why did I go well in this period and why not. So, evening talking to you, whether it's a mental skills coach or whoever. It's having a process that lets you know why things go well. That might help you build a routine just to give yourself some sort of reference or some starting point and then you can adapt and build from there. That's so much better than just coming through the motions and guessing your way through it. If you get a consistent routine or consistent procedure you are going to have more consistent results I'm sure of it. If you do different stuff every time, you are going to get random results. I mean you are always open to trying new things and giving things a crack and if it works I can build it into my routine and note it down rather than when you don't you just forget about it.

AM: I see. I guess there are so many different phases of the season in terms of your performances like when it's going really well, quite well, average, below average and they are all different phases and it's hard to remember.

P1: Yes, and it's about trying lots of different things but if you have something little. For example, one day I was listening to a certain type of music driving to the game and it seemed to get me in the right type of mind-set or if it was bowling this many balls or that many balls. Even if it's something trivial it still gives your mind that routine and it helps you to know yourself better.

AM: So how does self-awareness and knowing yourself better as a person help?

P1: So, the self-awareness around how your mind works is massively important. I think it allows you to find out where you are going wrong, especially that chain. When I saw the chain, I was like yeah this is exactly what goes through my head and it helped me understand. All of sudden I understand how my minds made up or how I make my decisions.

AM: So, you found that visual quite useful?

P1: Yes, and I could see exactly how it would apply when you are bowling or facing a delivery. All of that happens in a split second but to understand that you can almost then put it to purpose and slow it down especially your thoughts, to get the best result.

AM: So that goes back to rushing the process...

P1: Yeah that ties in with your irrational decision making rather than your logical one. So, you are doing the same decision process but you are illuminating a lot more thoughts in the cricket environment. So, you need to use your logical side of your brain more and if you are more rational and logical then you are going to be better off. There are obviously times where you are going to be irrational and it will pay off but if you are going through that consistent process then you've got a better chance.

AM: So, linking that to bowler, do you think logical though is associated with bowling more than batting?

P1: Yes, as bowlers everything is in our control so I guess you have got to try... When I was in my review yesterday and the coaches were saying that batters should think what are they trying to do and what I am trying to do. With bowling, you can kind of just bowl your way through an over and get to the top of your mark and bowl and get to the top of your mark and bowl with no purpose. Or, you can be like 'right, where are his strengths and where does he want to hit?' and 'how can I make this as difficult as possible for him?' You then go and talk about it with your captain and you know exactly what you needed to do. So, I think that's quite a good way to go about it and that's the whole chain model that shows you need to get your thoughts and emotions in line to make quality decisions. That's what bowlers talk about, having one clear thought and running in with a clear thought of the best option that you can bowl.

AM: So, do you think that's how that links to your cricket side of things?

P1: Yeah definitely. Largely because cricket is made of so many little quick decisions that you have to make. Like i said, it's quite good to understand what's going on in my mind or how it's operating and then when it goes off you know what you have to go back to and you know what's going on and you actually do. It makes you much more comfortable and brings you back to yourself rather than everything else that is troubling you. I think it is good. It's a good was a getting clarity of thought.

AM: Excellent. With regard to off the field you said that it was similar to your cricket and "it was good for lowering your stress levels and managing unwanted conflicts and troubles" with regard to how the programme influenced your behaviours in other areas of your life. So how does lowering your stress levels help lower those unwanted conflicts/troubles?

P1: I think whether it's chatting to a person when you have a disagreement or something like that or not just saying something that you going to regret or making a bad choice or something like that. It's going through the same thought processes and assesses what the consequences are of taking this option. I think it's not just knowing what's going on in your own head but it's being able to hear what a person's saying and trying to do. It's trying to figure out what's the person trying say, being able to listen to them and then you can kind of use that and express to them what you've got to say. You need to understand the process to take that extra second to figure out whether it's worth doing. With the studying, as well and lowering the stress levels and you can stick to your procedure or your routine then you are likely to do the test or assignment to a good standard. So, you don't really panic or don't know what to do. It comes back to that plan and making it easy to stick to it and knowing what you want to do and get out of each session. As long as you walk out of that session knowing that you've done what you wanted to do then your stress is just so much less. There's always going to be that anxiousness before a test or whatever but if you know that you've ticked it off and you know what you need to know and stuff it makes it a hell of a lot easier.

AM: It sounds like this knowledge allows you to give yourself the best chance and deal with the insecurities of the unknown.

P1: Exactly. If you can take out the fear of the unknown, then that is massive.

AM: Excellent. So, a couple of the bits that helped you outside of cricket, just to summarise, were about understanding and hearing what the other person is saying so that comes back to self-awareness and internal focus that might happen when you are over aroused or a bit piped up and you need to be able to take a step back and see the bigger picture. The second part seemed to focus on your planning and your preparation.

P1: As I was saying you can treat a cricket game and an exam as the same thing. For both you want to do your training and your study so you go into the game or exam in the best shape that you can. I have always sort of seen those two as pretty similar in terms of the preparation side of things. You want to give yourself the best chance and obviously there are things that you cannot control but as long as you've given yourself the best chance you can and prepare yourself in the best way then more than likely you will perform better.

AM: So, the programme reaffirms what you already knew...

P1: It made me more aware of how important it is and gave another level to my understanding. Rather than saying "if I just train hard then I will be alright for the game" but it's actually about what do I need to train and what do I want to get out of training to be right for the game. It gives you more of a purpose and you feel more prepared as a result.

AM: Great. So, my fourth question was based on what you have learned and how you will use it in the future. You responded by saying "self-reflection allows you to understand what's going well and what needs improving". So how will that process help you in the future?

P1: So, as I was saying earlier, if you are able to look back on a performance that you recently had and you did alright you need to be able to ask why. So, when you learn that you did this thing well then you can trial it the next game and see if it works again. Then you just build a routine that you can go back to all the time. I'm not sure how long you give yourself with these new things but it certainly gives you a foundation to understand your performance and what you think you need. You'll know as a person pretty quickly and change your preparation accordingly. Cricket is quite hard because you have such different times before games but when you get more into the season you can focus on what you need to do the morning/day of the game to perform.

AM: So, it sounds as those the reflections have given you some questions that help you to not go through the motions and to learn why you do well.

P1: Exactly. "Why did I do it so well that day?"

AM: So, question five was about your favourite part of the programme. You said that "that knowing how it all came together and knowing how my mind makes decisions using the chain diagram". You already touched on this a little, but one of my questions is what do you mean by knowing how it all came together?

P1: Well in the early stages I felt like it was quite broad and I didn't really know what it was about. I thought that it was about the player questionnaires and seeing what results popped out. But as soon as I did the self-reflection and I saw the chain it all fell into place. I could see how it applied to me.

AM: So, would you say that the start could have been clearer?

P1: Yeah perhaps but I also felt like it wasn't completely your fault because your sessions were at the end of a long day when the boys were knackered. Sometimes it was very hard to engage but I think if it was like right at the start... This is the main aim of the programme and this is what we are trying to get you guys to do.

AM: I see... So, starting at the end almost and then going on the journey...

P1: In these sorts of camps and in this environment when you get information chucked at you all the time then it's difficult for the players to retain it all. However, at the end of the day I definitely knew what it was all about and I found my own way into using it and that means that it's embedded in my memory and it's something that I have an understanding of. As soon as it sorts of clicked to me with all the diagrams up there I knew exactly what he was talking about here. Rather than just sitting back and seeing diagrams as diagrams.

AM: So, it sounds as though the diagrams really helped you apply the content of the workshops?

P1: Yeah. Some of the work that we did with RJ showed me that I was very heavy on the kinaesthetic learning style. So, talking and reading doesn't really do it for me but when I could see it implemented then it came to life for me. It was definitely more practical.

AM: Excellent. So, your least favourite part of the programme was the questionnaires. So, what part of the questionnaires didn't you like?

P1: So, it was the dot ones that got to me a little bit. I just found myself that those questions didn't really apply to me as much. I really enjoyed the self-reflection though.



AM: I see - you did also say that you understood the important of the questionnaires which was naturally part of the programme but more about the measurement than your learning.

P1: Yeah. It was the self-reflection that I really found value and it had more appeal.

AM: Excellent. Question 7 was around how the programme could be improved. You responded by saying that "it could be simplified and less theory based with more of a practical focus". So, is there anything specifically that you can think of that brings this to life?

P1: I would have to say around the start. If you remember what I said earlier when I didn't fully understand what was going on then. So, if you could bring it to life earlier by using cricket examples. So, for example, we are trying to get cricketers who tend to go through the motions in training to be really engaged and really aware of how their thoughts and emotions affect their performances. It might be really helpful to get a past player or someone in and it requires a bit of work but hearing about how they used to play or reflect then it would really help the practical side of little bit more.

AM: So, we could bring it to life with more examples rather than being theory based...

P1: Well that might just be me and my sort of style but it might just help the other guys as well.

AM: Excellent. That's really useful. So, to bring it to life we could get a past player to talk about how performance and personal excellence are interlinked and how becoming more reflective can help this process...

P1: Yes.

AM: Excellent. My final question was based on recommending this programme to others. To this you responded, "yes, especially to people who do not seem to be organised or have routines and are performing inconsistently and are stressed". So, what do you exactly mean by that?

P1: So, it could be a new person or young player or the type of player that has ups and downs. You definitely get those cricketers who are renowned for being hot and cold. For those guys, they can be told so many things but if they can just self-reflect and be more aware of themselves then they might become more consistent. It doesn't need to be anything crazy. It could be one simply plan or one simply routine that helps them and they might actually find that they are more consistent and that's massive in cricket.

AM: So, if this were to go out to other players then it would be valuable for self-awareness and reflection?

P1: Yes. You get to a stage where you actually know what happened and what went wrong rather than having no idea. You don't have to do too much or write it down but you need to have a few key learnings. And on the other side when things go well you begin to understand what mind frame works best for you. Whereas those guys I spoke about a second ago seem to play on luck and we need to minimise relying on luck and maximise your chance of being lucky through organisation. It's the guys who have rely random results when they study are the ones who don't play and put the work in.

AM: Thank you very much. I really appreciate your time.

## Appendix S. Study Three: Social Validation Interview Guide Two

### STUDY THREE: SOCIAL VALIDATION INTERVIEW TWO: INTERVIEW GUIDE

- Introduction and thanks
- Interview Procedure
  - Gain insight into participants' perceptions of the Performance and Personal Excellence Programme
  - Approximately 45-minutes
  - Recorded on a Dictaphone
  - Participants can choose not to answer any of the questions in this interview and are welcome to withdraw at any time.

#### Main Interview

In this interview, I would like to discuss your experiences of the Performance and Personal Excellence Programme. This questions that will be asked during this interview are based on the final eight questions in Questionnaire Six and from the interview in Camp Five.

***Q1. This question focused on what you learned from participating in this programme. In relation to what you learned from this programme, you stated:***

*The importance of self-reflection and how it accelerates my learning of myself and how to be a better person and cricketer*

Questions:

- a) Could you explain how self-reflection can accelerate your learning and help you become a better person and cricketer?
- b) What part of the programme helped you learn about self-reflection?

**Q2. This question focused on how the programme has influenced your cricket performance.**

**When asked how the programme has influenced your cricket performance, you stated:**

*By knowing the process of my thoughts and how we as humans assess situations.*

Questions:

- a) Why does understanding your thought process help your cricket performance?

You also stated:

*By having a better understanding of what is actually going on in my brain and the theory behind my decisions I can now be more settled and I know myself better now, particularly under pressure as I am more familiar with it*

Questions:

- b) Why does understanding the theory behind decision-making help you to be more settled?
- c) Why does knowing yourself better help when you are under pressure?
- d) How do these things help with your cricket performance?

**Q3. This question focused on how programme has influenced your behaviours in other areas of your life. When asked about how the programme has influenced your behaviours, you stated:**

*Same as my cricket and knowing how to lower my stress levels and avoid unwanted conflicts or troubles*

Questions:

- a) Why does understanding your thoughts and knowing how to lower your stress levels help you avoid unwanted conflicts or troubles?
- b) Why is this beneficial to you in other areas of your life?

***Q4. The fourth question was designed to understand how the things learned in this programme might help you in the future. In relation to this question, you stated:***

*Self-reflection and identifying what is/has been going well for me and what needs improving*

Questions:

- a) Could you explain what you mean by self-reflection?
- b) How will identifying things that are going well help you in the future?
- c) How will identifying things that need to be improved help you in the future?

***Q5. Question five focused on your favourite part of the programme. You stated that “knowing how it all came together and realising how my mind makes up it's decision by using the chain diagram” was your least favourite part of the programme.***

Questions:

- a) Could you explain what you mean by “knowing how it all came together?”
- b) What did you like about the chain diagram?
- c) Why did you enjoy learning about how you decision?

***Q6. Question six focused on your least favourite part of the programme. You said that “the questioners became my least favourite however I knew the importance of them.”***

Questions:

- a) Could you explain which questionnaires were your least favourite?
  - i. Psychological questionnaires
  - ii. Take-home tasks
- b) Why were these questionnaires your least favourite part of the programme?

***Q7. This question was designed to understand how the programme could be improved. To this question, you responded by stating:***

*Could be simplified and less theory based but more of a practical focus*

Questions:

- a) What was it about the programme that could have been simplified?
- b) How would you make this programme more practical?
  - ii. What specifically would you do to achieve this?

***Q8. This final question concerned whether you would recommend this programme to others. In response to this question, you stated:***

*Yes, especially to people who do not seem to have an organised life or routines where they are performing inconsistently and are stressed*

Questions:

- c) Why would this programme help someone who doesn't have an organised life?
- d) Why would this help them if they didn't have routines and were performing inconsistently?

### **Additional Questions**

To conclude this interview, I would like you to summarise your experiences and opinions about the effectiveness of the PPEP.

***Q8. Based on your experiences of the PPEP, what advice would you pass on to an aspiring professional cricketer?***

***Q9. How could the PPEP more effectively enhance the personal development of cricketers***

Probe:

- Could you provide an example of that please?

***Q10. What advice would you give yourself if you could go back five years in time?***

Thank you for taking the time to participate in this interview.

## **Appendix T. Study Three: Social Validation Interview Two Transcript Example**

AM: So, as I said this is just essentially about reviewing the programme. So, I'll just run you through a quick overview of the programme. There was an intro session in May, and then there was two sessions in camps two, three, and four. In between those camps, you completed a number of take-home tasks on things that were going well, not so well, and how you might move forward. So, my first question within the questionnaire regarding how you found the programme concerned what you learned. You said that you learned that you were emotional when it comes to challenges. You said that this wasn't a bad thing as long as you use it to your advantage. Could you explain how you learned those things from the programme?

P2: When I play cricket, I know that I am emotional naturally. I'm a fast-bowler and that's what we are like. The questions that you asked about training and more importantly outside of cricket made me think about how I react in situations that I was emotional to and, for good or for bad, the emotions sometimes played on how I would react. That's what I meant when I said that.

AM: So, what it the take-home tasks that allowed you to think about your emotions more broadly?

P2: Yeah. It helped me think about day-to-day living and you know that stress. For example, if I've got an exam, how do I react to it. Was I pretty calm? And I found that cricket was... I can't think of the word... I found that cricket expanded my emotions more in performance because it's more intensive. But day-to-day I was emotional, not to the same extent but it still affected how I did things. So, stress or how I controlled situations or played golf or whatever but when things were going badly I get all up in my head or whatever.



AM: So, by understanding that these emotions were part of your who you are rather than being isolated to the cricket environment. How did that influence the way you understood yourself?

P2: It makes you more self-aware and, you know, the personality I am in cricket is probably more intensive in cricket but that's the personality that I am. I'm not a different person when I play cricket. I'm just the same person as I am through the day. And, yes, cricket probably lets me get a lot of that fuel out but I am an emotional person.

AM: How has that understanding helped you?

P2: More around self-awareness. So, this winter has been about getting more self-aware and understanding why I react to certain situations that way. It allowed me to understand why I act the way I act and in the moment, try and recognise, I don't know, I'm trying to think of an example. If I am acting out in a way or if I am biting back at someone's comments or being aggressive in ways and that's addressing, with a little more self-awareness, what am I doing in this situation. You can ask yourself questions like 'is that what I want to be doing?'. Whereas beforehand, you know, I was probably all guns blazing.

AM: So, was it specifically the take-home tasks that made you more aware or was it the content of the programme?

P2: I think the take-home tasks were central because they started to talk about what we did outside of cricket. I know how I act in cricket and I have done a lot of work trying to understand my mental skills and that. This allowed me to understand my mental state outside of cricket. So, when things aren't going well I tend to go a little insular but then this winter when that happened I noticed I was doing that and I tried to change my ways. So, if you think about the questions you asked, "have you tried to change the way that act around people?" When things inside and outside of cricket, when things aren't going well I go insular and try to solve the problem myself. However, when those questions were asks regarding what's been going well. I began to understand that when I sought peoples' help it really helped me get through the problem easier.

AM: It sounds like those questions acted as a prompt. Is that fair enough?

P2: Yeah. It allowed me to develop more and now it becomes more like second nature. It allowed me to understand who I am as a person. I think males are pretty scared of knowing exactly who we are and we tend to think that we just do things a man does. Whereas women might talk a little bit more and I was much more prepared to accept that's how I roll and I could understand that the best way to solve a problem isn't always trying to sort it out myself. Sometimes it might be but actually looking around for help first.

AM: So, it sounds likes generating that self-awareness was the first step in being able to solve what the problem was and take the right actions moving forward.

P2: Exactly.

AM: That's great. In terms of your cricket performance, which was the focus of question two. You said that taking more confidence in the mental skills you had to take on difficult tasks. So, what do you mean by that specifically?

P2: I guess this winter has been a big learning for me in a sense that, so in the past, more particular in relation to T20 bowling I haven't had any bowling leading up to the games. Naturally I wasn't super confident about completing the skills that I need to complete. Whereas this winter we have done a lot of with the skills work and then I did a lot of work on the bumper or bouncer training and playing the pull shot. Now I have got to a point where I would have been nervous playing a fast bowler but now I feel like I have done the work and got the skills. Not only that, mentally I am calmer and I know I can deal with it so it's not eating at the back of my head. I'm not predicting what will happen and I guess I just have clearer thought patterns about how I can take on the bowler or how I can take on a bowler or a challenge. Naturally people won't want to face fast bumpers, that's the game, but if you can get more comfortable then that's just one of the skills that I've noticed this winter mentally I'm okay with. It's not getting hit or whatever but it's one of those things that keeps getting to eat away in the back of your head and then you start hanging back or whatever. Whereas now I am pretty confident that I can still play the same game whoever is bowling.

AM: That's pretty exciting. Has that come from the training or has it come from the programme?

P2: These two things aren't separate. We used to think that they were separate. I think a lot of cricketers and sportsmen will say the same thing. We are starting to realise, well we kind of knew I suppose to a certain extent but mental skills were like 10% we always thought and the training was the rest. It's like diet as well, it's the same sort of thing. If you put more effort into it and then the results come and you don't have to do as much training. So, if you

do the mental skills work then you have the skills to do it and you don't have to go and smash yourself for hours. I know that I've done the mental skills work and it's so mental as well and the more you can accept that and get some awareness of "we are in the fight now" or "enjoy the fight" then it becomes more natural. So, what I am trying to say is they are working together more than they ever have. This is probably because we have been reflecting on things. Particularly when you reflect on things you tend to find because even when you pull on the most trivial situations you need to think deeply about little mundane tasks.

AM: So, when you say that you didn't have much to reflect on but then you said that helped you unpack things that you found quite trivial a little bit deeper...

P2: That was the great thing about it. Things like conversations with parents. So, for me i find it a chore to have to call them and talk to them all the time and keep in touch and recall everything that happened. Now I am starting to understand the way that I acted then, they just want to see what's up and it doesn't have to be a long conversation and it takes two minutes and it was pretty selfish of me not to do it. So, it just comes back to, really for me, it's about understanding self-awareness of myself and getting an understanding of why I act in a certain way. Is it because I am a stubborn angry fast bowler or whatever? It's trying to like ease on areas and trying to understand that it's not all about me sometimes or a lot of the time.

AM: That's a really good example.

P2: So even this week they called me on Sunday night and they ask you how things are and they know that I've just flown down and they call me Monday and I'm like "okay, I'll chat to them" and then they text me on Tuesday and ask, "can we call?" And I'm like "yes" and they just want to hear how today went and then they call me the next day and I'm like "Jesus". So now I understand that it's just a one-minute call rather than just ignoring it like I used to but really it doesn't take that long.

AM: So, that's really cool. Even if it was just something little like that and it's helped then that's great. That was cricket-based and in that you have covered some of my next question which relates to how the programme has helped you in other areas of your life as well?

P2: Because you asked us a lot of those questions like 'are you a cricketer?' It made me think about myself and how I see myself and I never really have seen myself as just a cricketer. A lot of my friends, well [*name*] is a really good friend of mine and I have my cricket mates for sure, but a lot of the people I hang out with when I'm not playing cricket, they obviously care about sport and they are sporty people but they aren't talking cricket and they have nothing to do with it. So, I don't really see myself as a cricketer at all and it is just a job to me.

AM: So, I guess it comes back to what you said earlier about understanding who you are across a host of domains.

P2: Yeah.

AM: So, in terms of what you might take forward from this programme and it sounds to me so far like it's the whole package. So, you've said that it's not just the programme or the take-home tasks on their own, but what do you think will be most useful in the future?

P2: I think it won't be doing weekly tasks but I think a lot and I'm often all up in my head so I think my thought process has changed. I went from a position where I didn't have the training behind me which lead to a decreased confidence and then I would start to doubt myself. With the skills and the self-awareness, I have tried to work around the idea of an arrogant fast-bowler thing which is what I did on Monday. So, I'm using self-talk to try and tell myself and trick myself. I would say "I'm the best on the park" and "it would be unlucky if I didn't get a wicket here". I keep telling myself that and those are the types of skills that I will take into my cricket and other areas of my life too. Naturally when I was younger I was probably a little less confident but now I've grown up I have become more confident and got an understanding of who I am as a person.

AM: So, are you saying that you've developed a greater level of self-awareness?

P2: Yeah, in cricket and in other areas too. It has allowed me to be more outspoken on things. For example, I used to be a really shy kid and I guess this has helped me grow out of it too. I guess now it's understanding myself as a person and how I react to situations whether they are good or bad. For example, if I get fired up then I know why and if not, why not.

AM: So, has that allowed you to be confident in whatever situation that you are in?

P2: Yeah. You can fake it until you make in life. It's not just cricket and you can trick yourself to help you get the job done.

AM: Do you think when you look back on your performance, does self-talk help process your performance?

P2: When something goes wrong?

AM: Yeah.

P2: Yeah. So, on Monday my first few balls were on the money and I was thinking "perfect" but then I bowled a no ball and then it was a free-hit that went for four and then I was cooked. Then it kind of spiralled out of control a bit because you try things and it doesn't work and then I miss fielded and then there was a tough catch that just went over the boundary rope. So, a load of things happened that spiralled out of control and in that time, I was like "shit, this is not at all how I want to play" and then you start thinking about what the selectors are saying and they probably aren't even talking about you. Then you start thinking "what is he saying" and then you hear a laugh and you think that they are laughing at you and you start having all of those sorts of thoughts. Then, it came to a situation where I knew that I was going to have to bowl again and I was like "fuck this" and then I found myself really aware of the fact that I was worrying a lot and I started to think about what I needed to do to win this game. So, I think about what happens if I get can a wicket and then do that and get arrogant and it worked for me to a tee. I couldn't have asked for it to work any better until it felt like I was on top of the world and then every plan that I did worked whereas before everything I did didn't work.

AM: So how does being aware of those thoughts help?

P2: Well it could have very easily ruined the whole of my last spell too and it probably did a little bit. I got an edge and I was like "it's not my day" but instead I laughed it off a little bit and tried to reset.

AM: I really like the way you rationalised it and put your concerns about the management into perspective.

P2: Yeah because you often think that they are watching every little thing that you do but realistically they probably aren't.

AM: I see. It might often be you that is watching yourself.

P2: Absolutely but all those thoughts come in when you play in front of a crowd or whatever and they are probably laughing about a joke that they are talking about rather than laughing at the way you are stretching or whatever.

AM: Okay so to sum that up the programme helped your self-awareness and understanding when things are going well or not so well and understanding what works for you. Whether that is filling yourself with confidence with positive self-talk or whatever that may be.

So, my fifth question concerns your favourite part of the programme. You said, "reflecting on small events during the week". Why was that?



P2: Well I think we talked about your mental skills in cricket and how they can be transferred elsewhere but by reflecting on things outside of cricket made me, because I quite enjoy not classifying myself as a cricketer, and I like being able to say, "if cricket fell through then I've all these other things to fall back on" and it made me think about [name] as a whole person. A lot of the time, a few of times, I had to think really hard to find something and it was hard but it made me think more about what I had been up to, how I had acted and felt. So, for example, I thought a lot about the way I behave towards my parents after being back at home for the first time in four years and how that was. I was able to get to grips with the fact that I felt eighteen again and if we didn't do those tasks I might have gone through the whole winter without thinking about how I acted towards them. At least with these tasks I reflected on how I was acting and even if I wasn't acting in the best way then I could begin to work out why and think about ways to change.

AM: So that sounds like it was development in a broader sense than specifically how this programme affected your cricket stuff.

P2: Absolutely and it was a nice way to focus your attention away from cricket too. You know what it's like, you can get caught up on reflecting on cricket all the time and forget that you've got other stuff going on as well. Even with these camps, it's so cricket focused that it was refreshing to have some discussion about something else and how we could improve in our lives outside of cricket. Again, how you behave towards your mates or how you are getting on with goals that you have set outside of cricket or whatever. Just getting to understand yourself more as a person. It allows you to understand who you are as a person and reflect on who you would like to be. We always judge ourselves as the cricket and if I am playing good cricket then I am a saint but it's more than that.

AM: So, it sounds as though the outside of cricket questions were more helpful?

P2: Yeah, I found those more helpful because around cricket environment your self-awareness is vital. We have had a lot of mental skills stuff and worked on that for a few years now so we have some understanding, perhaps more so than the older cricketers but there is still a gap between using them in cricket and transferring them into life outside of cricket. It doesn't mean that we need to do formal stuff all the time but it just means that we need to think about it more and it's good to check in on yourself outside of cricket.

AM: Excellent. And I guess that's how all of the tasks may be used in the future. You don't necessarily need to do them formally but it's about those question that help you check in.

P2: Yeah.

AM: So, what was your least favourite part of the programme and you said, "the repetitiveness of the questionnaires". So, what specific questionnaires?

P2: I think I was clutching at straws a wee because I found it hard to think of things outside of cricket to talk about and because my winter was pretty chilled and I was focusing on cricket. I thought that it was a really good programme so I didn't really know what else to say.

AM: Oh right, so you meant the take-home tasks?

P2: Yeah but again it was more because I sometimes struggled to think of things to talk about but it also made me think deeply. So, I guess on that, maybe next time you could provide some examples to prompt our thinking. So sometimes it was like I had a blank canvas and all I could think about were the couple of rounds of golf that I played but then one week you could hone in on your best mates or your family.

AM: That's a really good idea.

P2: So then that week we are focusing on the little parts and at the end you are getting the same result and then we aren't sitting there looking at a blank wall and thinking I really don't know what to reflect on here. So, everyone has a best friend or family. You could ask how you helped them or spoke to them. You could then focus on University work and ask, 'how were you this week?', 'did you set goals outside of Uni?' Just because we often spend so much time thinking about cricket that we don't often think too much about all those other things.

AM: Thank you. That's a really good example and that will really help with this programme moving forward.

P2: Because we are in cricket we know how to be specific but in our lives, we feel stupid talking about how we talk to our mum but if you tell us to then it's fine because we are all doing it.

AM: So, is there any other ways that could be improved?

P2: The only thing with the workshops was that there was a lot of good content but it felt like a university lecture. I've been to Uni so it's cool but just I think if you can find application to what we are doing or who we are then it allows it to sink in a lot more. You know you go to lectures and you get a lot of information.

AM: So sometimes there was a bit much information?

P2: So, if you can apply it and Pete is one of the best people that I have talked to because he applies it to everything. He finds an example even if he is playing a shadow shot. So, for us as cricketers he sees the benefit straight away rather than being lectures a little bit. Often because sportsmen don't usually study that much or we do it a little bit I would recommend that it's as practical as possible.

AM: Excellent. My final question is about recommending this programme to other. In the questionnaires, you said that "yes, mental skills are as trainable as physical skills an incredibly important". So why would those things be important for other cricketers?

P2: Well I think mental skills is because more and more important but it's so obvious that those people who have the skills to perform under pressure are the ones who make it big time. A lot of people with talent who can do the skill but crack under pressure don't go on. So, I am trying to learn that more and more and I'm trying to challenge myself so I can always perform regardless of the situation. So, if we think back to Monday, I used self-talk to think "I can still win this game" and just pride myself on my mental application. If you can get more people playing like that than NZC or any sport is going to be better for it.

AM: And how does this programme address those things?

P2: It addresses it, like cricket, we get fed a lot of mental skills but it is more about you as a person and we don't hear a lot about these skills in day-to-day life. So that's super important and this programme really does that and it helped us to question ourselves and explore what we are doing outside of cricket more. We have had so many questionnaires about our skills in cricket but more and more I find it that if I'm happy outside of cricket then most things are going well on the field too and across my whole life.

AM: So those skills carry over across domains?

P2: Yes, I'm not a different person on the field. I know a lot of people talk about Shane Warne and once he stepped over the rope he was a different person but for most people you cannot do that. That takes serious mental skills and for most people a lot of other things creep in. So, for me this programme has helped me to be a better as a person off the park and then that can transfer on to the park and I get more confidence and my motivation increases because of the things that I have done off of the park.

AM: Excellent. So, the following few questions are to summarise your experiences of the programme. What advice would you pass on to an aspiring professional cricketer?

P2: The mental side of any sport far outweighs any talent you have. I've seen so many talented cricketers who waste that talent because they have no head game. They have the odd good game but in terms of playing international cricket I do not see anyone continue to play well. So, I put a lot of emphasis on my mental game and I've always had a lot of confidence in my mental but I've put an emphasis on staying a lot more even than riding the highs and lows. It allows you to stay a lot more composed and stay level. It's also important to get away from

the sport but I know those guys who go high and low tend to burnout and be in and out of teams and they never find a good balance. My biggest work on has been staying level but the more I speak to guys at the top, and of course there are guys at the top who are freaks, but a lot of them do the hard yards and those guys maintain a mental level.

AM: Looking back on the programme, how could the programme more effectively enhance the progress of cricketers?

P2: It's tough because for everyone it is different. The things I do are very different won't work for other people. I guess trying to get players more self-aware of what makes them play well and get them to understand that cricket has ups and downs. The more people who have self-awareness can understand why they do things well or not so well.

AM: So, it sounds like a lot of this work should be done on a one-to-one basis...

P2: Yeah if you talk to people on a group level about techniques that people use such as writing things down, but you need to talk to people to understand what's really going on inside their head. I guess that's hard to do... With psych's in my experience, if you trust them then you are more comfortable talking to them.

AM: Finally, what advice would you give yourself if you could go back five years in time?

P2: To put less pressure on yourself. I had a brother who was really successful and he blew out because of injuries and I've put a lot of pressure on myself. The times I've enjoyed myself and had fun are the times I've performed the best but people always put pressure on themselves because they forget where they are. I forgot that when I was playing for the [*name of international team*] and without appreciating it.

AM: Excellent. Unless you have anything to add then that's all the questions that I have. So, thank you for your time.

## **Appendix U. Learning Climate Questionnaire**

This sections contains 6 statements (S45 – S68). Based on your experiences with the Adam, please rate your experience from 1 (strongly agree) to 7 (strongly disagree).

45. I felt that Adam provided me with choices and options.
46. I felt understood by Adam.
47. I was able to be open with Adam during the programme.
48. Adam showed confidence in our abilities to do well in the programme.
49. I felt that Adam accepted us.
50. Adam made sure we really understood the goals of the session and what we needed to do.
51. Adam encouraged me to ask questions.
52. I felt a lot of trust in Adam.
53. Adam answered our questions fully and carefully.
54. Adam handled our emotions very well.
55. I felt that Adam cared about me as a person.
56. I didn't feel very well about the way that Adam talked to us.
57. Adam tried to understand how I see things before suggesting new ways to do things.
58. I felt able to share my feelings with Adam.
59. Adam listened to how I would like to do things.
60. Adam helped me to improve.
61. Adam made me us feel like I was good at the programme.
62. I felt that Adam liked me to do well.
63. Adam made me feel like I was able to do the activities in the programme.
64. Adam supported us.
65. Adam encouraged us to work together in the programme.
66. Adam had respect for me.
67. Adam was interested in me.



68. I felt that Adam was friendly towards me.