Super-Strengths in Elite Sport

Katie E. Ludlam

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Hide not your talents, they for use were made.

What's a sundial in the shade?

- *Benjamin Franklin*

This thesis is dedicated to my family.

Abstract

The intention of this PhD was to develop a conceptual pathway for how a novel approach termed super-strengths can be delivered by Sport Psychology practitioners, and to investigate the effects of the approach. The rationale for exploring this particular strengths-based approach (super-strengths) was that although this way of working has scarcely featured in the sport psychology literature, strengths-based approaches have been reported to have positive effects on psychological characteristics and performance in various similar domains. The purpose of the first study of the thesis was to gain an insight into how super-strengths is being used in elite sport, and to develop an initial conceptual pathway for understanding and implementing the approach. The aims were three-fold: first, to explore the meaning of super-strengths; second to explore how super-strengths are identified; and finally to capture the key phases for implementing the approach. To do so, the study explored how sport psychologists (*n*=7) and coaches (*n*=8), had co-delivered a super-strengths approach with UK elite athletes. Findings from the semi-structured interviews were categorized into three general dimensions: defining super-strengths, identification methods, and phases of development. Super-strengths were defined as a strategy for performance, utilizing a potential world's-best resource to gain a competitive edge in a performance context. Identification methods were subjective (e.g., asking/observing athletes) and objective (e.g., performance analysis). Participants emphasized three development phases: preparation, adaptation, and monitoring. The findings of the study reinforced the need to obtain athletes' perceptions of super-strengths to explore their experiences of the approach. Thus, the purpose of the second study was to gain understanding of athletes' perceptions of the role and effects of engaging with super-strengths, in relation to their psychological characteristics and performance in elite sport. Semi-structured interviews were conducted with athletes (*n*=12) who had previous experience of working with a sport psychology practitioner on super-strengths. Thematic analysis of the data (Braun & Clarke, 2006) indicated that super-strengths had a positive influence on athletes' mind-set, confidence, clarity of purpose, drive, coping ability, and performance. Findings highlighted the potential benefits of adopting strengths-based approaches in sport, and together with the findings from study one suggested that sport psychology (SP) practitioners conducting a super-strengths intervention with elite athletes could potentially facilitate both psychological and performance gains. Thus the next investigation comprised a two-phased super-strengths intervention in an elite sport setting. The aims of phase one were twofold: to preliminarily investigate the practicality of a) delivering a super-strengths intervention guided by the conceptual pathway generated from studies one and two; and b) employing sport-specific self-report measures as a way of evaluating efficacy, guided by the findings of study two. The intervention was conducted with amateur boxers. Measures employed were informed by the findings of study two, and therefore assessed athletes' confidence, engagement, basic needs satisfaction, coping skills, and performance. Findings suggested that the intervention was well received by athletes and there were evident positive changes detected from the psychometric measures. Building on these findings, phase two of the intervention research involved a more in-depth, refined super-strengths intervention whereby a single subject, multiple baseline design was employed with athletes (*n*=3) from different elite sport settings (cricket, shooting, football). The findings indicated the efficacy of a super-strengths intervention for facilitating positive changes in confidence, engagement, needs satisfaction, coping, and performance in elite sport. In conclusion, this thesis has enabled an in-depth understanding to be gained on the role of super-strengths, how it can be delivered in elite sport settings, and the potential benefits it can have on athletes' psychological factors and performance.

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Peer Reviewed Work related to the Thesis

Published Peer-Reviewed Papers

Ludlam, K. E., Butt, J., Bawden, M., Lindsay, P. & Maynard, I. W. (2016). A Strengths-Based Consultancy Approach in Elite Sport: Exploring Super-Strengths. *Journal of Applied Sport Psychology, 28,* 216-233. doi: 10.1080/10413200.2015.1105881

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CHAPTER I

Introduction

1.0 Strengths-Based Approaches

Athletes who have success at the very highest level of sport, who are admired for their prowess in the context of the sporting arena, are commonly referred to as *sporting heroes* (Shuart, 2007). With the extensive coverage that world-leading sports people, teams, and events receive from the media, the outstanding attributes athletes possess and their consequent greatest successes do not go unnoticed. Indeed we recall key moments where athletes have used these super-human talents/abilities to deliver world-beating performances, when it matters most (Lefever, 2012). These successes probe the question, how do those involved in elite athletes' development maximise their athletes' greatest talents/abilities, so that they can shine on the world-stage?

Within the real-world setting of elite sport, the strategy for preparing athletes for the world-stage involves a heavy focus on identifying and developing athletes' weaknesses to facilitate performance gains (Gordon & Gucciardi, 2011; Luiselli, 2011). Though one might question that if at elite level athletes are expected to deliver world-beating performances, where do world-beating strengths come into this strategy for performance enhancement? It is probable that in some sport organisations such strategies are well-understood and embedded within the programme. However in the literature (i.e., sports coaching and sport psychology) strengths-based approaches to performance enhancement are scarcely documented or advocated (Gordon & Gucciardi, 2011).

In line with this, it has been suggested that to help people realise their strengths, facilitators must have "an appreciative mentality that sees capability and possibility first, not deficit and need for remediation" (Knott, 2012: p51). Similarly, the concern that "curing the negatives does not provide the positives" (Seligman, 2006, preface), brought about the

positive psychology movement in 1998 (Seligman, 1999). The premise of positive psychology is that to be healthy requires the presence of wellness, not merely the absence of disease, and thus to help people flourish attention should be given to what is working in a person's life/situation, not solely to what is not (Diener, 2003). Since then there has been a surge in research that has applied this principle, and subsequently strengths-based approaches are apparent in the literature from various disciplines of psychology. Indeed, the potential benefits associated with working in this way are apparent in several therapeutic and performance contexts. Specifically, the adoption of strengths-based approaches in clinical, coaching, and organisational psychology has indicated that both psychology and performance can be positively influenced (e.g., Clifton & Hodges, 2004; Fluckiger, & Grosse Holtforth, 2009; Gassman & Grawe, 2006; Govindji & Linley, 2007).

Conversely, in sport psychology the role and potential benefits of strengths-based approaches are somewhat unknown. Despite the reported potential for such approaches to be adopted when developing mental toughness (Gordon & Gucciardi, 2011), and robust sport confidence (Beaumont et al., 2015), this has received scant attention in the literature. This lack of research highlights a lack of knowledge and understanding of strengths-based approaches in sport psychology. Therefore, this gap in the literature, along with the many benefits of adopting strengths-based approaches that have been reported in other relevant disciplines, provides rationale for the present thesis.

1.2 Purpose of the Thesis

The central purpose of this thesis was to explore a novel, strengths-based approach (termed super-strengths) that has been adopted by applied sport psychologists working within elite sport in the UK. Specifically, the aims were to identify the processes comprising a super-strengths approach, and to explore the perceived effects of the approach on athletes' psychological factors and performance. It was envisaged that the findings could enable the

development of a framework for delivering the approach in elite sport, and an in-depth understanding of the practical recommendations. Further, it was anticipated that the efficacy of the approach could then be studied in intervention research, whereby the author adopts the role of sport psychology practitioner. As reinforced by Martens (1987, p51): "the field studies that gather the richest knowledge are those in which the investigators are an active part of the study and in which their tacit knowledge plays a vital role in problem formation, methodology, and interpretation of results." In line with this, it is intended for the programme of research to generate new knowledge for sport psychology, not only in implementing a strengths-based approach in practice, but also facilitating understanding of the potential role and impact of such approaches in relation to psychology and performance.

1.3 Structure of the Thesis

1.3.1 Chapter II (Review of Literature). This chapter includes a comprehensive review of strengths-based approaches, underpinned by positive psychology. The chapter begins with an overview of the traditional approaches and ways of working in sport psychology, and the underpinning philosophy of behaviour change. The second part of the review outlines the foundations of strengths-based approaches, and the associated beliefs about change. Third, applied strengths-based approaches to improve psychology/performance are reviewed from the literature within clinical, coaching, organisational, and sport psychology. From this, the apparent inconsistencies and gaps in knowledge of applying strengths-based approaches are highlighted and discussed. Finally, the review concludes by outlining how future research might best address the evident gaps in knowledge, and a rationale for the aims/purpose of the thesis.

1.3.2 Chapter III (Study One). Study one of the thesis aimed to facilitate an in-depth understanding of how the super-strengths approach had been implemented by sport psychologists (*n*=7) and coaches (*n*=8), with elite athletes in the UK. Findings from the semi-

structured interviews conducted were categorized into three general dimensions: defining super-strengths, identification methods, and phases of development. Super-strengths were defined as a strategy for performance, utilizing a potential world's-best resource to gain a competitive edge in a performance context. Methods for identifying super-strengths were subjective (e.g., questioning and observing athletes) and objective (e.g., performance analysis/statistics). Participants emphasized three phases that captured the development of the approach: preparation, adaptation, and monitoring. The results of the study facilitated an understanding of how super-strengths could be utilized in elite sport, providing an initial conceptual pathway for implementing the approach. Findings also highlighted various practical considerations and recommendations for practitioners to maximize the intended outcomes of the approach; however, the need for further exploration of the perceived impact of the approach was reinforced.

1.3.3 Chapter IV (Study Two). Chapter IV comprises study two, which explored the perceived impact of super-strengths on athletes' psychology and performance in elite sport with the intention of extending the knowledge generated from study one. Semi-structured interviews were conducted with elite athletes (N=12) who had previous experience of working with a sport psychology practitioner on super-strengths. Results indicated that athletes perceived super-strengths to have a positive influence on their mind-set, confidence (e.g., self-belief), clarity of purpose (e.g., goal direction), drive (e.g., more engaged with training and plans), coping ability (i.e., with the pressure of performance), and thus their performance. However, the retrospective nature of the data highlighted the need for the efficacy of the approach to be tested in an intervention setting.

1.3.4 Chapter V (Intervention: Phase One). The purpose of the intervention studies detailed in Chapter V was to apply the new knowledge generated from the previous two studies. Specifically, the aims of phase one were twofold: to preliminarily investigate the

practicality of a) delivering a super-strengths intervention guided by the conceptual pathway generated from studies one and two; and b) employing sport-specific self-report measures as a way of evaluating efficacy, guided by the findings of study two. This included the delivery of a small-scale super-strengths intervention to three elite amateur boxers, and explored the potential for sport-specific psychometric measures to be used in monitoring psychological effects of the approach. Specifically, engagement, confidence, basic needs satisfaction, and coping skills were assessed, along with subjective performance. Super-strengths interventions included four phases: introduction, identifying and contextualising, application, and monitoring. In line with the study purpose, the intervention provided an opportunity to investigate the practicality of delivering a super-strengths approach, and initial insight into the potential for capturing the effects of the approach using sport-specific psychometric measures. However, the findings suggested the need to further develop the approach and understanding generated by employing a single-case research design to address the limitations discussed in this chapter (Barker et al., 2013).

1.3.5 Chapter V (Intervention: Phase Two). Phase two of Chapter V describes the design, development, and delivery of a full super-strengths intervention. In line with the suggestions from phase one, the purpose of study three was to evaluate the efficacy of delivering a super-strengths intervention for enhancing elite athletes' psychology and performance in the context of their sport. Three elite male athletes from three different sports (cricket, shooting, football) were included in the study, and a single-case, multiple baseline research design was adopted. The psychometric measures employed were the same as phase one; however an objective performance measure, along with coaches' subjective rating of performance were added. Discussions in this chapter suggest the evident theoretical and applied implications of the study findings and the need for future research to continue bridging the gap in knowledge on strengths-based approaches.

1.3.6 Chapter VI (Summary, Discussion, and Conclusions). Chapter VI concludes the thesis by highlighting and discussing the outcomes of the programme of research. Specifically, the chapter comprises three main sections: 1) a summary of the aims and key findings of each study; 2) a general discussion of the theoretical and applied implications of the research findings; 3) the perceived strengths and limitations of the thesis, suggestions for future research in the area of strengths-based approaches in sport, and final conclusions of the central messages of the thesis as a whole.

1.3 Summary of Research Aims and Objectives

In summary, this programme of research aimed to enable a greater understanding of the role and impact of super-strengths in elite sport through three main phases. Study one aimed to facilitate an understanding of how super-strengths could be utilized in elite sport and provided an initial conceptual pathway for practically implementing the approach. Study two aimed to build on this conceptual pathway and enhance understanding of how implementing a super-strengths intervention might affect athletes' psychological factors and performance. The third investigation was a two phased approach to implementing super-strengths in practice. Phase one of the intervention study aimed to trial the super-strengths intervention process within one elite sport setting, in particular the practicality of delivering the approach (as guided by the conceptual pathway) and using psychometric measures to detect changes in psychological factors. Finally, the aim of phase two of the intervention research was to examine the effectiveness of a full super-strengths intervention on athletes' psychological factors and performance in three different elite sports.

CHAPTER II

Review of Literature

2.1 Introduction

In 2012, after winning the Men's 100m and 200m finals, Usain Bolt described to reporters how he had overcome his concern about false starting: "my coach told me 'stop worrying about the start because the best part of your race is at the end'. It worked" (Hayward, 2012). Although working in the way Bolt described (focusing on winning strengths) may seem obvious, it is not typical of the predominant approach advocated in sport performance literature. The predominant focus tends to be on working on weaknesses to improve performance (Park-Perin, 2010; Gordon, 2012). Yet, contemporary research in sport psychology has indicated that developing athletes' greatest strengths may be beneficial for enhancing their psychology and performance (Beaumont, Maynard, & Butt, 2015; Gordon, 2012; Gordon & Gucciardi, 2011). Although working to develop athletes' strengths has received anecdotal support from athletes and coaches in elite sport (e.g., Atherton, 2012; Rowbottom, 2011), applied strengths-based interventions are scarcely documented in the sport psychology literature. Conversely, the approach has been widely adopted in other therapeutic disciplines and performance contexts including clinical (Gassman & Grawe, 2006), coaching (Govindji & Linley, 2007), and organisational psychology (e.g., Clifton & Hodges, 2004). Thus in order to develop an understanding of how strengths-based approaches could be applied in sport psychology consultancy, applied research from other domains is included in the present review. First, it is necessary to begin with the typical approaches and ways of working in sport psychology, and the predominant underpinning philosophy of behaviour change. Second, the review outlines the underpinning philosophy of strengths-based approaches, including a brief history of positive psychology, and the associated beliefs about change. Third, the applied positive psychology literature is reviewed; specifically the

most pertinent studies that have applied strengths-based approaches to improve psychology/performance in therapeutic, coaching, organizational, or sporting contexts are included. Fourth, the evident inconsistencies and gaps in knowledge of applying strengths-based approaches are highlighted and discussed. Finally, the review concludes by outlining how future research might best address the evident gaps in knowledge, and a rationale for the purpose of the thesis is provided.

2.2 The Dominant Force in Sport Psychology

Sport psychology is a relatively new discipline, having emerged within the last 50 years or so, and although the discipline has expanded both academically and practically over the last couple of decades, gaining buy-in with athletes and/or coaches sometimes remains a challenge (Gee, 2010). Evidently, reasons for a lack of engagement differ across situations/environments, but previous studies have highlighted that athletes' and coaches' perceptions of sport psychologists and/or the discipline is something that can influence buy-in (i.e., Pain & Harwood, 2004). Specifically, some athletes and coaches associate the discipline as one that supports problem athletes (Gee, 2010; Pain & Harwood, 2004), rather than one that assists performance enhancement. This is comprehensible, given that there has been a heavy focus on correcting problems and weaknesses in sport psychology research in practice (Gordon, 2012). It is evident from the literature that the typical approaches to consultancy and subsequent methods adopted by sport psychology practitioners (SPs) are often underpinned by Cognitive Behavioral Therapy (CBT) (cf. Sharp, Hodge, & Danish, 2014). While CBT can be used for various positive means, the primary focus is to remediate negative thought disorders (Luiselli & Reed, 2011; Scheel et al., 2012) and develop an array of tools to fix these, which implies a problem-focused approach. With CBT having a major influence on many sport psychologists' philosophy and practice, it is understandable that some athletes and coaches still have negative connotations of sport psychology.

Moreover, due to the nature of elite sport particularly, coaches and practitioners are often under pressure to deliver impactful interventions, and facilitate significant performance gains, in a short space of time (Brown, 2011). Yet as Brown (2011; p118) highlighted, the philosophy underpinning CBT is not necessarily aligned with the evident demand of elite sport environments:

> Realistically, cognitive–behavioral therapy is an approach that brings about change over time through cognitive processes such as restructuring, self-monitoring, practice, and experimentation with new thoughts or behaviours. The human physique changes as the result of deliberate, purposeful, and repetitive exercise over time. The same effort is required for the human brain.

With CBT being one of the most dominant approaches in sport psychology (Meyers, Whelan & Murphy, 1996), this assumption that change takes time and effort is apparent in the literature. Documented interventions are often lengthy or require a significant amount of commitment from the athlete to engage with the actions agreed in consultation with their SP, yet practitioners rarely question whether this way of working is most appropriate for the unique world of sport (Luiselli, 2012). Conversely, it has been proposed that when working with athletes, simple but effective strategies for change are needed, and that solution-focused approaches, targeting strengths, resources, and what is working for athletes, could be beneficial for achieving effectiveness (Hoigaard & Johansen, 2004). Typically, strengths-based approaches are underpinned by positive psychology, thus the principles of working in this way, along with a brief history of the approach, are outlined in the following section.

2.3 An alternative focus: The Positive Psychology Movement

In his APA presidential address, Martin Seligman (1999) reiterated the original mission statement of psychology (devised before WWII), with purpose. The mission proposed that the aims of psychology as a discipline were three fold: 1) to cure mental illness;

2) make the lives of all people more productive and fulfilling; 3) to identify and nurture high talent. Seligman asserted that there has been a significant imbalance in the proportion of attention that had been paid to the three areas of psychology. Specifically, psychology had focused almost solely upon pathology and mental illness (part one of the mission), and had adopted a medical model of practice (Seligman, 2002; Seligman & Csikszentmihalyi, 2000). The medical model involves focusing on problems, the associated pathology, and practitioners developing tools to try and fix these. Although this focus has enabled practitioners to develop knowledge of the etiology of mental illness and psychological problems, the other aims of the discipline have been neglected. As highlighted by Seligman (2002, p7):

> By working in the medical model and looking solely for the salves to heal the wounds, we have misplaced much of our science and much of our training... by embracing the disease model of psychotherapy, we have lost our birthright as psychologists, a birthright that embraces both healing what is weak and nurturing what is strong.

Seligman (1999) proposed that a shift in focus would be necessary to revolutionize the way psychologists worked, to catalyse a change in the focus of psychology from repairing the worst things, to begin building positive qualities. This was the aim and the beginning of the positive psychology movement, as it has since been labelled (Seligman & Csikszentmihalyi, 2000).

2.3.1 Shifting the focus. Positive psychology can be defined as the scientific study of positive traits and experiences, strengths, and optimal functioning (Duckworth et al. 2005; Seligman, 2002). The concept that has driven the positive psychology movement is that to be healthy requires the presence of wellness, and not simply the absence of illness or disease. Therefore, to enhance an individual's mental health, it has been proposed that attention

should be given to the positive aspects of their lives, and maximizing the good in their situation, rather than solely trying to fix the negative aspects (Diener, 2003). For example, the medical model focuses on helping people move from -8 to -3 (i.e., severe depression to mild depression), whereas positive psychology would aim to help people move from +3 to +8 (i.e., languishing to flourishing) (Hefferon & Boniwell, 2011.) In terms of target clients, positive psychology has been applied at three main levels: subjective, individual, and group (Seligman & Csikszentmihalyi, 2000). At a subjective level positive psychology refers to positive subjective experiences and well-being (e.g., flow, joy, and happiness). Individual positive psychology encompasses all positive traits and characteristics (e.g. optimism, forgiveness, talent, wisdom). Finally, at group level, the approach concerns civic virtues and institutions that drive individuals (e.g., work ethic, nurturance) (Seligman, 2002).

Although the levels that positive psychology can be applied are described separately, they are indeed interrelated and by no means exclusive of one another. It is suggested that the effects of working with a person to enhance positivity at one level would facilitate enhanced positivity as a whole. For instance, when a person experiences positive emotions this could catalyze positive change across all three levels (subjective, individual and group) (Fredrickson, 2009). The importance of positive emotions and the effects of experiencing them have been researched thoroughly, predominantly by Fredrickson and colleagues (e.g. Fredrickson, 2000; 2001; Fredrickson & Branigan, 2005). Fredrickson's (2001) Broaden and Build theory proposed that when people experience positive emotions, their thought-action repertoire is broadened. For example, experiencing interest in something would spark the urge to explore, take in new information, and develop the self in the process. Similarly, experiencing joy would spark the urge to play, push limits, and be creative (Fredrickson, 2001). Fredrickson suggested that experiencing positive emotions such as these provokes creative actions, ideas, and social connections which would subsequently enhance an

individual's personal resources (Fredrickson, 2004). Resources acquired via positive emotions can be physical, psychological, or social, and would be utilised in everyday life to facilitate successful coping across situations. In contrast, Fredrickson (2004) argued that experiencing negative emotions could cause an individual's mind-set and perceived options to be narrowed (e.g., fight/flight). Thus, it is argued that experiencing negative emotions consistently would lead to fewer resources and subsequently a lesser ability to cope in situations, in comparison with consistently experiencing positive emotions. This concept obviously has implications for psychologists working in any domain, however in the world of elite sport where athletes train continuously for long hours, several days a week, reflecting on the balance of positive and negative emotions experienced by athletes seems relevant. Specifically, it would be argued that if facilitation of more positive emotions could broaden athletes' psychological, physical, and social resources, this is worth consideration. However, research that has explored the role of positive emotions in elite sport is scarce; therefore the extent to which this would benefit athletes' performance is unknown. Nonetheless, empirical studies from other domains suggest the concept to be of worth for enhancing optimal functioning across contexts (cf. Emmons & McCullogh, 2003; Folkman & Moskowitz, 2000; Fredrickson, 2000). In sport psychology, where the aim is to facilitate an athlete's development, enabling them to perform optimally and consistently (Harmison, 2011), this concept may be of value.

2.3.2 Positive Psychology before its time. Although the positive psychology movement or surge in studies adopting a more positive agenda came after Seligman's election speech in 1998, positive psychology had been referred to years before. Notably, Maslow (1954, p354) was one of the first psychologists to voice concern over the evident imbalance in the work of psychology:

> The science of psychology has been far more successful on the negative than on the positive side. It has revealed to us much about man's shortcomings, his illness, his sins, but little about his potentialities, his virtues, his achievable aspirations, or his full psychological height. It is as if psychology has voluntarily restricted itself to only half its rightful jurisdiction, and that, the darker, meaner half.

Indeed, Maslow too discouraged the deficit focus commonly adopted by psychologists, yet he and his colleagues at the time failed to gather empirical research to support their qualms (Seligman, 2002). Nevertheless, Maslow's work, including the inclusion of self-actualization in his theories about hierarchy of human needs, evidently alludes to the importance of an individual realising their full potential, and thus encompasses positive psychology.

Similarly, Bernard Haldane was one of the first to highlight the importance of people understanding their own and others' strengths (Haldane, 1947). Haldane had previously liaised with Abraham Maslow in the 1960s when developing his strengths process (Haldane, 1989), which coincided with Maslow (1954) reinforcing the need for people to hone in on human potential. Haldane worked as a career counsellor in the business sector, and his role was predominantly to help individuals to optimise their career development, and aid organisations with personnel issues. Haldane proposed that the principal factor that influences efficiency in the workplace is knowledge of employee's strengths, yet he suggested senior management were not equipped to identify and nurture these amongst their staff (Haldane, 1947; Knowdell, 2003). As a result, he founded Bernard Haldane Associates (1947) and created the Dependable Strengths Process which has since been used in the military, education, and business to help people identify the talents and strengths they could use to help them succeed in their vocation (Haldane, 1989; Knowdell, 2003). Since then the Dependable Strengths Articulation Process (DSAP), as it is now known, has been developed and there is a Centre for Dependable Strengths which trains professionals in the approach.

The process involves participants reflecting on their 'good' experiences in life (i.e. those they felt were close to self-actualising) (Haldane & Haldane, 1984; Maslow 1954), identifying their patterns of strengths, and learning how to talk about their strengths in a way that will highlight their value to their organisation (Knowdell, 2003). The rationale behind DSAP is that developing knowledge and understanding of strengths can enhance quality of life, wellbeing, self-esteem and productivity (Forster, 1989; Haldane, 1989; McMurrer, 1989). Empirical support for this notion now exist in the literature from research in various domains, and some examples of the impact of applying strengths in context are discussed in the following section of the review.

Finally, one of the most noted contributions to positive psychology before Seligman's address was Donald O Clifton's work with the GALLUP organization that began in the 1950s. Clifton (and colleagues) have since been involved in a plethora of strengths-based research within organisational contexts that has suggested the benefits of applied positive psychology (e.g., Buckingham & Clifton, 2001; Clifton & Anderson, 2002; Rath & Clifton, 2004). Thus, the following section includes a review of the literature from various domains, whereby positive psychology principles have been applied with the intention of facilitating enhancements in clients' psychology and/or performance.

2.4 Applied Positive Psychology: Strengths-based Approaches

The application of positive psychology principles (i.e., the scientific study of positive traits and experiences, strengths, and optimal functioning) is evident in literature from various domains. Strengths-based approaches (i.e., specifically utilising and building on clients' strengths) underpinned by positive psychology principles have been well-documented in research. The benefits of strengths-based approaches have been reported in clinical settings (e.g., Fluckiger & Grosse Holtforth, 2008; Scheel, Davis, & Henderson, 2012), coaching psychology (e.g., Biswas-Diener, Kashdan, & Minhas, 2011; Linley, Woolston, & Biswas-

Diener, 2009), education (e.g., Park & Peterson, 2008), business (e.g., Clifton & Harter, 2003), and more recently in sport (Gordon & Gucciardi, 2011). As strengths-based approaches in sport psychology are scarce, the relevant literature from other domains will be reviewed in order to generate a greater understanding of the potential application to the context of elite sport.

2.4.1 Strengths-Based Approaches in Therapeutic Contexts. Due to the nature of patient referrals in clinical settings, the therapist's focus is typically on identifying deficits in order to correct pathology (O'Hanlon & Weiner-Davis, 1989). Yet on the other hand, solution-focused therapy stems from the work of psychotherapists in such settings, and these approaches include principles and processes representative of a positive psychology underpinning. Solution-focused therapy is underpinned by the philosophy that clients have the resources they need to solve the problem they bring to the session, thus the job of the consultant is merely to facilitate the utilisation of such resources (Haley, 1976; Hoigarrd & Johansen, 2004). Specifically, utilisation stems from the methods adopted by Milton Erickson in the mid-1900s due to his discouragement of the deficit focus, and advocating of the use of an alternative approach (Haley, 1986). Utilisation involves identifying something within a person's resources to solve the problem they bring to the session (Watzlawick, Weakland, & Fisch, 1974). This requires a process of reframing the situation, making use of what the client presents (behaviours, emotions, attitudes and beliefs), and using the 'what is' for the purposes of 'what can be' (Watzlawick et al., 1974). Rather than negative problem-solving the practitioner would emphasise the skills, strengths, knowledge, and experiences that the client possesses (O'Connell & Palmer, 2008). Also known as resource activation in a clinical setting, practitioners adopting this approach would focus on these positive or 'healthy' parts of the patient's self or situation, and utilise these resources for progression (de Shazer, 1988; Gassmann & Grawe, 2006). Resources have been defined as any type of strength or ability,

ranging from personality and character strengths (Peterson & Seligman, 2004), to specific practical skills (Bohart & Tallman, 1999). The role and importance of resource activation in clinical settings has been referred to in the literature, and the findings are discussed with reference to the context of elite sport and role of sport psychologists.

The benefits of embracing resource activation were reinforced by Fluckiger and Grosse Holtforth (2008). The researchers explored the effects of a priming intervention on the process and outcomes of therapy, whereby therapists were encouraged prior to therapy sessions to focus their attention on patients' individual strengths. It was reported that therapists in the experimental (priming) group enhanced resource activation during therapy sessions, and the outcomes of their sessions were more positive than the therapists in the control group. Specifically, clients' mastery experiences, goal attainment, progress, and symptom reduction were significantly enhanced by therapists in the experimental group. The findings highlight the potential impact that a focus on activating clients' resources can have in a clinical setting. Although the study was a preliminary investigation and included only a small sample of clients, the results have potential implications for the work of sport psychologists. In particular, if it is possible to enhance a client's progress and goal attainment, simply by encouraging practitioners to focus their attention on clients' strengths and activating resources, this has implications for sport psychology practitioners when considering where their emphasis lies. Similarly, it would be suggested from the findings of the study discussed, that practitioners could endeavour to prime coaches to emphasise and activate athletes' resources/strengths in their sessions, to facilitate similar desirable outcomes (i.e., goal attainment).

As well as referring to the importance of resource activation for positive gains in a clinical setting, research has suggested that a lack of focus on strengths and resources can actually be detrimental to mental health and well-being. Gassmann and Grawe (2006)

explored problem activation and resource activation, two mechanisms for change used by practitioners in this setting. Specifically, problem activation involves focusing discussion on problems, on the premise that a person must come into contact with negative emotions to overcome them. Conversely, resource activation (as previously outlined) involves focusing on a patient's resources, strengths, and the healthy aspects of their situation for them to progress (Fluckiger, Caspar, Grosse Holtforth, & Willutzki, 2009). Gassman and Grawe (2006) measured therapeutic progress and session outcomes, in relation to therapists' utilization of the two mechanisms. Results revealed that in unsuccessful sessions therapists activated resources significantly less than in successful sessions. In successful sessions patients' resources were activated more than problems, throughout the entire session, whereas in unsuccessful sessions resources were only activated at the end, which was seemingly too late to have any positive influence/impact. It was also reported that in unsuccessful sessions where resources were not being activated, patients reported lower self-confidence and rapport with the practitioner, as the session went on. Although again the sample size and context limits the generalizability of the findings, the significance of attending to clients' strengths and resources to successfully influence their mental health and well-being is apparent. In particular, the findings indicate that the length of time spent activating client resources is important to maximise effectiveness. The researchers suggested that practitioners need not solely focus on strengths for the entire session, but advocated that focusing on resources at the beginning and end of a session was effective in enhancing outcomes of therapy. In addition, the findings have implications for practitioners working in a 1:1 setting in any context, not only to consider the benefits associated with resources activation, but also how potentially destructive failing to do so could be. It is proposed that emphasising resources and strengths should be considered by sport psychologists working in elite sport, where athletes'

self-confidence, as well as their rapport with coaches is paramount for success (Hays et al., 2009).

The application of positive psychology principles in therapeutic settings has highlighted the potential gains of adopting a strengths focus, versus a problem focus, and emphasising clients' resources in sessions. Obviously, the context that clinical practitioners work in can differ immensely to the environments a sport psychologist may find themselves in; however the findings reported within the literature suggest the potential for application of certain principles. Notably, the method of attending to and reinforcing clients' strengths and resources throughout sessions, to potentially enhance outcomes and associated psychological effects seems transferable across contexts. Collectively the findings suggest the potential psychological benefits of focusing on a person's strengths (i.e., confidence and goal attainment), which are indeed relevant for sport psychologists working in elite sport.

2.4.2 Strengths-Based Approaches in Coaching. Support for the idea that there is more to gain by developing strengths than focusing solely on weaknesses is also evident in coaching psychology (Driver, 2011; Linley, 2008). Strengths coaching, as it is known in this field is a form of applied positive psychology. Similarly, approaches are underpinned by the theory that positive emotions are facilitated via a person utilising their natural capacities and allowing them to do what they do best (Linley & Harrington, 2006). Research in this domain suggests that strengths coaching can facilitate an increase in various positive psychological outcomes such as positive affect and vitality (i.e., Govindji & Linley, 2007), motivation and goal attainment (i.e., Linley & Harrington, 2006; Linley, Nielsen, Gillett & Biswas-Diener, 2010), and engagement (i.e., Harter, Schmidt & Hayes, 2002). For the purpose of this review, prominent studies from this field have been reviewed in more detail.

Govindji and Linley (2007) examined the association between college students' strengths-knowledge, strengths-use (how often you use your strengths in situations), and

organismic valuing and their relations with three facets of well-being (subjective well-being, psychological well-being, and subjective vitality). Upon controlling for self-esteem and self-efficacy, findings revealed that strengths-use and organismic valuing (selecting goals based on our inner nature and purpose) significantly predicted subjective well-being (affective balance and life satisfaction), and psychological well-being (engagement with the existential challenges of life). Strengths-knowledge was not an independent predictor of psychological or subjective well-being, which suggests that solely identifying clients' strengths (i.e., they know what they are), would not necessarily influence their well-being. Whereas, strengths-use did significantly predict aspects of well-being, which indicates that ensuring clients are enabled to use their strengths more is important if intending to enhance their well-being through a strengths-based approach. This has implications for the vast number of strengths tools that exist; the tools that offer an identification measure, but do not provide a platform for how strengths should be utilised or maximised, are seemingly not as beneficial for enhancing well-being. This finding is important for future research aiming to develop strengths-based approaches. Specifically to maximise potential psychological benefits practitioners should consider facilitating clients' use of strengths, not simply identifying them.

Govindji and Linley's (2007) findings also revealed that organismic valuing (being in touch with inner values and needs), along with strengths-use, significantly predicted aspects of well-being. This finding indicated that people who are in touch with their inner-self, needs, and values, and utilise their strengths, experience greater well-being (subjective and psychological). Yet, a limitation of the study is that the scales used to measure organismic valuing, strengths-knowledge, and strengths-use were developed by the researchers for the study. Thus, although meaningful correlations and internal consistency were reported by the researchers, the measures had not necessarily been through rigorous validation or reliability

testing procedures. Nonetheless, the findings suggest that strengths-based interventions aiming to enhance people's understanding of themselves, their strengths, and getting them to reflect on the use of these in everyday life could influence well-being. These findings have implications for sport psychologists, given that studies exploring athletes' use of strengths have barely featured in the literature. If strengths coaching can facilitate psychological well-being, this approach could be considered to enhance the psychological welfare of athletes in elite sport.

Linley and colleagues (2010) reinforced the potential psychological benefits of strengths-use in their research with college students. The researchers conducted cross-sectional research in which 240 participants completed repeated measures of psychological strengths, need satisfaction, goal progress, and goal attainment, upon identifying their character-strengths using the Values Inventory of Strengths (VIA-IS: Peterson & Seligman, 2004). Findings indicated that strengths-use was associated with enhanced goal-progress, and in turn with psychological needs satisfaction, and well-being. These findings supported Govindji and Linley's (2007) notion that utilising strengths is positively associated with psychological well-being. Furthermore, the results highlighted that adoption of a strengths approach whereby people are encouraged to put their strengths to use, may facilitate better progress and attainment of goals. Although the researchers targeted only college students, they included a large number of participants in their study and thus the findings could have implications for sport psychology. In sport, goal-setting is often conducted by athletes alongside coaches and/or sport psychology practitioners as a method of encouraging progression and development (e.g., Senecal, Loughead, & Bloom, 2008). In line with this, Linley et al's (2010) findings would suggest that encouraging athletes to use their strengths more may be a way of enhancing the results of goal-setting, in relation to attainment, progress, as well as athletes' well-being. Finally, Linley et al. (2010) called for future

research to investigate the relationship between these variables in more specific contexts. If strengths-use can have a positive influence on such desirable outcomes as those indicated by their study results, it is proposed that sport should be one of these contexts.

Collectively, the findings from research on strengths-use in coaching psychology indicate the potential value of practitioners adopting such approaches. Specifically, the literature highlights the positive associations between strengths coaching and various desirable psychological characteristics (Govindji & Linley, 2007; Linley et al., 2010). In reiteration of these findings, the reported benefits were associated with strengths *use* as opposed to just strengths *knowledge*. This has implications for the development of strengths-based approaches, as it highlights the importance of providing a method for clients to be able to put their strengths to use in context, rather than simply identifying them and athletes knowing what they are. In addition, a gap in knowledge evident from the review of literature in coaching psychology, and something that has been suggested for future research to address (Linley et al., 2010), is the exploration of how strengths approaches lead to positive outcomes and what process is required in order to facilitate positive psychological outcomes. This proposal has implications for researchers and practitioners across disciplines, to ensure that the mechanisms for change are understood and thus included in strengths-based research in the future.

2.4.3 Strengths-Based Approaches in Organizational Contexts. The adoption of strengths-based approaches for performance enhancement in business is commonplace, with much of the strengths research that exists in the literature being inspired by practitioners from this domain (i.e., Haldane, 1988; 1989). Indeed, elite sport organisations in the UK are managed as businesses; those involved (athletes, coaches, practitioners) are judged on performance results as a measure of success, and ultimately these results typically dictate the financial investment they receive (cf. Fletcher & Wagstaff, 2009; UK Sport, 2012). Thus, it is

proposed that reviewing the strengths-based literature from organisational performance contexts is relevant and of value, to highlight the most prevalent gaps in knowledge/understanding.

Further reiterating the value of strengths-based approaches for sport psychology, Gould, a distinguished sport psychologist, suggested that he often refers to strengths-based concepts, inspired by concepts evident within the organisational psychology literature, in his applied practice (Fifer, Henschen, Gould, & Ravizza, 2008). Specifically, Gould stated that he has used the concept from Jim Collins' (2001) Good to Great book when working with athletes, to facilitate a mutual understanding between the client and himself as to how the athlete can reach their full potential and achieve excellence. The concepts in the book have been generated from extensive research by Collins and colleagues in organisational contexts, conducted to identify how companies go from being good, to achieving greatness. Although their research was conducted in a business setting, it is proposed that the principles included are relevant for other performance contexts.

Collins (2001) studied companies that satisfied the criteria of having 15 years history of cumulative stock return at/below the general stock market, a transition point, and cumulative returns at least three times the market for 15 years thereafter (the criteria for attainment and maintenance of 'greatness'). Upon searching for commonalities between what the companies did to achieve sustained greatness, Collins proposed that there were three things that successful companies concentrated on to facilitate a leap in performance. Collins labelled the combination of these considerations as the 'hedgehog concept', a version of which is presented in Figure 2.1.

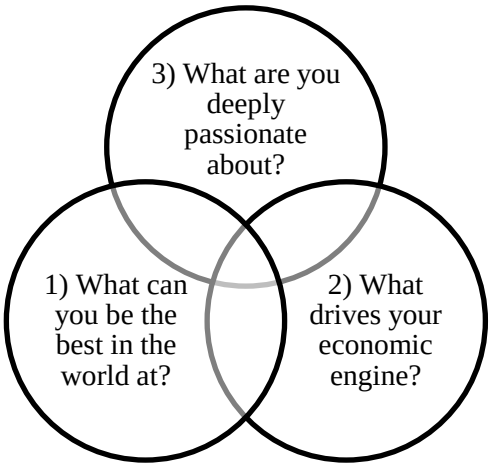


Figure 2.1: The hedgehog concept (adapted from Collins, 2001).

Collins (2001) stressed that the hedgehog concept requires rigorous thought and a standard of excellence. In particular, it was suggested that the concept is not solely about building on areas of strength and competence, but about understanding what you actually have the potential to be the very best at (i.e., focusing on the appropriate area to exploit). The research conducted by Collins and colleagues (2001) was longitudinal over a period of five years, and although the data was collected retrospectively, the findings indicate the potential impact that understanding and exploiting greatest areas of strengths could have upon performance. Collins advised that the good to great concept is something which is applicable to any aspect of performance, providing it is understood. Furthermore, it was proposed that the principles identified in the hedgehog concept can be applied to any organisation that wishes to produce sustained excellent results. This is certainly the predominant aim for elite sport organisations and governing bodies, given the demands and financial consequences associated with underperforming (UK Sport, 2012). Granted, the performance context of athletes and corporate businesses are different. However it is suggested that the principles from Collins' and colleagues' research could have implications for practitioners working in elite sport, particularly, as it has been highlighted that the main aim for sport psychologists is to assist athletes to perform more optimally and consistently (Harmison, 2011).

In line with the notion of enabling people to perform more optimally, there are further examples evident from organisational contexts of where employing a strengths-based approach has facilitated greater performance. In their research on the influence of managerial approach on performance in the US, the Corporate Leadership Council (CLC, 2002) reported that when managers' emphasis in employees' formal reviews (appraisals) was on performance strengths, a performance improvement of 36.4% was noticed. Conversely when the managers' approach was to emphasise performance weaknesses, a 26.8% decline in employee performance was reported. Again, although these statistics are not from a peer reviewed, academic source, they support findings previously alluded to in clinical settings. Specifically, results are potentially more positive when people's strengths are honed in on, as opposed to neglecting them or focusing on weaknesses (e.g., Gassman & Grawe, 2006).

Research findings emphasising the benefits of adopting a strengths focus to encourage greater performance in business have been consistently reported in research conducted by the GALLUP organisation. Clifton and Harter (2003) reviewed research on strengths-based approaches in the business setting in relation to senior members' approach to management and how they approached employee development. Research studies from the GALLUP database included interviews with over 2000 managers regarding their preference of approach, and findings revealed that high-performing managers typically adopted a strengths-focus with their employees. Specifically, this strengths-focus was associated with a higher success rate; probability of success was said to be 86% higher for managers who adopted a strengths approach, versus those who did not. Similar findings have been reported in other GALLUP research (i.e., Harter, Schmidt, & Hayes, 2002). For example, employees' strengths being emphasised has been suggested to facilitate improvement in other desirable areas, such as engagement and thus productivity (Harter, Schmidt & Killham, 2003; Hodges & Clifton; 2004). Hodges and Clifton (2004) reviewed the impact of strengths-based interventions from

research conducted within GALLUP, including those conducted in an education setting. The researchers suggested that in schools where students had strengths-based interviews (emphasising their talents) upon entering the school, versus a control group, absence and lateness statistics were lower and grades were higher, as a result. Similarly, in colleges and universities, interventions using a character strengths inventory (Strengthsfinder; Rath, 2007) to identify and coach students' strengths reportedly led to a higher pass percentage amongst those students who engaged with the intervention, when compared to a control group.

Although it is appreciated that findings from an organisation conducting research on their own practice may include biases, the data is empirical and provides a real-world insight into the importance of what is being targeted to aid improvement in a performance setting. Collectively, findings from the GALLUP organisation research have indicated the importance of the focus and emphasis adopted by influential leaders within an organisation. It is argued that this has implications for the world of elite sport, given that athletes spend many hours a day with coaches/practitioners looking to aid performance improvements. The importance of leaders in sport needing to better understand how to facilitate optimal performance is something that has been encouraged in sport psychology (Wagstaff & Leach, 2015). With this in mind, if a strengths-based focus is associated with desirable outcomes such as enhanced engagement, productivity, and performance, it may be of benefit for elite sport practitioners to consider such approaches.

2.4.4 Strengths-Based Approaches in Sport. It has been suggested that our discipline, sport psychology, has exemplified positive psychology for the last 25 years, through the study of athletic excellence (Gould, 2002; Harmison, 2011; Ravizza, 1977). In research and practice since the 1980's, sport psychologists have explored how coaches and athletes can achieve excellence in their performance, tending to study elite populations and apply findings with other athletes to aid their learning and development (Hefferon &

Boniwell, 2011). Positive psychology advocates this way of working, studying those who are deemed to be flourishing and successful, and advising the general population from these observations. Therefore, in this sense, positive psychology principles are implicit within sport psychology as a discipline.

On the other hand, the most commonly cited issue that has featured heavily in sport psychology research, since the discipline's emergence, is competitive anxiety (Gee, 2010; Martens, 1987). Defined as a negative emotional response to stressors (Hanton, Thomas & Mellalieu, 2009), it could be suggested that the area that has dominated the literature is a problem-focused state, which does not echo the underpinning philosophy of positive psychology. In addition to this, a commonly referred to technique that is facilitated by sport psychologists to assess athletes' needs in initial analysis, and to identify areas to attend to, is the performance profile (Butler & Hardy, 1992). Although both strengths and weaknesses are identified during this process, the intervention that follows largely involves initiating training goals to improve athletes' weaker areas (Weston, Greenlees, & Thelwell, 2011). The assumption that weaknesses should predominantly be addressed to enhance performance is typical in sport, and training sessions are often designed with a focus on eradicating weaknesses, rather than enhancing strengths (Gordon, 2012). Therefore although it is not proposed that sport psychology practitioners do not adopt strengths-based methods in their practice, there is little evidence of these types of interventions in the literature, despite them being encouraged (Gordon & Gucciardi, 2011).

More recently the potential gains of strengths-based approaches have been alluded to in sport. In particular, researchers have suggested such approaches may be beneficial when aiming to develop athletes' mental toughness (Gordon & Gucciardi, 2011), robust sport confidence (Beaumont et al., 2015), and optimizing the psychological determinants of sport performance (Wagstaff & Leach, 2015). Beaumont et al.'s (2015) study included interviews

with applied sport psychologists to gain understanding of how they build robust sport confidence. Findings revealed that practitioners deemed the development of athletes' signature (greatest) strengths to be an effective method for doing so. This is understandable, given that previous research on confidence in elite sport has suggested that some athletes (particularly elite males) take confidence from knowing they have superiority over their opposition (Hays, Maynard, Thomas, & Bawden, 2007). While Beaumont et al's research offers support for the potential gains associated with developing athletes' strengths, the method for doing so remains unclear in the literature.

One study that has included an applied example of using a strengths-based approach in sport psychology is Gordon and Gucciardi (2011). The researchers conducted a strengths-based approach to developing mental toughness with professional cricketers, adopting principles from positive psychology, appreciative inquiry coaching, and strengths-based coaching. They collected mental toughness data and athletes' perceptions of their strengths (technical, tactical, physical and mental skills use) via asking them strengths-based questions. The researchers then used the CAPP (Centre of Applied Positive Psychology) Realise2 model to guide the cricketers' use of strengths. The Realise2 model suggests outcomes of identifying strengths can be optimised by subsequent marshalling of realised strengths, and maximising of unrealised strengths. The model (adapted from Linley, Willars, & Biswas-Diener, 2010) also offers techniques to minimise the relevance of weaknesses. The model alongside appreciative enquiry was used to enhance athlete's perceptions of their strengths and to discuss their mental toughness. The aim of the study was predominantly to explore the potential for strengths-based approaches to be applied for developing mental toughness, to which they concluded there is great potential. However due to the aims and scope of the research, aside from anecdotal quotes from participants, they did not report the specific impact of adopting a strengths-based approach on psychological characteristics or

performance. Nonetheless, the reported feedback from players regarding the strengths-based approach was positive. Generally, they stated that players were complimentary about the value of strengths-based approaches, particularly for technical development. Specifically, they reported that one player proposed "this was very different from what I'm used to. I much prefer the idea of spending the majority of my time realizing my strengths rather than trying to fix weaker areas" (Gordon & Gucciardi, 2011, p149). The authors reiterated that players were not used to having to focus on their strengths; when players were asked to discuss their strengths in front of others, many were embarrassed and indicated it was something they had not previously been asked to consider.

Collectively, the findings of Gordon and Gucciardi's (2011) study offer insight into the perceived value and potential for adopting strengths-based approaches in sport psychology. Findings also indicate that strengths may sometimes be neglected by coaches/practitioners working in elite sport, and athletes may not be familiar with working on developing their strengths. It has been proposed that this weakness focus, commonly adopted in sport is due to the idea that weaknesses will be most crucial to performance enhancement, and fear that they will cause most problems (Knott, 2012). Thus, there is a lack of knowledge in sport about strengths approaches and the positive gains they might facilitate, yet as reinforced by Gordon and Gucciardi (2011), the potential for this type of approach to be applied by coaches and practitioners in sport is apparent. Future research should aim to address the evident gap in literature and explore how strengths-based approaches to performance enhancement could benefit athletes, coaches, and practitioners in sport.

2.4.4.1 Super-Strengths in Elite Sport. As alluded to previously, although strengths research is scarce within the sport psychology literature, such approaches undoubtedly exist in practice (Biswas Diener et al., 2011). As proposed by Biswas-Diener et al (2011), practitioners will take concepts from theory and adapt these so they are locally applicable for

the client or context they are working with. Though, there are necessary guidelines to ensure that practice informs and is congruent with research (Biswas-Diener et al., 2011, p107):

> Practitioners can conduct novel interventions, based on a strong theoretical rationale, as long as adequate data are collected to test the effectiveness of these deviations from the literature... all data should be shared with the field to be evaluated for quality control and synthesized to inform existing theory and intervention. Work by practitioners in the field is an untapped resource for innovative developments and these guidelines provide an initial step for building a two-way stream.

In line with this, a novel strengths-based approach from sport psychology *practice* was presented at the British Psychological Society annual national conference and has been coined *super-strengths* (Bawden, 2012). Adoption of the approach has been advocated by elite athletes and coaches, anecdotally (e.g., Atherton, 2012; Rowbottom, 2011), yet the approach has not yet been explored in research and thus the specific definition, concepts informing the approach, and its effectiveness are unknown. To bridge the gap between what goes on in practice, and what is evident from the literature, it is proposed that such approaches need to be investigated further.

2.5 Gaps in Knowledge: The application of Strengths-Based Approaches

Thus far, the review of literature has indicated that strengths-based approaches underpinned by positive psychology are being applied to positive effect, across a range of contexts/settings. It is apparent from the review that many of the adopted approaches included practitioners encouraging clients to use their strengths more; however there are fewer studies that have encouraged the development of clients' strengths, appropriate for the context in which they will utilize them. Furthermore, typically character strengths have been identified with practitioners often using pre-determined strengths questionnaires/tools to do so, and therefore identified strengths are not necessarily context-specific. This lack of context

for using and developing strengths is an evident gap in the literature, one that has previously been highlighted (Biswas Diener et al., 2011). The predominant gaps in knowledge and understanding of strengths-based approaches are discussed in this section.

2.5.1 Defining Strengths. Although the last decade has seen a surge in applied positive psychology research and strengths-based approaches, there are issues surrounding the lack of clarity about how the research should be applied (Biswas-Diener et al., 2011). Specifically, there is a lack of consistency as to what is being identified (i.e., the definition of strengths), and how (i.e., identification methods/tools), though the need for such clarification has been stressed (Linley, Woolston & Biswas Diener, 2009). From the extant literature, there are several existing definitions and conceptions of strengths. However, the predominant belief in a lot of strengths research is that strengths are underpinned by personality theory, (i.e. they are innate and natural) (Biswas-Diener et al., 2011). In line with this, the definition adopted in the majority of studies from the coaching psychology literature suggests that strengths are pre-existing qualities that clients innately have. For example, Linley and colleagues at the Centre for Applied Positive Psychology (CAPP) specify that a strength is a natural capacity for a particular way of behaving, thinking, or feeling that is authentic and energising to the user, and allows optimal functioning, development and performance in the pursuit of valued outcomes (Linley & Harrington, 2006; Linley, 2008). However, although trait theorists believe strengths to be innate, they do not propose that strengths are rigid, and thus it is widely accepted in the literature that these natural potentials can be developed and refined through effort and be applied more effectively (Biswas-Diener et al, 2011).

In line with this, a more context-specific definition has been adopted by researchers within the GALLUP organisation. They define a person's/organisation's strength as the ability to consistently produce a positive outcome through near perfect performance in a specific activity (Clifton & Anderson, 2002). Again, this definition features the notion that

strengths are underpinned by innate qualities. GALLUP suggested that strengths are comprised of three subunits: talents (natural attributes which we all have/have come about unintentionally), knowledge (not natural/acquired through education and training) and skills (basic abilities/non- natural attributes that require training). Furthermore, the researchers propose that building strengths requires initial identification of themes of talent, discovering specific talents within these themes, and then refining these using knowledge and skills (Hodges & Clifton, 2004). Therefore, although they recognise that strengths are situation-specific and should be maximised in context, the definition suggests that natural talents underpin strengths. Consequently, as the tools used to identify strengths are based on the adopted definitions, much of the research on strengths-based approaches has featured inventories to identify pre-existing qualities.

2.5.2 Identification of Strengths. As outlined, Linley (2008) suggested that strengths are pre-existing capacities whereby something within a person's psychological or biological make up predisposes them to have certain strengths, reinforcing the idea that people are not "blank slates". Furthermore, it has been proposed that people are born with the drive to develop these innate potentialities; a desire or need to self-fulfil, known as self-actualization (Ellis, 1994; Maslow, 1954; Rogers, 1961). Yet when it is assumed that people will improve via working on their weaknesses, strengths are often overlooked, and a lack of familiarity with having strengths-based discussions (Gordon & Gucciardi, 2011) can mean that people struggle to identify what their strengths are (Hill, 2001; Linley & Harrington, 2006). Thus, researchers have developed specific tools to assess individuals' strengths. For example the Strengthsfinder (Rath, 2007), Values in Action/VIA-IS (Seligman & Peterson, 2004), and the Realise2 (Linley, 2008). However, due to the differing definitions and conceptions of strengths, they measure different attributes and thus produce different outputs.

For instance, VIA-IS is a 240-item measure of 24 character strengths (10 items per strength). The 24 strengths are predetermined items that Seligman and Peterson (2004) categorised into six core virtues: wisdom and knowledge, courage, humanity, justice, temperance, and transcendence. The inventory has been used in many research studies (e.g., Park, Peterson & Seligman, 2004; Peterson, Park & Seligman, 2006), and subjected to rigorous reliability testing. As it is typically administered online, over 400,000 participants have completed the measure (Linley et al., 2007). Participants respond to statements surrounding the 24 strengths in relation to 'whether the statement describes what you are like''. For example, ''I always let bygones be bygones'' (forgiveness) and ''I find the world a very interesting place'' (curiosity). Responses are scored via a five point Likert scale (1= very much unlike me, 5= very much like me), thus each strength has a potential score range between 10 and 50. The subsequent output provides participants with details of their top five signature strengths, and a ranking is provided in relation to the remaining 19 strengths. Although the authors of the inventory recognised that the list of strengths they included in the measure is not definitive, the measure solely comprises character strengths (Peterson & Seligman, 2004). Thus despite the inventory being a valid, reliable method for identifying character strengths, it is limited to use beyond this purpose. The output does not include specific methods for applying the strengths identified or information as to how they should be utilised in context, to best effect. Furthermore, research that has used the inventory in relation to strengths coaching (Govindji & Linley, 2007) has suggested that sole identification of character strengths did not facilitate optimal gains in positive psychological characteristics, without further information on how to utilise the strengths identified.

As outlined, research in coaching psychology has shown that positive outcomes such as enhanced well-being, intrinsic motivation and goal attainment are associated with strengths use, not necessarily strengths knowledge (Govindji & Linley, 2007; Linley et al., 2010). This

would suggest that tools such as the VIA, which are methods to identify strengths and facilitate strengths knowledge, might not necessarily be the most beneficial to use if aiming to enhance positive psychological factors. In terms of performance, it has been proposed that to achieve excellence, people must begin to understand the unique combination of the talents and strengths they possess and how to utilise them to their potential (Buckingham & Clifton, 2001). This was reiterated by Biswas-Diener et al. (2011) with the promotion of *strengths development* and discouragement of *identify and use* approaches. The researchers suggested that it is not substantial to provide a tool for identifying strengths and simply advise clients to use their strengths more. Instead they proclaimed the need for practitioners to adopt a *strengths development* approach, whereby after identifying clients' strengths, information is provided on how to regulate and develop these attributes. The researchers explained that while *identify and use* approaches will enable clients to use their strengths more, this is not sufficient for maximising potential. It was proposed that *strengths development* allows for clients to understand when they should and shouldn't use their strength(s), how their strength(s) will affect others, and how they might better use it/them, thus developing strengths-competence. Biswas-Diener et al. (2011, p106) stated that "strengths are highly contextual phenomena that emerge in distinctive patterns alongside particular goals, interests, values, and situational factors. Strengths are potentials for excellence that can be cultivated through enhanced awareness, accessibility, and effort."

In line with this, the Realise2 (Linley, 2008) has been applied in the field more recently, providing initial support for the potential of *strengths development* approaches (Gordon & Gucciardi, 2011). Realise2 is an online strengths assessment and development tool which assesses 60 strengths in relation to how much they energise a person, in three dimensions 1) energy, 2) performance, and 3) use. Using the dimensions, the tool then identifies and generates a model of how an individual should utilise the information given, to

best effect. Strengths are placed into one of four categories: realised strengths, unrealised strengths, learned behaviours and weaknesses. Realised strengths are defined as attributes that the individual finds energising, performs well, and uses frequently and it is advised that these strengths should be marshalled for optimal performance to occur. Unrealised strengths are defined similar to realised strengths, but they are strengths that individuals do not have the opportunity to use them as would be beneficial; these are to be maximised in context. Learned Behaviours are attributes that the individual has learned to successfully use, but they do not energise the person. It is suggested that learned behaviours are used repetitively over time and people may confuse them with strengths because they are good at doing them, and also that they should be moderated as they are not energising and do not resonate with the individual's innate traits or interests. Weaknesses are described as attributes that the individual finds difficult to do well and they are de-energising/draining and there is a process in the output for minimising them. The Realise2 provides users with a holistic model and instant development tool, thus supporting the notion that strengths should be regulated, and an understanding of how and when to use them, in context, is crucial for optimal performance (Biswas-Diener et al., 2011). Furthermore, the Realise2 model was successfully applied in sport by Gordon and Gucciardi (2011). However, the researchers identified strengths via informal, strengths-based questioning, using appreciative enquiry techniques. Therefore, rather than used to help identify and categorise strengths, the model was solely employed to assist with the development and regulation of strengths and non-strengths. This may be due to the unique context of sport, as the Realise2 measures pre-determined attributes that may not have been relevant in cricket, or to the aim of the research. Overall, the tool provides a flexible yet holistic way to apply a strengths-based approach; however the pre-determined strengths featured in the online identification tool limit the applicability to sport, as context-specific attributes are not considered.

In summary, the examples of identification tools discussed highlight the continuum that exists in terms of what is available. It is argued that the use of a character strengths inventory such as the VIA-IS would not necessarily be favourable if aiming to enhance psychology and performance; although it could serve a purpose for the identification of character strengths, it does not provide insight into how these could be utilised or applied in context. Conversely, the Realise2 provides an identification tool with the inclusion of methods for development, in order for participants to better understand and regulate strengths and contradicting attributes. Yet, as discussed, the identified strengths are pre-determined, therefore this limits the use of the tool when trying to apply a context-specific strengths-based approach, such as in elite sport. Thus it is suggested that sport psychologists should endeavour to begin to bridge the evident gap in knowledge of methods for identifying and developing strengths in a sporting context.

2.6 Summary and Aims of the Thesis

The review of literature has indicated that employing strengths-based approaches with clients across settings can facilitate enhancements in various desirable psychological characteristics, and performance. Moreover, many of the factors identified to be positively influenced via strengths-based approaches are relevant and desirable in a sporting context, including goal progress/attainment (Fluckiger & Grosse Holtforth, 2008; Linley et al., 2010), psychological needs satisfaction (Linley et al., 2010), well-being (Govindji & Linley, 2007; Linley et al., 2010), engagement (Harter et al., 2003) and performance (CLC, 2002; Clifton & Harter, 2003). In sport psychology, it has been suggested that strengths-based approaches could potentially be used to aid development of athletes' mental toughness (Gordon & Gucciardi, 2011), robust sport confidence (Beaumont et al., 2015), and other psychological factors associated with optimal performance (Wagstaff & Leach, 2015). However, studies actually employing strengths-based interventions to assess the role or impact of this way of

working are scarce, highlighting a significant gap in our knowledge and understanding of this area.

It is evident from the review that in other therapeutic and performance contexts there are identified processes/frameworks for emphasizing clients' strengths, which have been recognized as integral for achieving session outcomes and facilitating progress. However, in sport psychology there is an evident gap in understanding of best practice for adopting strengths-based approaches, and of their role in aiding athletes' psychology and performance in context. It has been highlighted that the idea of working with clients on their strengths often sounds simple, yet in practice can prove to be difficult (Driver, 2011). Indeed, findings from the literature have indicated the need for researchers to explore the outcomes of strengths-based approaches and models that can theoretically explain how strengths interventions work (Linley et al. 2010). There is no theory, as yet, which explains how signature strengths contribute towards the desirable outcomes alluded to in the present review (Linley et al. 2010).

To address the evident gaps in knowledge, a pragmatic research philosophy (cf. Giacobbi Jr., Poczwardowski & Hager, 2005) was adopted throughout this programme of research. Within this paradigm, the philosophy of how knowledge is constructed focuses upon practical solutions to applied research questions that will guide positive change to the way things are done (cf. James, 1907; Peirce, 1984). This philosophical approach was adopted due to the applied-academic interest of the principal researcher in bridging the gap between what happens in the real world field of sport psychology and what features in the literature (cf. Giacobbi Jr. et al., 2005). It has been suggested that with strengths-based approaches, interventions being delivered in applied practice are an untapped resource and should be brought to light by being explored and tested in research (Biswas-Diener et al., 2011). Due to the absence of studies in sport psychology on strengths-based approaches, it is

suggested that this would be a good starting point for generating new knowledge for the discipline (i.e. Gordon & Gucciardi, 2011). Thus, the main aim of the thesis was to bring to light a strengths-based approach (termed super-strengths) from applied sport psychology practice, with the intention of collecting and sharing data with the field to test its effectiveness (i.e., Biswas-Diener et al., 2011). In keeping with the philosophical approach, mixed-methods will be employed; qualitative research methods are most appropriate initially for gaining understanding of super-strengths (Patton, 2002), followed by the adoption of quantitative methods for testing its effectiveness. As there is a lack of knowledge of the phenomena of super-strengths, key principles of a phenomenological approach will guide the initial investigation studies to gain understanding of the role and process for delivering a super-strengths approach. However, as it has been suggested that intervention testing should be conducted to enhance knowledge on strengths-based approaches and their relation to upward spirals (Clifton & Harter, 2003), this qualitative enquiry will be followed by intervention research adopting quantitative methods to assess the efficacy of super-strengths in elite sport.

CHAPTER III (Study One)

A Strengths-Based Consultancy Approach in Elite Sport: Exploring Super-Strengths

3.0 Introduction

Over the last decade strengths-based approaches to consultancy, underpinned by principles of positive psychology, have featured heavily in research across mental health disciplines, including clinical psychology (e.g., Fluckiger & Grosse Holtforth, 2008), psychotherapy (e.g., Scheel, Davis, & Henderson, 2012), coaching psychology (e.g., Biswas-Diener et al., 2011), and have been used for performance enhancement in organizational contexts (e.g., Clifton & Harter, 2003). Coinciding with this, there has been heightened interest in positive psychology (i.e., Wagstaff, Fletcher, & Hanton, 2012) and strengths-based approaches (i.e., Gordon & Gucciardi, 2011) within sport psychology. Building on this applied interest in the literature, the current research will explore a strengths-based approach to consultancy (termed super-strengths) that has been adopted by applied sport psychology practitioners working within elite sport, in the UK.

Super-strengths has received anecdotal support from elite athletes/coaches (i.e., Atherton, 2012) who have experienced the approach, and a case study of how super-strengths has been applied with various athletes was presented at a professional outlet (Bawden, 2012). However, as the approach has not been explored in research, the practice of super-strengths is not yet known. Thus, it is proposed that studying this area is relevant, timely and potentially important for enhancing knowledge of specific strengths-based approaches in our field (Tracy, 2010). The purposes of this study were three-fold: first, to explore the meaning of super-strengths; second to explore how super-strengths are identified; and finally to capture key phases for implementing the approach. It is anticipated that data generated will provide

an initial conceptual pathway to be built upon, for understanding and implementing the approach in sport psychology consultancy.

3.1 Method

3.1.1 Participants. When designing the study, in line with Tracy's (2010) suggested criteria for qualitative research, specific considerations were made. These considerations focused on ensuring that the research was ethical, sincere, would have meaningful coherence and rich rigor, and thus make a significant contribution to the literature. The sample for this study comprised of sport psychology practitioners (*n*=7) and coaches (*n*=8) who had adopted a particular strengths-based approach in their practice (i.e., super-strengths). Participants were purposively sampled (Patton, 2002) for the most appropriate persons to be identified for the question being explored (Arnold & Sarkar, 2015; Sharp & Hodge, 2013; Tracy, 2010). The criteria for inclusion of sport psychology practitioners were that they had delivered a super-strengths approach to an elite athlete within the last 12 months, with the intention of enhancing performance. The criteria for inclusion for coaches were that they had co-facilitated a super-strengths approach with a sport psychology practitioner in line with the same criteria (see practitioner criteria). Consistent with previous research into elite sport, elite athlete was defined as world-class, competing at the highest possible international standard in their sport (e.g., Hays, Maynard, Thomas, & Bawden, 2007). Participants represented a range of sports, including field-hockey, rugby union, cricket, and sailing, and all were working with elite athletes at the time of data collection.

3.1.2 Procedure. Following institutional ethics approval, all participants were sent an information letter explaining the aims of the research and details of the procedure for data collection for participants, if they volunteered to be involved in the study (Appendix 2). Informed consent (Appendix 1) was also sought prior to data collection and participants were reminded that all data will remain anonymous and confidential via the use of pseudonyms.

Due to the exploratory nature of the study, interviews were considered to be the most appropriate method of data collection (Tracy, 2010), because they allow for in-depth, rich accounts of an experience to be gathered (Legard, Keegan, & Ward, 2003). The interview guide developed for the study was informed by strengths-based intervention research in sport (i.e., Gordon & Gucciardi, 2011), and focused on enhancing knowledge within the following major areas: the concept (i.e., what is the meaning of super-strengths?), identification methods (i.e., how do we identify super-strengths in practice?), and development of the approach (i.e., what are the key phases for implementation?). Prior to data collection a pilot interview was conducted with a sport psychologist who had previously used this strength-based approach in practice with athletes. This pilot interview ensured that questions were phrased in a manner that was understandable for participants and effective for eliciting information. It was evident from the pilot interview and from initial contact with participants that both coaches and practitioners were facilitators of the super-strengths approach and played similar roles. Thus, the three major areas were covered in the interview schedule (Appendix 3) for practitioners and coaches and all data were combined for analysis, rather than the two samples being analysed separately. Following data collection, all interviews were transcribed verbatim; interviews lasted between 32 and 64 minutes (M_{mins}=38.81; SD=9.06).

3.1.3 Data Analysis. As knowledge of super-strengths practice in sport psychology is relatively unknown, a thematic content analysis was adopted for analyzing the data (cf. Côté, Samela, Baria, & Russell, 1993; Tracy, 2010). This analysis was deemed appropriate to capture the categorization of content emerging from the transcripts (i.e., displaying the main themes representing participants' perceptions) but also to understand the meaning of the participants' quotes as the organized thematic structure evolved (cf. Braun & Clarke, 2006). In accordance with the specific aims of the study, initial analysis involved raw data

themes (i.e., quotes that represented a single, recognizable aspect of participants' views in relation to the process of using super-strengths in practice) being identified through a deductive process. Specifically, themes were placed into the three a-priori dimensions on the basis of content. The next stage involved coding the raw data (i.e., the meaningful units) by breaking it down and organizing it into meaningful categories that emerged inductively within each of the three dimensions. Following this process, categories were refined into broader themes, with the identification of categories that were similar and those that were stand-alone. Higher-order and lower-order themes were generated from this process. As advocated by Côté et al. (1993), during the development and organizing of all categories, it was particularly important for the research team to discuss similarities and differences of the raw data themes to establish meaning.

As emphasised by Tracy (2010), qualitative researchers must consider the credibility of what they present to be true in their studies. Tracy suggested this can be achieved by four main methods: thick description, triangulation, multivocality and member reflections. In line with these suggestions, the present researchers engaged in analyst triangulation, employed a member checking procedure, and have provided thick description with direct quotes from multiple participants in the results. Analyst triangulation involved three researchers independently reading transcripts and making suggestions for the inclusion and removal of data or themes. This resulted in the change of descriptions of themes to better represent the concepts in the raw data, along with re-organization of higher and lower-order themes. To gain member reflections, participants were emailed a copy of their transcript and asked to provide comments regarding their views of the interview, and their experiences of the super-strengths approach (Brewer, Vose, Raalte, & Petitpas, 2011). No additional comments were made.

3.2 Results

The analysis resulted in the generation of eight higher-order themes comprising 13 lower-order themes, representing the data set. Results are presented in three sections to reflect the general dimensions of the study. The first section includes data outlining the participants' understanding of the meaning of super-strengths. The second section concerns the methods employed by participants for the identification of super-strengths. The final section includes participants' understanding of how the approach is implemented and how super-strengths are developed. The number of participants who discussed each theme is included in parentheses (see Figures 3.1, 3.2, and 3.3). This is to display the prevalence of themes within the raw data, but does not signify superiority in the conceptual understanding that has been generated.

3.2.1 Defining Super-Strengths. To gain initial contextual knowledge of the super-strengths approach, participants were asked to discuss their views on the concept underpinning the approach and how they would use it within the context of their sport. During analysis it was evident that a clear definition was emerging from the consistency of language used by practitioners and coaches when discussing the concept of super-strengths. Thus, to capture the meaning of the data, a definition of super-strengths was generated from the raw data and subsequent themes: "A strategy for performance that utilises a potential world's best resource to gain a unique competitve edge in a performance context". The raw data, lower-order and higher-order themes that the definition emerged from are presented in Figure 3.1 and are detailed below.

Three higher-order and three lower-order themes were identified from the 18 raw data themes capturing the meaning of super-strengths. The higher-order themes were competitve edge (e.g., sets athletes apart from others), world's best potential resource (e.g., world-beating strengths) and strategy for performance which was broken down into three lower-

order themes, default method (something athletes can rely on), impactful method (helps athletes win), and identifiable method (something people will know and fear athletes for).

3.2.1.1 Competitive edge. This higher order theme was discussed by all participants (*N*=15), suggesting that identifying super-strengths can give a performer an edge over their competitors. Participants proposed that the super-strengths approach is about "identifying what is going to make the biggest difference, what is going to give you the edge". Participants also suggested that the competitive edge is related to winning. As one participant noted:

> A strength is an area which you are good, you already have a high degree of competence, a super strength is your potential way to win, it's like we are finding a way to win, it's not about getting better at things (P1).

3.2.1.2 Unlocking world's best potential. The majority of participants (*n*=13) discussed that when working with athletes in elite sport, the super-strengths identified should have "the potential to be something they could become best in the world at". One participant stated:

> It very much starts with athlete/ coach agreeing on this is an area that you have the potential to be world's best. I think what is important at first is to try and remove the glass ceiling so the point at which people usually stop at, which is seen as pretty much impossible (P1).

3.2.1.3 Strategy for performance. Within this higher-order theme, participants talked about super-strengths being an identifiable method, so athletes would "have a weapon" where "this is my thing, my edge, this is the bit I am recognized for". One participant gave this example:

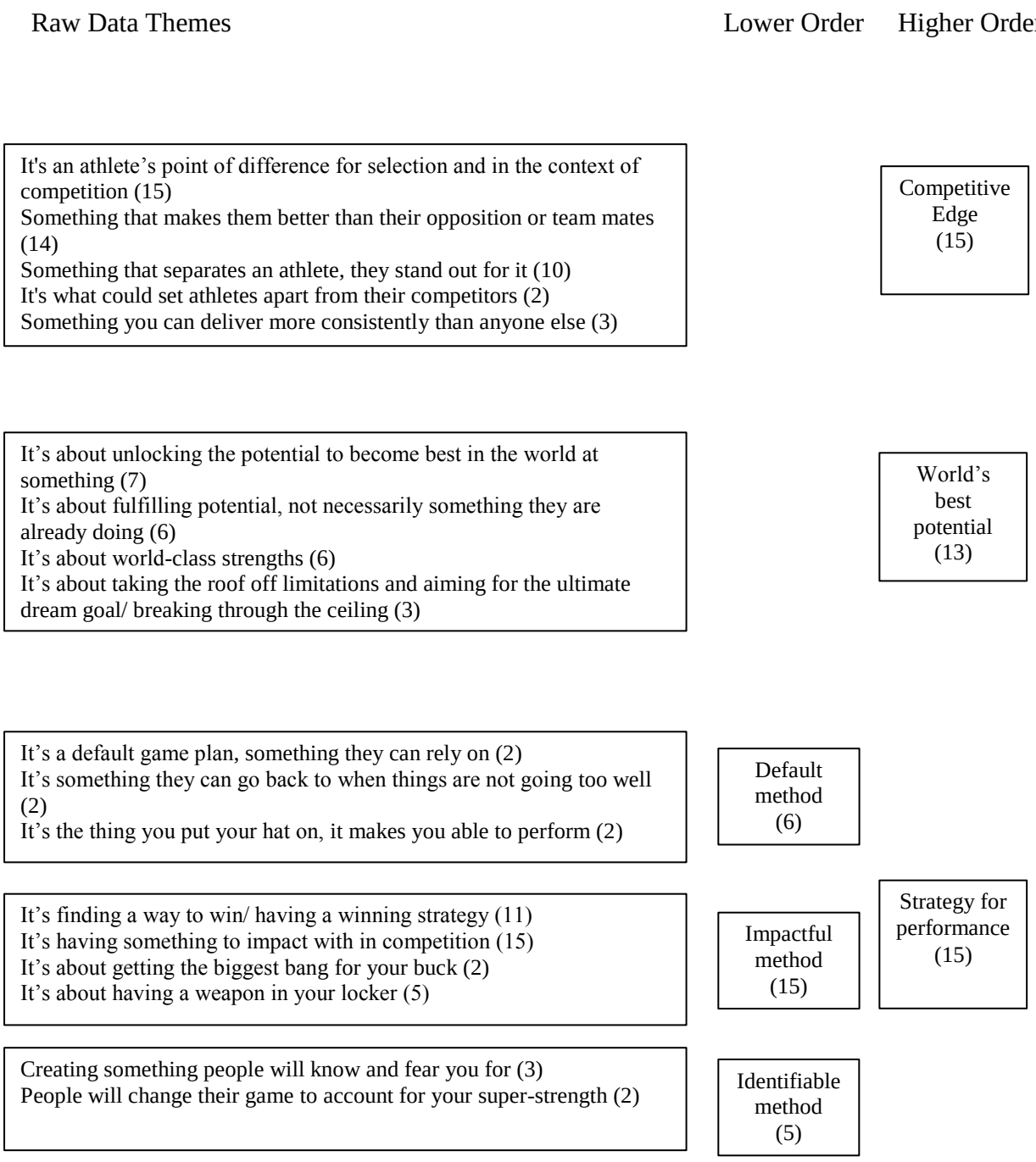


Figure 3.1: Themes generated from analysis concerning the meaning of super-strengths

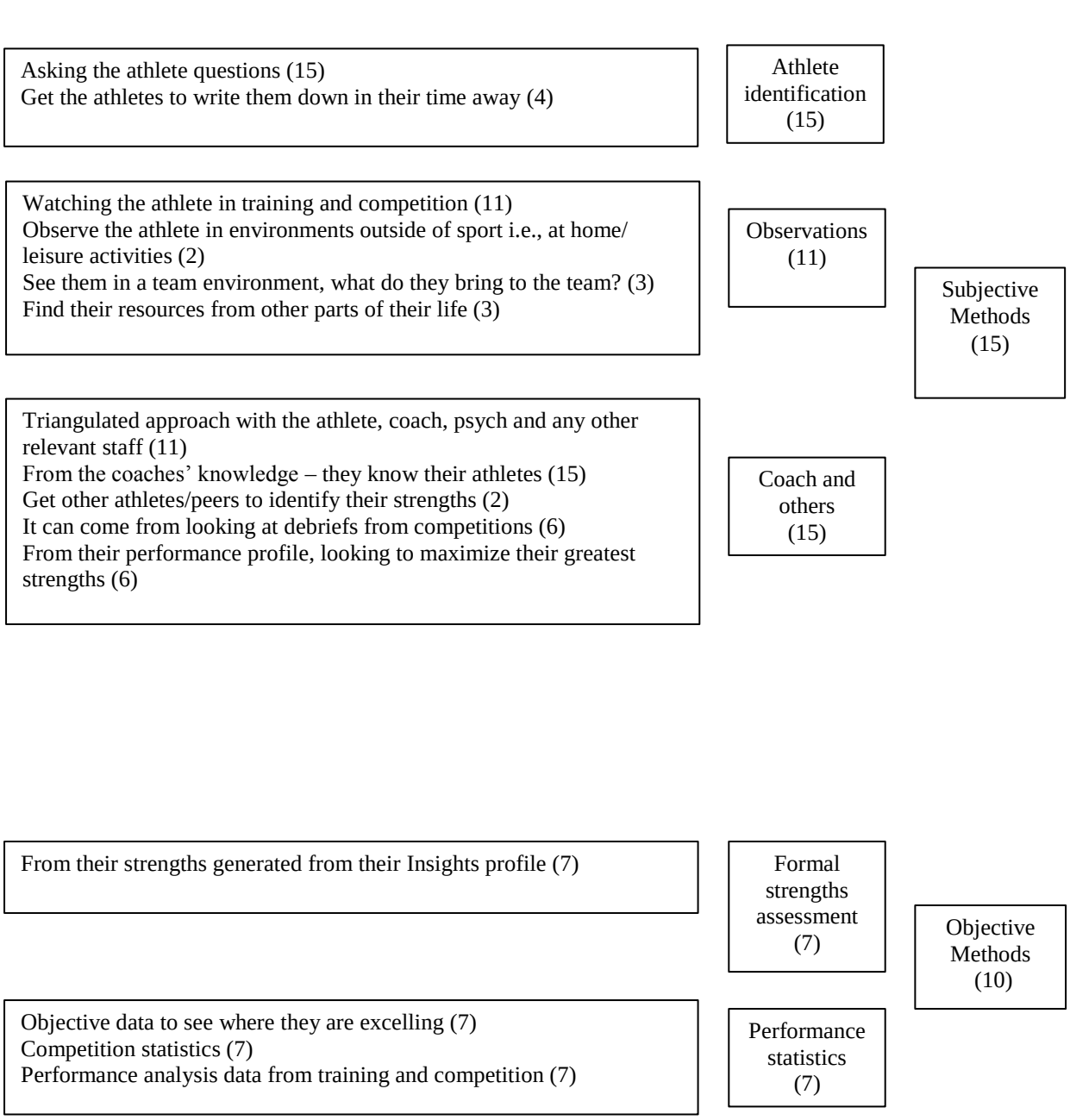


Figure 3.2: Themes generated from analysis concerning the identification of super-strengths

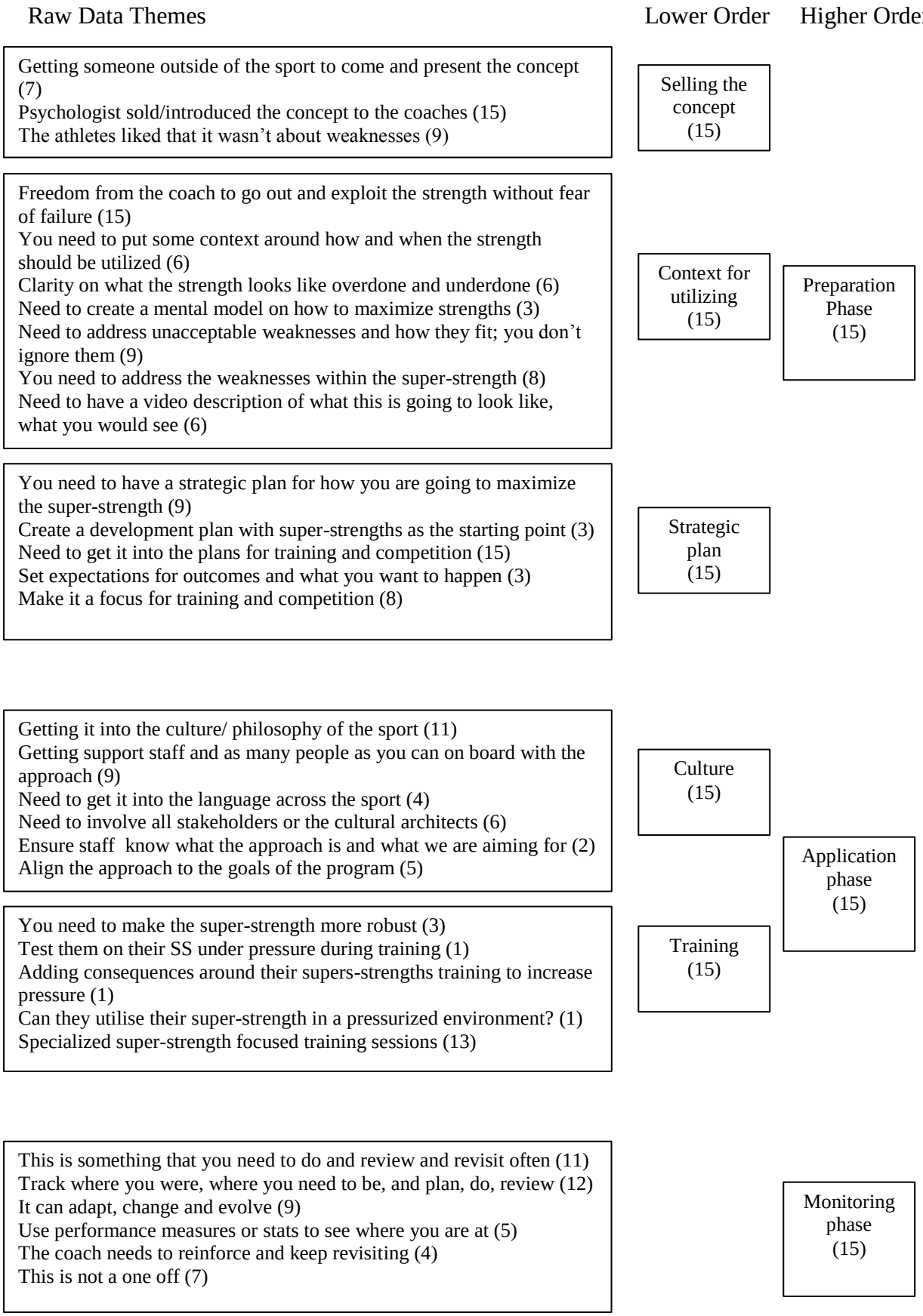


Figure 3.3: Themes generated from analysis concerning super-strengths phases of development

> They know it's different to anybody else, that's key. Malinga knows there is nobody else in world cricket that bowls like him, this is my thing, the bit I am recognised for, Usain Bolt his last 60m, if he is in the race in the last 60m you are screwed! (P3)

Another participant elaborated, suggesting that athletes' oppositions knowing them for their super-strength could be a way of generating fear in their opponent:

> It is your way to win but almost something that scares the opposition, that super-strength where they have to adapt to it, they can't ignore it, and straight away they take their mind off their method and all they are concerned about is stopping you. (P2)

Participants suggested that this method would also be one that they could rely on and go back to, which was categorized within a lower-order theme of default method. The lower-order theme impactful method was apparent from participants suggestions that super-strengths is it's a strategy for maximum effect, "so they can impact games, matches, tournaments when crunch time comes essentially."

3.2.2 Identification of Super-Strengths. When asked about how they identified athletes' super-strengths, participants discussed an array of methods they had employed. These were categorized into two higher-order themes: subjective and objective methods of identification. Subjective methods encompassed three lower-order themes: athlete identification (e.g., questioning them), observations (e.g., in training and competition), and coach and others' (e.g., asking coach/team mates). Objective methods comprised two lower order themes: performance statistics (e.g., competition data) and formal strengths assessment measures (e.g., personality preference). The methods are detailed in Figure 3.2 and discussed in the following section.

***3.2.2.1 Subjective methods of identification*.** Within this theme, participants cited several different ways they attempted to identify athletes' super-strengths. These varied somewhat across participants, usually due to the different settings within which the

participants had used the approach. For example, one participant who worked with and employed the super-strengths approach in a team sport, identified that a key method was involving others and "getting team mates to identify each other's strengths" to gain an external, non-biased perspective. Whereas, another participant who worked predominantly one-to-one with athletes relied on the coaches' knowledge of the players' assets and resources to identify potential super-strengths. Another participant stressed the importance of utilizing the coaches for identification, rather than looking for an objective measure; they suggested that "you don't need a screening tool to tell you that, coaches have that information."

Observations were seen as a useful source of information in the identification process, and this was not limited to just the performance or training environment; participants highlighted the need to "gather resources" and take notice of the athlete as a person:

> You have to know the athletes and see them in different environments so in training and competition, and the team dynamics and the interactions with coaches… You are always looking out for it, it's not just in the sport there are loads of things it could come from (P3).

3.2.2.2 Objective methods of identification. Participants discussed methods of identifying super-strengths that were more objective in nature. Some participants believed this to be integral to the identification process but again, methods depended on the context in which the participants were working with. For one participant (working in rugby), gaining objective performance statistics to inform the discussion for identification was deemed to be crucial:

> You need an objective evaluation as well and I am really massive on this… you can subjectively know whether an athlete has done well or not but actually the data behind

> that is imperative, so we can actually look at the stats and say right his hit rate is this… so you get an understanding of well right in this game he was on fire. (P6)

Some participants favoured, or were better suited to, the adoption of quantitative methods of identification. For example, one coach cited his use of statistics and performance data to identify where an athlete was strongest and had most potential: "I do a lot of stats collection and that sort of thing… and Jennifer (pseudonym) completely revolutionized the way girls raced". The sport the participant worked with was predominantly a racing sport whereby statistics and data surrounding start, lap and race times were deemed to be highly important for identifying a level of performance and future race plans.

Generally, participants suggested their identification process included a mixture of methods and a process of triangulation, as highlighted by one participant:

> Performance profiling and identifying the different bits where they are strong, so again across the board, through talking with the coaches, through observations perhaps you pick them up yourself, through the athlete's ideas what is confidence enhancing for them and then I think it is looking for the themes across them and then you say right this is what we have got. (P4)

For example, in the racing sport mentioned above, an amalgamation of identification methods suggested that Jennifer's super-strength was to have potentially the world's fastest start. Upon identification, participants suggested the need for a "check point" to ensure that what has been identified, does indeed constitute a super-strength. Specifically, it was suggested that going back to the aforementioned definition and reflecting on the super-strength was important before moving on to the development of it. Examples of reflecting questions included, "does this give them a strategy to perform?", "could they potentially be best in the world at this?", and "will this give them an edge over their competitors?"

3.2.3 Phases of Development. Analysis of the data within the general dimension encompassing the implementation of the approach, revealed three key phases: preparation phase, application phase, and monitoring phase. All themes are presented in Figure 3.3 and key points are outlined below.

***3.2.3.1 Preparation phase*.** This higher-order theme was generated by three lower-order themes. All participants emphasized the need to initially sell the approach to stakeholders and athletes to encourage buy-in, also to provide athletes with context for utilizing their super-strength(s), and ensure there is a strategic plan for change. Participants suggested a "sell" of the approach where the concept is presented to those involved (i.e., athletes, stakeholders, and people influencing the training environment) to initiate buy-in and ensure they understand the aim of the approach. One participant reflected:

> Well firstly you need to understand it, it's too easy to kind of be black and white in your thinking in that right I'm just going to focus on this and forget everything else, well no you're not you have still got to address areas of weakness so a good understanding of the philosophy behind it but also you have to be able to get people to buy in to this way of thinking and sell it so you have to be able to frame this idea and this re-framing idea effectively to key stakeholders like athlete, coach, Performance Director etc. (P2)

All participants highlighted the need for athletes to understand "when, where, how" their super-strength will give them a competitive edge. It was proposed that a coach, who must give license for the athlete to utilize their super-strengths without concern or "fear of failure", would provide this context. One participant explained the importance of this:

> Because points of difference are noticeable by definition and if people are playing with a fear of the consequences of getting it wrong, what will happen is they will lose their edge, everything becomes average or OK, or maybe good but nothing sticks out.

> When people truly have the freedom to do what they do best, their point of difference will shine… there is still a responsibility to make good decisions around that because it's not a case of play to your strengths and to hell with the consequences, this gives you a mental model of how you will do that. (P1)

Along with providing context for using super-strengths, it was suggested that a strategic plan for maximizing these should be developed with the athlete. One participant described an athlete's awareness of both context and strategy as being crucial for success:

> Putting an action plan into place and then working at it, reviewing it and improving it…how working on those super-strengths could relate to other weaknesses or those becoming evident or indeed how an overdone strength could become a weakness… the greater the athlete's awareness of this, the greater chances of success. (P5)

3.2.3.2 Application phase. All participants highlighted the need for adaptations to take place in order for the super-strengths approach to work optimally. This higher-order theme comprised of two lower-order themes describing the application to the culture (influencing stakeholders) and application to training (e.g., physical changes to athlete's training regime).

Several participants (n=11) suggested influencing key stakeholders in the sport is integral; "you need people who create the environment that the athlete performs or trains in because that is the bubble, and that's who decides which game we are playing." Methods for influencing and adapting this included "getting it into the language" to ensure people understand the aim.

The adaptations to training that participants discussed included "making the super-strength more robust" via "testing them on their super-strength in pressurized situations" and having "specialized super-strengths training sessions". One participant highlighted the need to agree training adaptations with the athlete and people who manipulate training:

> I think it needs to be clear how much time they are going to spend on this aspect of their performance and how they are going to do that. You know what are the processes that need to be manipulated or the contexts that need to be put in place to give them the best chance to develop the super-strength. (P7)

Specifically, one participant identified that their athlete's super strength was to be the strongest, fittest athlete in their sport and thus their plans for strength and conditioning changed to allow for this change in focus. Consequently, to develop this super-strength the athlete "used the fitness guys a lot more and got a lot more scientific with it" and "definitely had more precise plans as far as his fitness was concerned, as to what he would do when going through (sport specific competitions) and stuff".

3.2.3.3 Monitoring phase. This higher-order theme did not consist of any lower-order themes, however the raw data comprising the theme was deemed to be highly important in the development of the approach. All participants discussed a monitoring phase, specifically where "tracking where you are at" and "adapting and evolving" would take place.

Participants suggested that this monitoring phase must be constant and highlighted the need for "coaches to keep re-visiting the approach" to ensure the approach is successful. Interestingly, participants noted that the phases of the approach are not necessarily temporal; i.e., that monitoring and checking "you have the right thing" does not come at the end of the intervention, but should take place throughout the application and preparation phases:

> Reviewing the super strength with the athlete has got to be quite a lot, so maybe every month you have a big review with the athlete and then every week you talk to them about how they are getting on and rather than just say 'we are doing a super strength session', we need to hear their feedback and make sure they are learning… We will review performance so if I know for example his opposition has made 4 direct errors

[at the beginning of the year] then at the end of the year he has played him again and he has made 6/7 direct receive errors, well then I know that it's working. (P14)

3.3 Discussion

The purpose of the present study was to gain an insight into how a novel strengths-based approach (super-strengths) is being used in elite sport, and to develop an initial conceptual pathway for understanding and implementing the approach. The definition yielded from the data suggests that super-strengths are identifiable as a unique resource or blend of resources that would provide an athlete with a strategy to gain a competitive edge in their performance context. This means that the super-strength identified will not necessarily be stable across contexts and may need adapting in different performance environments, which contrasts the usual definition adopted in strengths-based research. Typically, researchers exploring the use of strengths and resources for positive gains have adopted a trait personality definition, identifying strengths as something stable that a person naturally has and would thus apply across time and settings (e.g., Linley & Harrington, 2006; Peterson & Seligman, 2004). For example, the Values Inventory of Strengths (VIA-IS: Peterson & Seligman, 2004) which identifies a person's top five "signature strengths" is considered a trait inventory. Specifically, signature strengths are trait-like character strengths such as hope, honesty, and fairness, and are taken from a list of 24 potential strengths. Although it is agreed that such strengths could be useful if applied in training and performance environments, the strengths identified by this tool are not context-specific and thus would not necessarily provide an athlete with a strategy to gain a competitive edge.

Conversely, while it is clear that there is a trait element of the resources utilized to identify an athlete's super-strength, the actual super-strength that is generated would be more state-like, depending on the sport/ position/ competition the athletes find themselves in. Specifically, the super-strength is part of an athlete's relevant strategy for performance which

can be a unique amalgamation of their talents, traits and resources, and has the intention of providing them with a competitive edge in their performance context. For example in short-track speed skating an athlete's super-strength could be "to be the fastest starter in the world", but the talents and strengths underpinning this might be the athlete's aggressive nature (trait-character strength), their composed fast reaction (talent), and explosive power (physicality). However, in some races, leading from the front and having the best start may not provide the athlete with a competitive edge (i.e., in the endurance distances), thus there is a need for context and adaptation to ensure that the intended impact (i.e., gaining a competitive edge) is achievable.

Biswas-Diener et al. (2011) reinforced the idea that strengths are contextual and encouraged practitioners to consider "strengths development", which involves adopting a more sophisticated approach, by considering contextual elements and how to adapt strengths for maximal impact. Yet the researchers argued that the majority of practitioners adopting a strengths-based approach typically adopt "identify and use" approaches. Specifically, identify and use approaches include practitioners employing a formal strengths assessment to identify trait strengths (e.g., VIA) or talents (e.g., Gallup StrengthsFinder: Buckingham & Clifton, 2001) and then use the information to discuss ways the client might use these more in life or work. Biswas-Diener and colleagues discouraged such approaches, suggesting that "strengths development" would be more beneficial to clients, enabling them to better understand their strengths and how to implement them to greater effect. This notion has been reiterated in sport psychology and it has been suggested that helping athletes develop their unique, signature strengths could potentially help build robust sport-confidence (Beaumont, Maynard, & Butt, 2015).

Evidently, the Realise2 (Linley et al., 2010) has a strengths development element to it. The online questionnaire requires participants to rate 60 pre-determined attributes in relation

to how energizing they find them, how good they are at them, and how often they use them. These attributes are then categorized into realised strengths, unrealised strengths, learned behaviours and weaknesses with an accompanying model to help participants maximize, marshal, moderate and minimize them, respectively. With regards to super-strengths, it is unlikely that the attributes used in the Realise2 online questionnaire would provide specific, contextual strengths relevant to an athlete's performance strategy; however the accompanying model does include strengths development considerations. Accordingly, Gordon and Gucciardi (2011) adopted such elements of the Realise2 model in their study described previously, with cricketers. Specifically they utilized the model's pathway for minimizing weaknesses, however they applied it to contextual attributes they had identified with the players, rather than the pre-determined attributes identified by the online tool.

Similarly, strengths development is evident within the phases of development reported in the present study which were considered crucial for implementation of the super-strengths approach. Within the phases of development, participants stressed the importance of providing the athlete with context for using their super-strengths. Specifically, building a strategic plan around how the athlete's super-strength will look in competition and what the super-strength might look like overplayed and underplayed (i.e., if they use their super-strength too little or too often), a notion that has been discussed in strengths-based research in psychotherapy (Scheel et al., 2012) business psychology (Kaiser & Overfield, 2011) and coaching psychology. Understanding what the super-strength might look like overplayed and underplayed was deemed to be crucial for athletes to clarify what "optimal" use of their super-strength would look like. Participants suggested that coaches must be aware that sometimes athletes might not implement their super-strengths optimally, but must provide a "license" for them to have a go. This license involves agreement between athlete and coach on the boundaries around when, how and why they would use their super-strengths. It is

suggested that the license offers clarity to athletes, would increase their buy-in to the approach, and reduce hesitance and fear of failure. Thus, ensuring that boundaries and a license for using super-strengths have been established and agreed is an important consideration for practitioners looking to implement the approach.

A further interesting finding was that the three key phases of development of the approach represent a cyclical process, rather than a linear process. It was suggested that monitoring should be conducted continually throughout the intervention to check that the super-strength is still applicable and would provide the performer with a competitive edge. If this was not the case, for example if the demands of the sport had changed, then to continue there would potentially need to be a re-identification process or a reiteration of the context for utilizing or strategic plan for maximizing their super-strength(s). The importance of monitoring the progression and effectiveness of intervention strategies is something that has been consistently cited as an important element of sport psychology practice (Andersen, Miles, Mahoney, & Robinson, 2002). Necessary adjustments should be made to ensure that athletes continually develop and that the intervention is best suited for the needs of their situation (Murphy, 2012). This is an essential consideration for practitioners looking to adopt a super-strengths approach in practice to ensure it is most effective for the performer.

Another finding reinforced by participants was the necessity for the facilitators of the approach (coach and/or sport psychologist) to discuss with athletes where working on weaknesses would feature in their super-strengths plan. Although participants suggested that the intention is for weaknesses to become less relevant during the process of implementing super-strengths, they recognized that weaknesses cannot and should not be ignored. As proposed by Scheel et al. (2012) in their research in counselling psychology, there is a need to consider when and how to elicit and use client strengths in therapy, and when to attend to problems. Specifically, they suggested that if someone has a crisis problem a practitioner

might need to manage some of the symptoms first, before moving onto how strengths could be used. Similarly, the participants in the present study stated that if an athlete has a significant weakness that could be noticed by a competitor, the athlete would need to address this before trying to utilize their super-strength in competition. However, participants discussed that the approach is to be used with athletes who are already operating at elite level, thus weaknesses tend to be less visible as most athletes should have developed competence in the elements of their sport. For this reason, participants suggested that the approach might not be applicable for athletes who were lower down the ability levels in the sporting system, as their weaknesses might be too significant and could potentially nullify their strengths.

Likewise, Gordon and Gucciardi (2011) proposed that practitioners and coaches should consider the appropriateness of such interventions, depending on the age and ability level of performers. This has implications for coaches and practitioners wishing to adopt the approach with athletes in that there is a need for a pre-checklist, whereby practitioners have criteria for which athletes to use super-strengths with, to ensure that the approach is the most appropriate for the situation they are working in. For example, considering the athlete's level of performance (i.e., do they actually have potential to become best in the world at something), and whether they have any major weaknesses that could be exploited by the opposition (i.e., that would nullify any super-strength). Future research is encouraged to explore the potential of adopting a similar strengths-based approach with athletes at other ability levels.

As an athlete's super-strength(s) are specific to them, the methods for identification of super-strengths that participants described were somewhat varied. Nevertheless, all participants stated that they would ask athletes to identify their perceived greatest strength(s), and to discuss what they believe their unique qualities to be, in comparison to other athletes. Similarly, in their strengths-based intervention to develop mental toughness, Gordon and

Gucciardi (2011) included questions for players including where they felt most comfortable, what they enjoyed most, and how they might be able to build upon these perceived strengths. Whilst questioning is a useful tool for eliciting information from athletes, other methods were described in the present study which could result in a more in-depth pool of resources from which to identify an athlete's super-strength, for example performance profiling and performance analysis. This mixed-method approach is somewhat unique to the strengths-based approach literature, because most studies employ a single character inventory, to identify clients' strengths (Biswas-Diener et al., 2011). To collate the information gathered from a mixed-method approach during super-strengths identification, it is proposed that an adapted version of a performance profile could be utilized (i.e., Hays, Thomas, Butt, & Maynard, 2010). The factors that feature on the profile could be informed by coach and athlete suggestions, and measures from performance data. This would allow for a visual representation of athletes' strengths and weaknesses and would facilitate the super-strengths identification process. Future research should explore how identification could be conducted when there are little or no objective data available or limited potential methods to employ.

Something that all participants discussed was the need to influence key stakeholders in the sport to get a super-strengths-based philosophy engrained into the culture. To do this, participants suggested the need to get coaches/sport-science staff on board and to try and make super-strengths a shared language across disciplines in the sport. The suggestion that sport psychologists' work is more impactful when reinforced in the system, by those who support the athlete (i.e., multi-disciplinary team, coaches, organizational decision-makers) has been reiterated in the sport psychology literature (e.g., Arnold & Sarkar, 2015). Findings of the present study highlighted an "adaptation to training" phase which might involve other disciplines. Ideally, within this phase, athletes' physical training plans would complement their super-strengths strategy, reinforcing this need for collaboration. For example, if an

athlete's super-strength was to have the most aggressive, fastest start in a race, inevitably they would need the strength and conditioning coach to adapt their training program to target this area. Thus, the integration of the approach within the training environment and wider culture of the sport is something that should be considered by coaches and sport psychology practitioners looking to adopt a super-strengths approach in practice.

3.3.1 Applied Implications. As the aim of this study was to generate understanding of how super-strengths has been applied in practice, there are several implications for practitioners wishing to implement the approach. First, those facilitating the approach should be mindful of the definition of super-strengths throughout. Specifically, facilitators should ensure that athletes identify super-strength(s) that could provide them with a unique competitive edge in their performance context. It is also necessary for practitioners to engage in a continual process of reflection and monitoring to ensure that they are achieving this desired effect. Second, practitioners and coaches should consider the phases of development outlined in this study, to get the most impact from a super-strengths intervention. Particularly, agreeing with the athlete how they will maximize their super-strengths through adaptations to training, and providing a license/context for using super-strength(s) in performance are important elements. Finally, practitioners should aim to influence key stakeholders within the sport they are working in, particularly those who shape the athlete's training environment to achieve a shared-language and common understanding of the rationale and intended plan for super-strengths.

3.3.2 Limitations. Although the study has generated a conceptual pathway for understanding a novel strengths-based approach, there are limitations to be considered. First, it is important to consider the unique population of coaches and sport psychology practitioners that were interviewed in this study (i.e., working in elite sport). The ability level of athletes that applied sport psychologists engage with varies significantly from school level

(Martin, 2005) through to Olympic champions (Fletcher & Sarkar, 2012). Consequently, although generalizability is not the intention of qualitative research enquiries, the sample used in the study limits the possibility of generalizing the findings to other populations. The second limitation is the inclusion of the facilitators of a super-strengths approach in the sample, without the athletes who experienced the approach. It is necessary for future research to obtain athletes' views to gain an alternative perspective and their perceptions of the impact of the super-strengths approach. This research could inform our understanding about effective implementation, and help to maximize positive impact.

3.3.3 Concluding remarks. This study has facilitated an initial understanding of how super-strengths could be utilized in elite sport. The findings highlight various practical considerations for coaches and sport psychologists wishing to adopt the approach, particularly concerning gaining and maintaining engagement with the approach, methods to identify super-strengths, and the process for maximizing and developing the approach. Following the suggestions from Gordon and Gucciardi (2011), this study intended to address a gap in the literature on strengths-based approaches in sport psychology and has provided an insight into a particularly novel approach being used in the field. Some findings from the present study are congruent with existing literature from other domains (i.e., clinical psychology, coaching psychology, organizational contexts) regarding the considerations to be made by those facilitating approaches that utilize clients' strengths. However, there are many unique elements to this approach and the elite sport population sampled and thus, it extends the knowledge from previous studies. With the lack of research in sport psychology on strengths-based approaches, and particularly the absence of a method for employing such approaches, the findings offer a new insight for sport psychologists and coaches working in elite sport. Although, as previously alluded to, there remains a lack of knowledge as to how super-strengths has been received by athletes. It is suggested that this exploration is necessary

in order to understand what the most useful or impactful elements of super-strengths are. Furthermore, this would enhance knowledge of how psychology and/or performance might be influenced as a result of athletes engaging with a super-strengths approach, and further inform practitioners' delivery of the approach. Thus, it is proposed that future research should address this gap in knowledge, and explore athletes' perceptions of super-strengths.

CHAPTER IV (Study Two)

Perceptions of Engaging with a Super-Strengths Approach in Elite Sport

4.0 Introduction

In recent years, the benefits of focusing on and maximizing a person's strengths and resources have been highlighted in various mental health and performance contexts, including clinical settings (e.g., Fluckiger & Grosse Holtforth, 2008; Scheel, Davis, & Henderson, 2012), coaching psychology (e.g., Biswas-Diener et al., 2011; Linley, Woolston, & Biswas-Diener, 2009), education (e.g., Park & Peterson, 2008), and business (e.g., Clifton & Harter, 2003). Across contexts, findings have consistently suggested that adopting a strengths focus can enhance a range of desirable characteristics and behaviours, such as positive affect, well-being and engagement. Although the practicalities of strengths-based approaches vary across domains, they typically stem from and are underpinned by principles of positive psychology (see Seligman & Csikszentmihalyi, 2000). Positive psychology promotes the concept that health is the presence of wellness and not solely the absence of disease. Therefore, to enhance mental health, positive psychologists propose that more attention should be given to the positive aspects of peoples' lives and maximizing the good in their situation, rather than concentrating on trying to fix the negative aspects (Diener, 2003). This shift in attention is apparent from research and practice in various disciplines concerning people's mental health, well-being, and performance (i.e., clinical and organizational settings). In sport psychology, it has been suggested that our discipline has exemplified positive psychology for the last 25 years, through the study of athletic excellence (Gould, 2002). While it is recognized that this focus on excellence is apparent in some sport psychology research, specific strengths-based consultancy approaches/methods, and the potential benefits of adopting these have only

recently been alluded to (i.e., Beaumont, Maynard, & Butt, 2015; Gordon & Gucciardi, 2011).

The benefits of helping clients attend to and realize their strengths or positive facets of their lives have been indicated consistently in research across mental health and performance contexts, and many desirable effects have been reported. These include increased positive affect, enhanced well-being (Govindji & Linley, 2007; Proctor et al., 2011), and improved self-esteem (Minhas, 2010). Furthermore, in clinical psychology, it has been suggested that a lack of focus on strengths and resources can actually be detrimental to mental health and well-being. For example, Gassmann and Grawe (2006) explored problem activation and resource activation which are two mechanisms for change used in psychotherapy. Specifically, problem activation involves focusing discussion on problems, on the premise that a person must come into contact with negative emotions in order to overcome them. Conversely, resource activation involves focusing on a patient's resources, strengths, and the healthy aspects of their situation in order for them to progress (Fluckiger, Caspar, Grosse Holtforth, & Willutzki, 2009). Gassman and Grawe measured therapeutic progress and session outcomes, in relation to therapists' utilization of the two mechanisms. Results revealed that in unsuccessful sessions (patients gave low therapy outcome scores) therapists activated resources significantly less than in successful sessions. In successful sessions (patients gave high therapy outcome scores) patients' resources were activated more than problems, throughout the entire session, whereas in unsuccessful sessions resources were activated at the end which was seemingly too late to have any positive influence/impact. It was also reported that in unsuccessful sessions where resources were not being activated, patients reported lower self-confidence and rapport with the practitioner, as the session went on. Collectively, these findings highlight the significance of attending to clients' strengths and resources to successfully influence their mental health and well-being.

The notion that there is more to gain by developing individuals' strengths, than their weaknesses, is similarly recognized in the coaching psychology literature (Linley, 2008). Strengths coaching, as it is known in this field, is a form of applied positive psychology whereby clients are encouraged to identify, use, and develop their strengths more, in work and life contexts. It has been suggested that by using a person's natural capacities and allowing them to do what they do best, positive emotions can be facilitated (Linley & Harrington, 2006). This suggestion was supported by research assessing college students' needs satisfaction, well-being, goal progress, and goal attainment in relation to their strengths use (Linley, Nielsen, Wood, Gillett, & Biswas-Diener, 2010). Findings showed that strengths-use was associated with enhanced goal progress, which in turn positively influenced psychological needs satisfaction, and well-being. These findings supported previous research proposing that making use of clients' strengths can lead to increased engagement (Harter, Schmidt & Hayes, 2002), motivation and goal attainment (Linley & Harrington, 2006), and performance in the workplace (Collins, 2001; Corporate Leadership Council, 2002). Although the findings should not necessarily be generalized across contexts, there are interesting implications for sport psychology practitioners and coaches working in sport, particularly if highlighting strengths and resources can facilitate enhanced psychological well-being and performance.

Despite the prevalence of literature promoting the desirable effects of strengths-based approaches to practice, there has been scant attention given to this way of working in sport psychology. One study advocating the potential for strengths-based approaches in sport focused on using strengths to aid the development of mental toughness in cricket (Gordon & Gucciardi, 2011). Findings indicated that players in the study suggested they were unfamiliar with having discussions about their strengths, yet they were generally complimentary about

the value of these discussions. It was also recommended that future research should explore the potential for strengths-based approaches to be used in a sporting context.

Similarly, Beaumont et al.'s (2015) study revealed that practitioners deemed the development of athletes' signature strengths to be an effective method for enhancing robust sport-confidence. While this research offers support for developing athletes' key strengths, it focused on practitioners' views and did not explore athletes' perceptions of experiencing such an approach. Furthermore, the term signature strengths is one that has previously been coined in positive psychology research in clinical settings; The Values Inventory of Strengths (VIA-IS: Peterson & Seligman, 2004), identifies a person's top five "signature strengths," (e.g., hope, honesty). These signature strengths are computer generated, from a list of 24 potential character strengths. The language used and the signature strengths identified by the VIA-IS are not necessarily context specific or unique to one person. Conversely, the findings of study one outlined that super-strengths is an applied approach that has been developed to identify performance edges, using the greatest attributes athletes have that they can use in a competitive environment. The name super-strengths refers to the notion that the athlete is or could be/become "super" at the strength they have identified to be key to gaining an edge over their competitors. Unlike the trait-like signature strengths (VIA-IS: Peterson & Seligman, 2004), super-strengths by definition are contextual, specific, and state like, with a performance focus (see study one of this thesis). In sport psychology there is little evidence of practitioners adopting strengths-based approaches in their applied work, or consensus as to what these approaches would look like in practice.

In line with this gap in research, study one of this thesis included a qualitative study with practitioners and coaches that had facilitated a super-strengths approach with athletes. To reiterate, the aim of study one was threefold: first to understand the meaning of the approach and to define super-strengths, second to ascertain the methods used to identify

super-strengths, and finally to capture the phases of development within the approach. Although the study provided guidance for conducting a super-strengths approach, the perceived impact of the approach was not alluded to, and athletes were not included in the sample. Therefore, is it not yet known whether athletes perceive the approach to be beneficial, nor are any concerns they might have with the super-strengths approach. Similarly, from the review of literature conducted, it is evident that there is a gap in knowledge regarding the application and potential impact of strengths-based approaches in sport. Thus the purpose of the present study was to build on the findings from study one of the thesis, and explore athletes' perceptions of a super-strengths approach.

4.1 Method

4.1.1 Design. In keeping with the pragmatic research philosophy (e.g., Giacobbi Jr., Poczwardowski & Hager, 2005), the researchers' intentions for the present study were to further develop understanding of the practicalities and necessary considerations for adopting a super-strengths approach in applied sport psychology. More specifically, the purpose of the study was to gain understanding of the role and potential benefits/ pitfalls of the approach. In order to do so, it was deemed most appropriate to obtain the perceptions of athletes who had experienced a super-strengths intervention through working with their sport psychologist and coach in their sport. In line with previous research, the perceived effects of engaging with the approach upon athletes' psychological characteristics and performance were focused upon.

4.1.2 Participants and Sampling. In order for the most appropriate participants to be identified, critical case sampling was adopted which involves the inclusion of participants who are likely to "yield the most information and have the greatest impact on the development of knowledge" (Patton, 2001, p. 236). To identify the most appropriate athletes, and to ensure consistency in the definition of super-strengths, sport psychologists from previous super-strengths research (i.e., study one) were contacted and identified the athletes

they had worked with (after gaining the athletes' consent to do so). From this pool of athletes, the two primary criteria for inclusion were that they must be experiencing/have experienced a super-strengths approach within the last 12 months of working with their sport psychology practitioner and coach. In addition, based on the findings of study one (chapter III), athletes were required to hold elite status at the time they experienced super-strengths. In line with previous research, elite status was defined as "world-class, performing at the highest possible international standard in their sport" (e.g., Hays, Maynard, Thomas, & Bawden, 2007). Based on this criterion, 12 athletes (10 male, 2 female) were identified, aged between 21 and 39 years (M =28.92, SD =5.04), with a total of 123 years' experience in elite sport (M=10.25, SD = 2.7). Only one athlete in the sample had retired from elite sport (4 months prior to data collection), all other athletes were still competing at elite level (defined previously). Athletes represented a range of individual and team sports, including Field Hockey, Squash, Cricket, Rugby Union, and Sailing within the UK.

4.1.3 Procedure. Upon gaining institutional ethics approval, an information letter was sent to participants outlining the aims of the research and proposed procedure for data collection (see Appendix 2). Participants were then contacted via email and/or telephone by the first author to arrange a suitable date and time to be interviewed. Informed consent was sought from all participants prior to them engaging in the interview process and it was reiterated that data would remain confidential and anonymous via the use of pseudonyms (see Appendix 1). Semi-structured interviews were deemed to be the most appropriate method of data collection. Specifically, they allow for a scaffold of structure to be put in place as the interviewer asks key questions in the same way to all participants, while allowing for unique probing questions so that further information can be gathered at any point (Ritchie, Lewis, Nicholls, & Ormston, 2013). A pilot interview was conducted with a coach who had previously been involved in a similar strengths-based approach while competing as an

athlete. The pilot interview enabled the research team to ensure that the interview guide allowed for adequate information to be elicited. Additional probing questions were added into the interview schedule following the pilot interview. These probes were added to encourage participants to elaborate on their descriptions and perceptions of super-strengths and gain an in-depth understanding of their experiences (Ritchie et al., 2013). For example, when asked "can you tell me about anything that you adapted that came from your experience of super-strengths?" probing questions were added to prompt athletes' reflections on "mind-set", "training", and "performance". Other questions included "can you describe or explain what is/was the best thing about super strengths?" and "can you tell me what we should be mindful of when adopting the approach with athletes?" (see Appendix 4).

4.1.4 Data Analysis. Interviews lasted between 40 and 75 minutes and verbatim transcription generated over 90 pages of raw data. Following transcription by the lead author, a thematic analysis based on the six stage process outlined by Braun and Clarke (2006) was conducted. Initially, the transcripts were read and re-read independently by the researchers, to enhance familiarity with the data. Following this process, interesting and significant extracts of the data were coded and then these codes were collated and put into meaningful categories (i.e., themes). A review of the themes generated was conducted both individually and with the team of three researchers each presenting their themes to the rest of the group for discussion. This process allowed for triangulation of the data to be achieved and the meaning and organization of themes to be debated. This process aimed to enhance the credibility of the analysis procedure and subsequent output, as suggested by Tracy (2010). Tracy also indicated that credibility can be enhanced through member-checking; this was achieved in the present study via emailing participants a copy of their transcript to ensure it was representative of their experience. Through this procedure participants were given an opportunity to amend their transcripts; however no participants wished to make changes. Finally, to further enhance

credibility of the data, thick description quotes have been provided in the results section from multiple participants (Tracy, 2010).

4.2 Results

Seven higher-order themes comprising 11 lower-order themes were generated from the data and are displayed in Figure 4.1. The figure outlines the factors that athletes perceived were developed through their experiences of the super-strengths approach. In addition raw data quotes are presented throughout the results, to enhance transparency and authenticity in the meaning generated from the data, as well as enhancing the context for the reader (Roulston, 2010; Tracy, 2010).

4.2.1 Performance. All athletes indicated that engaging with the super-strengths approach had a positive impact on their performance and/or outcomes. Specifically athletes suggested that they had more success in performance after identifying and/or developing their super-strengths, for example one athlete stated:

> I think [super-strengths] is good. I won my first world cup event this year which was a while after we had started doing this and I can't attribute it to just one thing, it's everything coming together, but it definitely works. (P4)

Similarly another athlete explained:

> That was the goal of it all really to give myself a weapon that other players would worry about and would help with the overall goal to make me the best player in the world… and ultimately it did for a time. (P10)

As highlighted by the following quote, some athletes perceived that this performance impact was as a result of the positive psychological effects they experienced during the approach:

> My mental game has risen so I am playing better and I am playing at the highest level more often and not dipping, so before I would play at the highest level for one day and then dip for two or three, whereas now I am more consistent so I might not be

amazing every day but I am able to play at a stronger level in the gym or training. I am not flagging as much because I have more focus on what I am trying to do. (P2)

In this next section of the results the other six higher-order themes that emerged, explaining the psychological characteristics that athletes' perceived were developed, are presented.

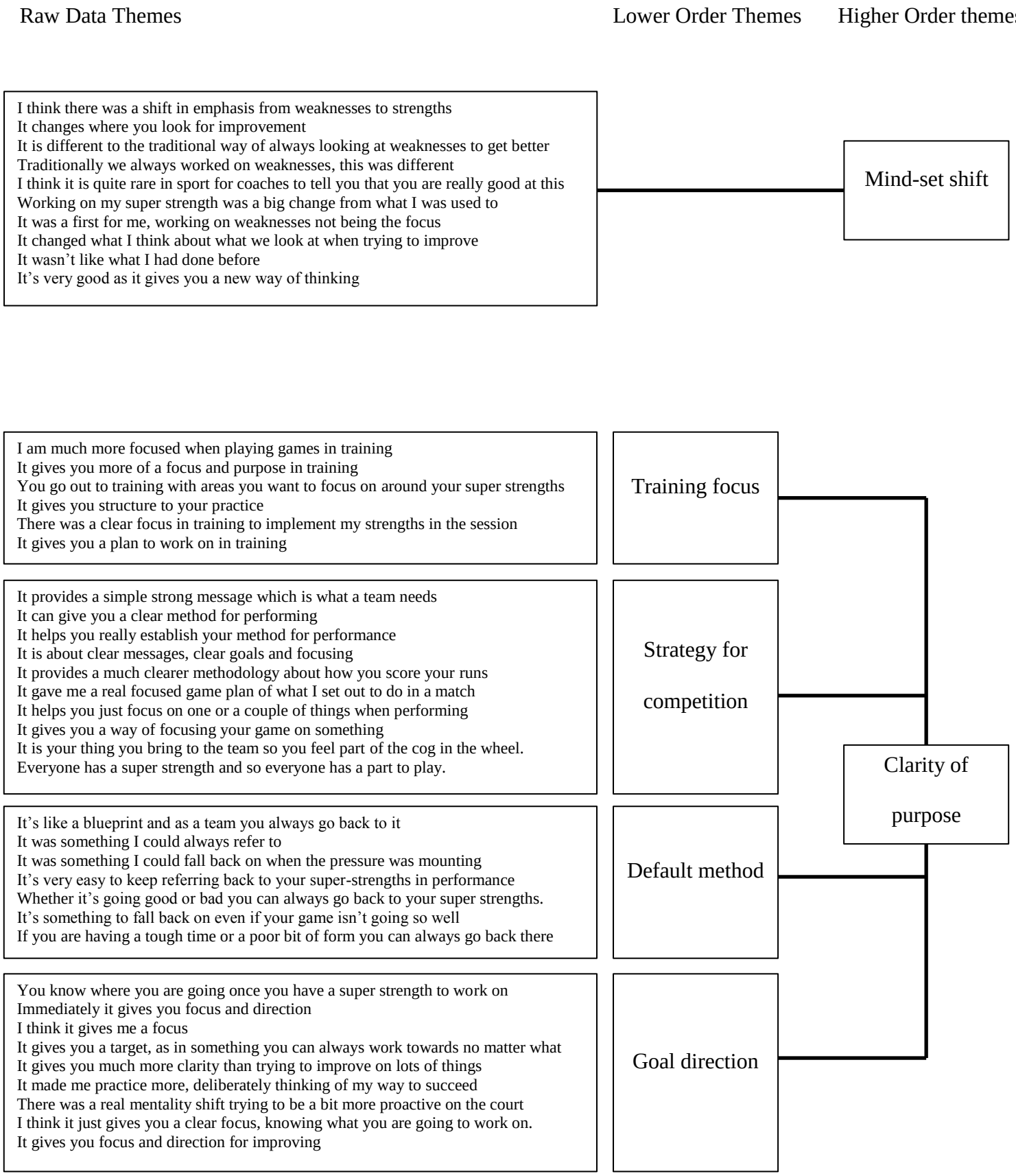
4.2.2 Confidence. Athletes suggested that as a result of identifying and developing their super-strengths, their confidence increased. Confidence was generated as a higher-order theme comprising seven lower-order themes: self-belief (e.g., increased belief in own ability), others' belief (e.g., confidence from others' believing in you), positive focus (e.g., working on your super-strength), edge on others (e.g., feeling like you have something better than competitors), competition confidence (e.g., assured you can deliver your super-strength), preparation (e.g., knowing you have trained your super-strength), and team confidence (e.g., knowing everyone has something special to bring).

4.2.2.1 Self-Belief. All athletes proposed that identifying and developing their super-strengths gave them more self-confidence; knowing they had something they were great at and gaining understanding of their competitive edge increased their self-belief.

> Well I keep going back to this but it gives you that little bit of chest back (physical display of confidence), that I am good, gives you a little bit of self-importance I suppose. And it's nice knowing that actually yeah I think I am better than you at this. (P1)

4.2.2.2 Others' belief. Athletes suggested that they gained confidence from their super-strength being highlighted by others. Moreover, that those people (i.e., team-mates, coach) had suggested and believed that the athlete has something special and unique. One athlete stated:

Raw Data Themes	Lower Order Themes	Higher Order themes
I believed that I could be one of the best in the world It's really important for your confidence, to know I am genuinely good at something It gives you that bit of chest back feeling, that I am good It gives you a bit of self-importance It's nice knowing that actually yeah I think I am better than you at this. There is always that inner belief in yourself It has had a big impact on my confidence It gave me confidence to believe I could compete at an Olympic games The best thing about super strengths is the confidence it gives you	Self-belief	Confidence
They see something in you and it makes you feel a bit special. I think it gives you more confidence because someone believes in you Knowing that you have this one thing that people see in you makes you feel good	Others' belief	
It gives you more confidence because you're concentrating on what you are good at It makes you feel really good focusing on the positives. The positivity that comes from working on strengths makes a difference. It really makes you feel good knowing you are working on something you're good at	Positive focus	
Super strengths is linked to confidence as it reminds you of your edge You know that you have something that it is better than anyone else. If they can't read what I'm going to do, I'll always have the upper hand on my serve. It gave me a weapon that other players worried about It gave me an aura, because people knew that I could lead the race and still win, and people had thought you couldn't do that. It adds relentless pressure to opponents when they know you have a super strength Other players fear you - when you believe someone fears you, you don't fear them It gives me a huge advantage over anyone else because nobody is winning that many points	Edge on others	
It gives me more confidence going into matches I had more confidence in leading my races When I raced, I raced a lot more confidently I felt more confident in my method going out there It's very simple playing to your super strengths; it's a very big confidence thing. It gives you more belief in yourself to go for the shots, more belief you can do it I feel confident that I will make the right decisions around the super strengths Knowing what works for you and that gives you the confidence to go out and race I knew that I would always be able to deliver those super strengths Believing I could deliver a game that could get me to the Olympics and win us a medal made a big impact on my performance	Competition confidence	
Your confidence is sky high because you know you have done everything you could do to prepare for the comp. It's that confidence that you've put the right programme together for the vision We knew we had done the hard work, full of confidence to go and execute I had a lot more belief after putting it into practice It gives you confidence once you have done it, and you have seen If I am working on my strengths in training, I am going to be building confidence It's the knowledge and understanding that you have shown you can produce it that gives you confidence. Knowing that you just need to do what you have been doing gives you an untouchable confidence	Preparation	
It gave a lot of players a lot of confidence in our team I could see that everyone had the confidence that they would just do their job. We believe that our team has that extra edge I didn't doubt at any point that we would win as we all knew what each of us was going to deliver Even when losing we still have this confidence that if we bring our super strengths out we will win. As a team it gives you inner confidence, there is no doubt about it. Standing up and telling each other what it was we brought to the team created a real confident environment and a real energy.	Team confidence	


Raw Data Themes
Lower Order Themes
Higher Order themes
I think there was a shift in emphasis from weaknesses to strengths
It changes where you look for improvement
It is different to the traditional way of always looking at weaknesses to get better
Traditionally we always worked on weaknesses, this was different
I think it is quite rare in sport for coaches to tell you that you are really good at this
Working on my super strength was a big change from what I was used to
It was a first for me, working on weaknesses not being the focus
It changed what I think about what we look at when trying to improve
It wasn't like what I had done before
It's very good as it gives you a new way of thinking
Mind-set shift
I am much more focused when playing games in training
It gives you more of a focus and purpose in training
You go out to training with areas you want to focus on around your super strengths
It gives you structure to your practice
There was a clear focus in training to implement my strengths in the session
It gives you a plan to work on in training
Training focus
It provides a simple strong message which is what a team needs
It can give you a clear method for performing
It helps you really establish your method for performance
It is about clear messages, clear goals and focusing
It provides a much clearer methodology about how you score your runs
It gave me a real focused game plan of what I set out to do in a match
It helps you just focus on one or a couple of things when performing
It gives you a way of focusing your game on something
It is your thing you bring to the team so you feel part of the cog in the wheel.
Everyone has a super strength and so everyone has a part to play.
Strategy for competition
It's like a blueprint and as a team you always go back to it
It was something I could always refer to
It was something I could fall back on when the pressure was mounting
It's very easy to keep referring back to your super-strengths in performance
Whether it's going good or bad you can always go back to your super strengths.
It's something to fall back on even if your game isn't going so well
If you are having a tough time or a poor bit of form you can always go back there
Default method
You know where you are going once you have a super strength to work on
Immediately it gives you focus and direction
I think it gives me a focus
It gives you a target, as in something you can always work towards no matter what
It gives you much more clarity than trying to improve on lots of things
It made me practice more, deliberately thinking of my way to succeed
There was a real mentality shift trying to be a bit more proactive on the court
I think it just gives you a clear focus, knowing what you are going to work on.
It gives you focus and direction for improving
Goal direction
Clarity of purpose

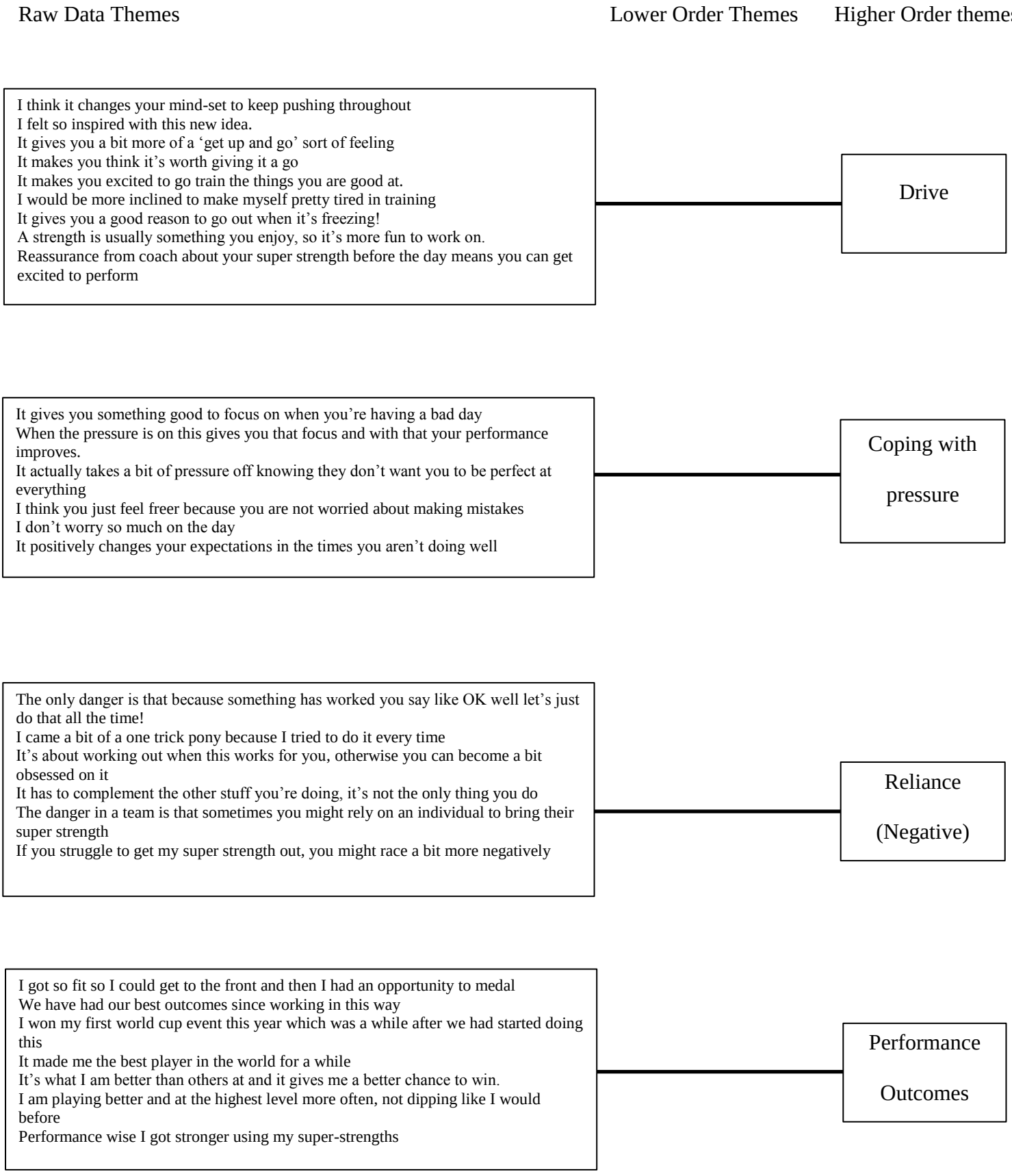


Figure 4.1. Higher-order, lower-order and raw data themes representing athletes' perceptions of the effects of the super-strengths approach.

> I wondered why I hadn't accessed it before like why has this not been thought about before now!...because it does make you feel good knowing that you have this one thing that people see in you I guess. And whether you win a medal or not they still see that in you and it makes you feel a bit special like that. (P11)

Another athlete proposed that they gained confidence from their coaches' belief:

> I think it gives you more confidence and positivity because you have found something that someone believes in…I think it is quite rare in sport for coaches to tell you that you are really good at this as they don't want to put you down but don't want you to start thinking you're the greatest too early... it gives you more belief in yourself, you want to try, like in the past I would go for some hard shots but I didn't really believe it whereas now I can go for it and I have more belief that I can do it. (P2)

A further athlete discussed how others' involvement with their super-strengths plan helped:

> It just worked for me; it gave me confidence, simple as. And I admit I wasn't comfortable talking about what I was good at, at all but it is always nice to hear it from your team mates and then if you hear the same thing from your coach you are suddenly like ok fair enough, then you start to notice it in your own game. (P12)

4.2.2.3 Positive focus. Athletes suggested that through engaging with the super-strengths approach and thus focusing on a positive element of performance, their confidence increased. One athlete suggested:

> For me personally if you are just working on weaknesses it was tough on the old confidence, but if you are keeping the strengths in there, the positivity that comes from working on strengths really made a difference. Working on weaknesses can become quite tiring whereas working on strengths can bring that energy boost and really make you feel good knowing that today I am working on something that I am good at. (P9)

***4.2.2.4 Edge on others*.** Athletes also discussed that they gained confidence from knowing they had established a strategy they are better at than others, and a potential competitive edge for performance. One athlete stated:

> I think it's like a comforting thing - you say well actually yeah I am the best at that, there is nobody better in the world at that, I mean confidence is a strange thing but it is a confidence thing when you know that you have something that it is better than anyone else. (P1)

Another athlete described how they believed that highlighting their competitive edge reinforced their belief in their performance capabilities:

> And it's also really important for your confidence, to actually know I am genuinely good at something, I am not just OK in a lot of different areas, this is what differentiates me from other people and in international sport you look at other players and you go 'he's a good player' and then you always have that internal battle like am I really as good as any of these players. But if you really nail one aspect then you can go I know I am going to be great at this particular strand to what I do. (P5)

***4.2.2.5 Competition confidence*.** When discussing the effects of super-strengths, athletes proposed that having worked on their super-strengths, they were more confident in competition-specific situations, as one athlete stated:

> So yeah when I raced I raced a lot more confidently believing that I could… well I wouldn't say always believing that I could win but I believed that I could be one of the best in the world and that was quite a nice feeling! (P11)

***4.2.2.6 Preparation*.** This theme developed from the athletes' belief that knowing they had worked on and trained their super-strength, in preparation for performance, really gave them confidence, as highlighted by the following quote:

> The best thing about super-strengths is the confidence it gives an individual and the confidence it gives a team, it's not a thing that might happen or could happen, you know that it will happen because you have practiced it and seen it before so it's that knowledge and understanding that you can produce it and it gives you that confidence. (P3)

A second participant stated:

> So it's that confidence that you've put the right program together for the vision, then once you get to that place you just have to execute it… the Olympics came and it was like right, we've done the hard work, full of confidence to go and execute. (P8)

4.2.2.7 Team confidence. Athletes who competed in a team sport suggested that engaging with the super-strengths approach enhanced their confidence individually and also as a team. As one athlete described:

> It gave a lot of players a lot of confidence because it was like oh hang on a minute yes I'm not world class at everything but I am world class at this and this. And that alone really moved the team forward a lot. (P12)

Athletes also suggested super-strengths provided them with role clarity and an understanding of how they can contribute towards the team's competitive edge:

> I love it because it's my thing that I bring to the club so you feel like a cog in the wheel. I know what I'm going to bring and it does give me a confidence and feeling part of a team and part of the environment. Everyone has a super-strength and then everyone has a part to play. (P3)

4.2.3 Mind-set Shift. This higher-order theme was apparent from athletes' suggestions that the process of learning about, identifying, and developing super-strengths made them think differently. One athlete described:

> This helped put together the final piece of the jigsaw … I remember when he (sport psychology practitioner) first mentioned it to me and it was like someone had opened my eyes, I came out of the session and I felt so inspired with this new idea. (P10)

Specifically, some athletes proposed that shifting from working on weaknesses to working on super-strengths was new to them, challenged tradition, and was a positive influence upon their psychology and performance. For example one athlete stated:

> When you start looking to improve yourself you always start looking at your weaknesses…rather than saying actually no what am I world class at, what am I best in the whole world at, if you are an elite sportsperson what makes me different? (P1)

4.2.4 Clarity of Purpose. This higher-order theme was generated from four lower-order themes that athletes discussed and felt they had developed clarity as a result of engaging with the super-strengths approach. The lower-order themes were: training focus (e.g., a plan/goal in training), strategy for competition (e.g., a clear method for performing), default method (e.g., something they can fall back on under pressure), and goal direction (e.g., a clear focus for what you are trying to achieve).

***4.2.4.1 Training focus*.** Athletes highlighted that by identifying their super-strengths and as a result of knowing what their strategy for performance looked like, they had more focus in training.

> It added more focus to training so sometimes we used to turn up to the pitch and we'd have no idea what we were going to do so and it could be three weeks before there was a drill to allow you to work on your areas because you don't have an individual focus in training… but with your super-strengths it would always give you something in training to focus on even in a generic session. (P12)

Another athlete described how their super-strengths were integrated into their training plan:

> I guess it got put into my training plan where the sports scientists and strength and conditioning coaches could get involved… So we didn't' change anything in group training necessarily, but we just focused on it more so you go out with areas you want to focus on and then debrief them. (P4)

4.2.4.2 Strategy for competition. Athletes suggested that the super-strengths process provided them with a method and a clear focus for what they are trying to do in performance.

> I think it really does give you a good advantage because if I am getting that many points per game then it gives me a huge advantage over anyone else because nobody else is winning that many points and it means all I have to do is win one point off their serve each time and then I have pretty much won the game so it is great tactically. (P6)

4.2.4.3 Default method. This theme encompassed raw data which highlighted that athletes perceived their super-strengths were something they could fall back on in competition. They believed their super-strengths were the things they knew they could deliver and succeed in.

> With this you have something to fall back on so it doesn't matter whether things are going bad or good because you can always have your thing that you are working on. And also if things are going amazing I can still look and say where I think I can use it more so it's like always something to fall back on and to guide you regardless. I think you can rely on yourself as well so you're less reliant on another person coming to tell you, you can rely on yourself telling yourself what you are working towards. (P2)

4.2.4.4 Goal direction. Athletes proposed that by identifying their super-strengths and proposed strategies for gaining a competitive edge, they felt they had more focus and clarity around their goals and what they were aiming for.

> Yeah so from every monthly meeting (with coach and sport psychologist) you would go away with a set of goals and things to work on, very specific and it's very easy to go training knowing you had these specific goals to achieve and it was rewarding it gave you focus, like launching out here in December and it's freezing and you know exactly what you are trying to do out there it gives you a focus and direction and it means you are going out there with a reason. (P8)

4.2.3 Increased drive. This higher-order theme was generated from athletes' suggestions that they felt they had more drive and motivation for what they were doing. As one athlete suggested, 'when we say we are going to play with our super-strengths, this is how we are going to act and do and go about our business, it's a bit more of a get up and go sort of feeling' (P1). Similarly, other athletes talked about how focusing on their super-strengths gave them something to work for and a reason to do what they were doing.

> Focusing on something you are good at is very helpful and has a big impact on confidence and makes you excited to go train the things you are good at. It does make you feel good having that to fall back on so even if it hasn't gone so well that day you know the next day you are going to be focusing on your strengths so when it comes to it there is that excitement there that you want to work on it. (P9)

4.2.4 Coping with pressure. Athletes perceived that having their super-strength(s) to focus on in performance, something that they knew they were great at, enhanced their ability to cope under pressure and they felt freer and less worried about their ability to succeed in competition.

> When the pressure was mounting, when we were in a difficult situation, I knew that I could deliver my super-strengths at any time, that was my game and completely innate and there was an expectation from every member of the team that I would deliver day in, day out. (P12)

4.2.5 Reliance. In this theme, athletes indicated that the approach could potentially have a negative impact on performance by them becoming reliant or obsessed about super-strengths. Athletes alluded to the notion that super-strengths need to be used in context and if an athlete has seen their super-strength have a positive impact in performance, they might become a "one trick pony". As one athlete discussed:

> It's about learning and working out when this works for you… it's not necessarily to be used all the time, because I think you can become a bit obsessed on it which can become a negative so it could be like ah well we did that graph that showed your strength overdone is bad and if you start to think you need to use it all the time it almost becomes a weakness. So for me the big thing was learning when to use it. (P2)

It was evident when analyzing the data that there were commonly reported barriers and challenges that athletes suggested needed to be considered in the super-strengths approach, in order to achieve the positive impact they perceived to be possible. The main barrier proposed was the potential hesitance/resistance from athletes to engage with super-strengths, stemming from a lack of comfort or familiarity when asked to talk about what they think they are great at. Athletes proposed that in the UK, culturally we do not pay as much attention to our strengths and thus practitioners may struggle to elicit what an athlete thinks they could potentially be best in the world at. To overcome this, athletes suggested the importance of the approach being continually reinforced by coaches and practitioners, and in turn, believed that this would enable athletes to reap the benefits associated with super-strengths. One athlete explained the importance of reinforcement in the following way:

> It was uncomfortable because we don't talk about things we are good at, we don't have that culture at all, so once you got over the barrier that people were comfortable enough to say well actually I am bloody good at whatever it is, then it was more comfortable… but we knew each other incredibly well at that point whereas if we had

> to do it now, God it would be like getting blood out of a stone trying to coax that out of some of them! (P12)

Similarly another athlete discussed:

> I think this only really works if you are very persistent with it, because the natural human nature kicks in more often than we think, even though people might be generally excited about it, it's very easy to go back to default. There is a reason coaching has evolved how it has because people want to cover their weaknesses it seems the logical thing to do, it's natural. And so I think that's the biggest danger, that the practice bit is really important, you have to be hands on and remain committed to it otherwise I don't think it will work. (P5)

4.3 Discussion

The purpose of the present study was to explore elite athletes' perceptions of a super-strengths approach, and more specifically if athletes perceived this approach to have influenced (positively or negatively) their psychological characteristics and sporting performance. Generally, athletes spoke positively about their experiences of super-strengths and highlighted numerous benefits of the approach. Specifically, it was encouraging to find that all athletes perceived that identifying and developing their super-strengths had a positive impact upon performance. Moreover, it was apparent that there were associations between this performance impact and the perceived impact upon psychological characteristics. That is, engaging with super-strengths positively influenced psychological characteristics such as confidence and drive, which in turn generated performance improvements. It is expected that if an athletes' psychology improves, their performance will benefit from this improvement (Wang & Zhang, 2015). Indeed in the present study, athletes perceived that super-strengths had a positive influence upon several psychological characteristics.

One of the most prevalent findings was that athletes perceived that identifying and developing their super-strengths enhanced their confidence in several ways. Specifically, athletes discussed that their self-belief was enhanced throughout the super-strengths intervention, and also that they gained confidence through others (i.e., coaches, teammates) believing in them. They suggested this was facilitated by the process of super-strengths whereby the athletes' greatest attributes are highlighted and the subsequent development plan includes working on something others (i.e., their coach) believe the athlete could become best in the world at. Similar findings are apparent within clinical psychology literature where it has been suggested that discussing strengths and resources with clients during sessions (known as resource activation) is paramount for success, rapport building, and clients' confidence (Gassman & Grawe, 2006). Similarly in sport psychology, it has recently been indicated that developing an athlete's signature strengths (i.e., what they are superior at) is a method recognized by practitioners as good for enhancing athletes' sport confidence (Beaumont et al., 2015). While the effects of signature strengths have not yet been empirically tested, collectively, findings indicate the potential benefit of practitioners eliciting and developing clients' strengths and resources during consultancy sessions. Thus, future research assessing the impact of strengths-based approaches upon athletes' sport confidence is encouraged.

Another suggestion from athletes as to how they perceived their confidence to be enhanced through the super-strengths approach was because it allowed them to identify their unique edge on others. This notion has been alluded to in previous literature related to sources of sport confidence. Hays et al. (2007) reported that a key source of confidence for elite male athletes was feeling they have superiority over their competitors. Similarly, the main purpose of super-strengths is to help the athlete identify something they have/do that provides them with a competitive edge over their opponents in the context of their sport (see

Chapter III). Furthermore, within the intervention, coaches and sport psychology practitioners will highlight and reinforce where the athlete is superior or has a potential edge over their competitors. Thus, considering previous research, it is not surprising that confidence was reported to be positively influenced as a result. Highlighting an athlete's performance edge is something that could be considered by sport psychology practitioners aiming to develop athletes' sport confidence.

Athletes in the present study suggested that in competition, they felt more able to cope under pressure, as they had identified their specific super-strengths strategy for performance. This is novel to the sport psychology literature; it has not previously been reported that identifying and developing a strategy for performance based on athletes' strengths or competitive edge can enhance coping under pressure. However, an association that has been established previously is that athletes who have more self-belief and are confident in their ability to perform will cope better with the demands of the performance environment (Hays, Thomas, Maynard, & Bawden, 2009). This association is apparent in the present study, as athletes felt they gained competition confidence from super-strengths and were better able to cope with the pressure of performance. Nonetheless, future studies could investigate whether identifying and developing super-strengths can enhance measures of coping skills.

Something that all athletes alluded to in the present study was a shift in their mind-set about where they should invest energy to make the biggest improvements in their sport. Specifically, athletes discussed a shift from looking to address weaknesses and what is not quite right to help them improve, to considering their competitive edge and a way to win, focused on the attributes that makes them uniquely great. This shift in the investment of energy, focus and resource from deficits to strengths and positive elements of a person's situation is the premise of positive psychology (Seligman & Csikszentmihalyi, 2000). There is a plethora of research from various mental health and performance contexts referring to the

positive impact that working in this way has had upon desirable characteristics (e.g., Govindji & Linley 2007; Proctor et al., 2011). Similarly, athletes in the present study believed that this mind-set change had a positive influence on their general psychology and performance. Despite being encouraged in previous research (Gordon & Gucciardi, 2011), the benefits of adopting a strengths focus and working with athletes to stimulate this positive mind-set shift are yet to be tested in sport psychology. Thus the present study offers new insight for the discipline, however, it is hoped that the findings from this preliminary investigation will spark interest and encourage others to address the knowledge gap in this area.

Findings of this study also showed that athletes perceived identifying their super-strengths, and subsequent strategies for developing these, allowed them to gain goal direction and increased drive. As highlighted in study one of this thesis, it is important that athletes are involved throughout the super-strengths approach, as being involved in the mechanics of the process would enhance autonomy and ownership over the subsequent super-strengths development plan. In sport psychology research, it has been highlighted that when autonomy and self-concordance are achieved in relation to athletes' goals, this can result in more sustained goal-directed effort and goal attainment, as well as psychological well-being (cf. Ntoumanis, Healy, Sedikides, Smith, & Duda, 2014). Smith, Ntoumanis and Duda (2007) proposed that if a goal is congruent with an athlete's values and beliefs (self-concordance) and is striven for with a sense of ownership (autonomy), then athletes will have a greater direction of effort toward the attainment of their goal. Furthermore, they suggested that this can be achieved even when the goal is assigned or agreed by a coach or external source, predominantly through perceived autonomy support and needs satisfaction. It is suggested that the process of identification and coming up with a plan for utilising and developing super-strengths would enhance levels of perceived autonomy support. As Black and Deci (2000) highlighted, this would be achieved by the coach recognising the athlete's perspective,

acknowledging their feelings and giving opportunities for choice whilst minimising pressures and demands (i.e., through providing context and giving them license for utilising their super-strengths: cf. study one of thesis).

The perceived increase in goal direction and drive reported by the athletes in the present study could be explained by enhanced psychological needs satisfaction. The three basic human psychological needs that if satisfied yield enhanced self-motivation, according to self-determination theory (e.g., Ryan & Deci, 2000), are: autonomy (task is self-governed or endorsed by the person themselves), relatedness (person feels close or connected to significant others), and competence (person believes/experiences that they can achieve task effects or outcomes) (Reis, Sheldon, Gable, Roscoe & Ryan, 2000). The super-strengths approach offers autonomy to athletes because they are actively involved at all stages; the process is not dictated but guided by the athlete themselves and the super-strengths and development plan are agreed between the athlete and their coach/psychologist. Competence satisfaction is encouraged throughout the super-strengths process through the athlete identifying along with their coach and/or sport psychology practitioner where they think they are most competent and have the potential to be world's-best. Finally, relatedness and a sense of belonging to the social environment would be enabled, as the athlete's coach and others would be taking the time to co-create a plan that is specific and unique to the athlete. As alluded to, psychological needs satisfaction is associated with enhanced psychological well-being and self-determination (Ryan & Deci, 2000), thus it is plausible that athletes in the present study felt they had more direction in training and competition, and were more driven to achieve their training and competition goals. This is an important finding for sport psychology practitioners as it suggests the potential to introduce strengths-based approaches as a vehicle for influencing motivation and goal direction/ attainment.

4.3.1 Applied Implications. The findings indicate that there are several potential benefits of sport psychology practitioners adopting strengths-based methods, in particular the super-strengths approach, in their applied practice with athletes. Notably, it is suggested that the process of identifying and developing an athlete's super-strengths, focusing on how their capabilities make them uniquely great, could enhance their sport confidence in several ways. Thus, it is proposed that sport psychology practitioners could reflect upon and consider how a focus that elicits and develops what makes that athlete special/unique might benefit the outcomes of their applied practice. Such considerations could be integrated into practice through routine processes, for example, performance profiling. Sport Psychology practitioners could use this process to identify where the athlete is strongest and how they could maximize this area or combine it with other greatest strengths to create their unique edge over others.

It was also suggested that the process of super-strengths enhanced athletes' drive and goal direction, potentially through psychological needs satisfaction. Identifying athletes' unique strengths could enhance competence, and developing their super-strengths through a plan co-created with the athlete could facilitate autonomy and relatedness and thus enhance drive and goal direction. The satisfaction of basic psychological needs of clients through strengths-based approaches is something that could be considered by applied practitioners. In particular, this could be achieved through methods such as goal setting and individual athlete planning. It is proposed that ensuring plans for development are not only co-created to provide autonomy, but also to consider how to satisfy the athlete's need for competence would be beneficial. From the findings of the present study, suggestions for achieving this would be to include plans for the athlete to grow their areas of strength, and allowing time for them to focus on and indeed maximize the thing(s) that they are greatest at, that if grown could impact their performance.

In addition, a novel finding from the study was that athletes perceived that having a strategy for performing, underpinned by their super-strengths, helped them better cope with the pressure of competition. This highlights the potential benefit of sport psychology practitioners and coaches adopting strengths-based methods when preparing performers for competition. Conversely, the findings also highlighted potential pitfalls that sport psychology practitioners adopting similar approaches should be mindful of. In particular, it is suggested that practitioners should consider how they will work alongside those influencing athletes' training environments, to ensure that the development plan and focus of development (i.e., super-strengths) is being reinforced and not compromised. Also, sport psychology practitioners should establish with athletes the boundaries and context for using their super-strengths, to ensure that athletes do not become over-reliant or obsessed with the approach. These boundaries could be established by working through examples of different situations, opponents, and/or conditions (depending on the type/context of the sport) for where using super-strengths would work best, and agreeing behavioral descriptions of what the coach would see if super-strengths was being used well, under used, or over used. It is recommended that those facilitating the training and competition strategies are present when doing so to ensure that these strategies are reinforced throughout the athletes' support system. Overall, these processes could facilitate greater shared understanding and be useful for monitoring and reinforcing (i.e., in the athletes' performance debriefs). Failure to agree contextual boundaries may lead to the use of super-strengths when it is not appropriate for the context in which the athlete finds themselves.

4.3.2 Limitations and Future Research. The present study offers insight to athletes' perceptions about a novel strengths-based approach being used in elite sport. However, there are limitations that should be noted and addressed in future research, where possible. Firstly, although the athletes included in the study had experienced super-strengths, they were not

necessarily engaging in the approach at the time of data collection. Therefore, athletes were asked to recall experiences and thus were often speaking retrospectively about how their thoughts, emotions, and behaviors were impacted. Future studies could address this limitation by conducting a strengths-based intervention in sport and assessing perceived and actual impact on psychology and performance, potentially using a repeated measures single-subject design.

Some of the findings from the present study support previous research from psychology and performance contexts whereby similar strengths-based approaches have been explored. However, due to the qualitative nature of the study, the small sample, and the unique population targeted (elite athletes), the findings cannot necessarily be generalized across contexts (e.g., development or lower-ability level athletes). It would be encouraged that practitioners wishing to adopt super-strengths with lower-level athletes ensure that the rationale and process is contextually relevant, and that these are adapted accordingly. Future research adopting similar strengths-based approaches with lower-level or developing athletes would offer new knowledge to the sport psychology literature.

4.3.3 Concluding remarks. This study has highlighted several potential benefits associated with athletes engaging in a super-strengths approach with their coach and/or sport psychology practitioner. However, as strengths-based approaches in applied practice are not well documented in the sport psychology literature, it is suggested that future research should further explore the role of strengths-based interventions with athletes. It has previously been called for that researchers should consider how to unearth clients' strengths and resources, and how athletes could use these effectively in sporting contexts (Pitt, Thomas, Lindsay, Hanton, & Bawden, 2015), as methods for doing so are not apparent in the literature. The present study echoes this request, particularly as there are seemingly numerous ways that engaging with a super-strengths approach can impact upon athletes' psychology and

performance in sport. There is a need to address the gap in knowledge concerning applied strengths-based approaches, and it is hoped that the present study encourages sport psychology researchers and practitioners alike, to investigate further.

CHAPTER V

Implementing a Super-Strengths intervention in Elite Sport: A Two Phased Approach

5.1 Phase One: Introduction

5.1.1. Strength-based approaches.

Researchers have studied the application of positive psychology and strengths-based interventions with the intention of enhancing mental health and performance in various settings, including clinical (e.g., Bolier et al., 2013), coaching (e.g., Linley et al., 2010), organisational (e.g., Hodges & Clifton, 2004), and education (e.g., Park & Peterson, 2008). Although there is a vast array of strengths-based research, there has been a call for studies to investigate more specifically the methods for building on clients' strengths (Tedeschi & Kilmer, 2005). From the review of literature conducted, it is evident that the predominant approach is to identify clients' trait character strengths from a pre-determined list (i.e., VIA-IS: Peterson & Seligman, 2004) and encourage clients to use these strengths more in everyday contexts. Although this research is undoubtedly valuable for learning about the impact of applied positive psychology, there is limited applicability when designing approaches to maximise state strengths. In fact, there are very few studies that have actually employed strengths-based interventions with the intention of developing and maximising context-specific, state strengths. This concern was highlighted by Biswas-Diener et al. (2011) along with a proposed need for strengths-based studies to move away from simple "identify and use" approaches, and encouraged the study of more sophisticated "strengths development" approaches. Specifically, the researchers suggested that to maximise potential, a strengths approach should be holistic and consider the context of the person's situation. Unsurprisingly, they called for researchers to bridge the gap in knowledge of the "how to"

when adopting strengths-based approaches with clients, and to investigate the methods to be employed with clients in more complex strengths-development approaches.

Further, there are no studies in the sport psychology literature that have evaluated the effects of a strengths-development intervention on athletes' psychological characteristics or performance. Although there has previously been no evaluation of outcomes of strengths-based interventions in sport psychology, the need for such studies and further exploration of applied research in this field is evident and has been encouraged (Gordon & Gucciardi, 2011).

5.1.2. Super-Strengths. In sport psychology, the what, when, how, and why of strengths-based approaches have barely been documented. In recent years, researchers within the discipline have made reference to strengths-based approaches and the desire for them to be studied (i.e., Gordon & Gucciardi, 2011), however the gap in knowledge remains significant. For example, it has been suggested that identifying athletes' signature strengths can be used to develop robust sport confidence (Beaumont et al., 2015), yet the specific methods or means for doing so are not evident in the literature. In order to begin bridging this gap, studies one and two of this thesis highlighted a strengths-based approach, termed super-strengths, which has previously been adopted by applied sport psychology practitioners working within high-performance sport in the UK. Yet, the approach has not been implemented in a research context, therefore knowledge of the methods and means of delivering super-strengths are limited. The intention of the present study was to deliver a super-strengths intervention based on the findings from the previous two studies of the thesis.

Findings from study one suggested that a typical approach to identifying super-strengths included a combination of methods, however subjective knowledge and experiences of the athlete and coach were deemed to be of high importance, to ensure the definition criteria was met. The study also proposed that identification procedures heavily depend upon

the type of sport and role of the athlete in competition as to how much they would rely on further methods (i.e., objective performance statistics). Similarly, Gordon and Gucciardi (2011), in their study with cricketers, included identification of multiple strengths due to the differing roles within the team (i.e., batting, bowling, and fielding). Gordon and Gucciardi's adopted methods of identification were also subjective in nature and were heavily led by the athletes themselves. Taken together with the findings from the first study of this thesis, it is proposed that identifying super-strengths would require a subjectively led process, encouraging the athlete to engage in discussions, and for the definition of super-strengths to guide questions to ensure consistency in the approach. Formal character strengths assessment tools (i.e., VIA-IS: Peterson & Seligman, 2004) would seemingly not be appropriate for the identification of super-strengths, due to the context specific and state-like nature of the intended outcomes of identification. In addition, study one allowed the development of a conceptual pathway to guide super-strengths interventions which proposed three phases are key for implementation: preparation, application, and monitoring (see Figure 5.0).

Findings from study two of the thesis supported previous research that has assessed the efficacy of strengths-based approaches, in that they suggest that super-strengths can positively influence psychological characteristics (e.g., Govindji & Linley, 2007; Linley et al; 2010). However, the measures employed by previous research in evaluating such approaches are not necessarily appropriate to use for evaluating super-strengths, due to the unique context of elite sport and the state-like definition of super-strengths. It is proposed that sport-specific measures would be more contextually appropriate, although there are no previous studies that have evaluated the effects of a strengths-based approach on psychological characteristics or performance, in sport. Nonetheless, findings from other contexts (i.e. clinical practice) can inform the present study, and the most commonly used measures employed across settings are self-report, psychometric tests (e.g., measuring psychological

well-being, self-esteem), administered pre and post intervention, and at follow-up (cf. Bolier et al., 2013).

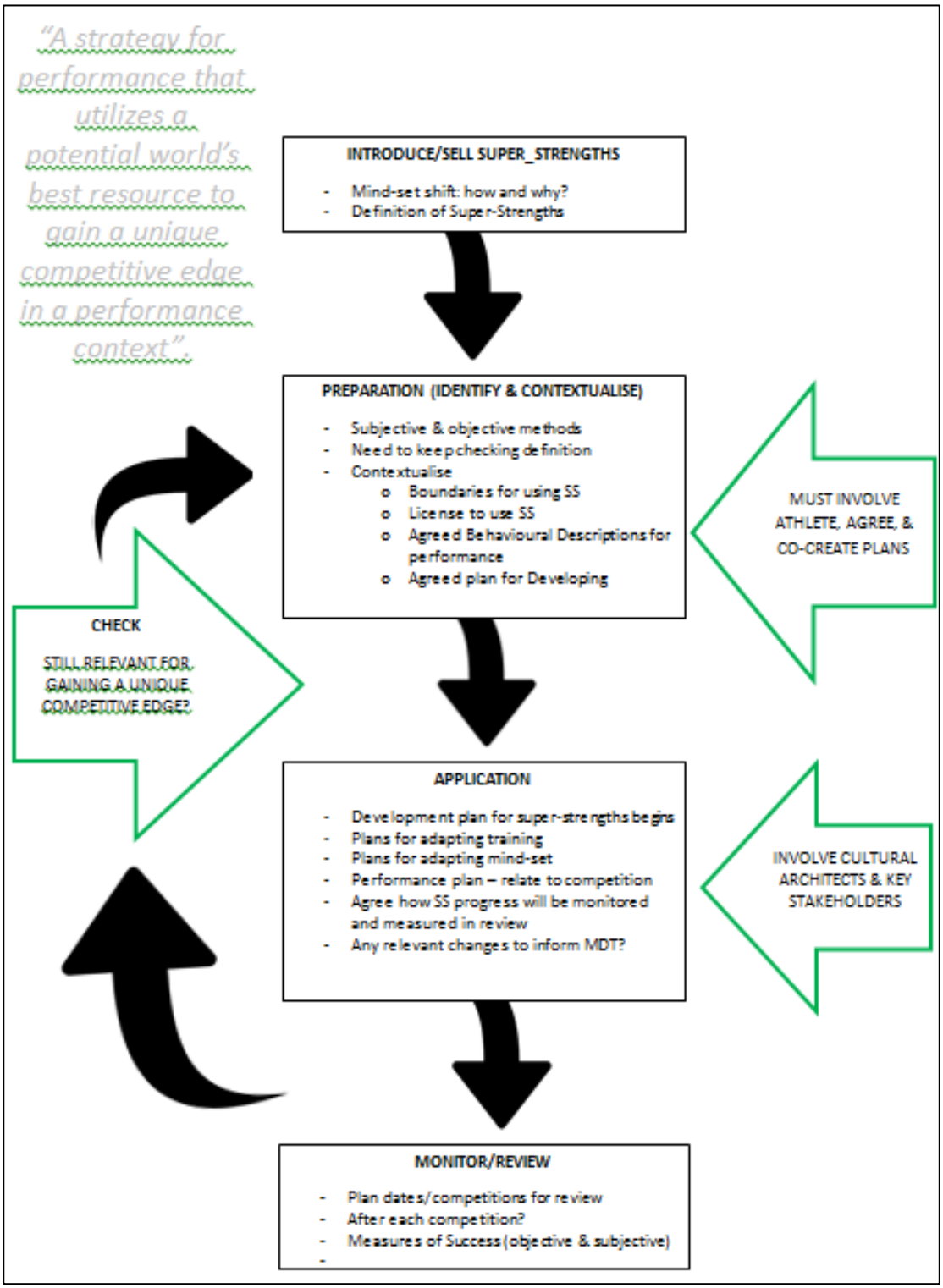


Figure 5.0. An illustration of the conceptual pathway for delivering super-strengths, generated from studies 1 and 2.

5.2 Phase One: Study Purpose

Due to super-strengths being in its infancy as an approach, there is a need to ensure that the methods and intervention detailed in the previous two studies are repeatable and can guide any super-strengths intervention. It is envisaged that once the process of the intervention has been conducted with success, the efficacy of super-strengths could then be tested. Therefore, a two-phased approach to implementing super-strengths was deemed to be necessary, to refine the methods and practical process of implementation, prior to evaluating the effects of the approach. The purpose of phase one of this intervention research was twofold: to preliminarily investigate the practicality of a) delivering a super-strengths intervention guided by the conceptual pathway (figure 5.0); and b) employing sport-specific self-report measures as a way of evaluating efficacy.

5.3 Phase One: Method

5.3.1 Participants. An intervention was conducted with male (N=2) and female (N=1) amateur boxers (*M*= 23.77, *SD*= 3.60). Participants had a total of 13 years' experience in elite amateur boxing (*M*= 4.4, *SD*= 2.52) and were recruited via critical case sampling. This method of sampling involves the inclusion of participants who are likely to "yield the most information and have the greatest impact on the development of knowledge" (Patton, 2002, p. 236). In line with the previous studies of the thesis, the criteria for inclusion were that participants held current elite status. Elite status was defined in line with previous research; all participants were national squad members, performing at the highest level in their sport (i.e., Hanton, Fletcher, & Coughlan, 2005). In addition, athletes must not have had any previous experience of a super-strengths intervention. Participants were recruited via contacts the lead investigator has within the English Institute of Sport and Great Britain Boxing World Class Programme.

5.3.2 Measures

As outlined previously, the measures used were selected based on content and subscales, in line with the findings and meaning generate from study two of the thesis, and validity and reliability reports from previous research in a sporting context were considered.

5.3.2.1 Engagement. Engagement was measured by administering the Athlete Engagement Questionnaire (AEQ: Lonsdale, Hodge & Jackson, 2007) which comprises sixteen items to measure four dimensions of engagement (see Appendix 7). Specifically, the dimensions are confidence (e.g., I believe I am capable of accomplishing my goals in sport), vigor (e.g., I feel energized when I participate in my sport), dedication (e.g., I am dedicated to achieving my goals in sport), and enthusiasm (e.g., I feel excited about my sport). Participants were asked to indicate how often they have felt engaged in relation to their sport so far this season using a 5-point Likert scale, ranging from 1 (almost never) to 5 (almost always). The validity of the factors included in the measure has been previously tested and indicated satisfactory reliability coefficients (α = .84–.89) (Lonsdale, Hodge, & Jackson, 2007).

5.3.2.2 Confidence. Vealey's (1986) State Sport Confidence Inventory (SSCI) was used to measure athletes' confidence within the context of their sport (see Appendix 8). The SSCI includes 13 items asking participants to rate their current level of confidence using a 9-point Likert scale ranging from 1 (low) to 9 (high). Participants are asked to score themselves in comparison to "the most confident athlete they know" (e.g. compare the confidence you feel right now in your ability to execute the skills necessary to be successful to the most confident athlete you know). Previous research testing the use of the SSCI has reported good internal consistency, (r =0.95), and satisfactory concurrent validity, (r =0.64) (Vealey, 1986).

5.3.2.3 Basic Needs Satisfaction. The BNSSS (Ng, Lonsdale, & Hodge, 2011) comprises 20 items and measures athletes' perceptions of competence (e.g., I have the ability

to perform well in my sport), relatedness (e.g., there are people in my sport who care about me), and autonomy which is comprised of three categories, namely volition (e.g., I feel I participate in my sport willingly), choice (e.g., In my sport, I have a say in how things are done), and internal perceived locus of causality (e.g., In my sport, I feel I am pursuing goals that are my own). Participants are asked to respond using a Likert scale ranging from 1 (not at all true) to 7 (very true) (see Appendix 10). Previous studies utilising the measure have shown supportive evidence for both construct validity and reliability, with alpha coefficient showing high levels of reliability; autonomy ($\alpha = 0.83$), competence ($\alpha = 0.87$) and relatedness ($\alpha = 0.80$) (Ng, Lonsdale, & Hodge, 2011).

5.3.2.4 Coping. To measure coping skills, the Athletic Coping Skills Inventory-28 (ACSI-28: Smith, Schutz, Smoll, & Ptacek, 1995) was administered (see Appendix 9). The ASCI comprises 28 items with four items for each of the 7 subscales: coping with adversity (e.g., I maintain emotional control no matter how things are going for me), peaking under pressure (e.g., To me, pressure situations are challenges that I welcome), goal setting/mental preparation (e.g., I set my own performance goals for each practice), concentration (e.g., When I am playing sports I can focus my attention and block out distractions), freedom from worry (reversed scoring) (e.g., While competing, I worry about making mistakes or failing to come through), confidence and achievement motivation (e.g., I feel confident that I will play well) and coachability (e.g., If a coach criticizes or yells at me, I correct the mistake without getting upset). Participants are asked to indicate how often they experience the same thing as described on the inventory using a 4-point Likert scale where 0 represents "almost never" and 3 represents "almost always." Smith et al. (1995) reported sound test-retest validity (r=0.86) and reliability coefficients (r=0.86) for the measure in their research using the ACSI with athletes.

5.3.2.5 Performance. As the purpose of phase one was to preliminarily appraise the practicality of the super-strength intervention procedure and use of psychometric measures to capture changes, rather than solely to assess impact, only athletes' subjective performance scores were collected. A self-rating measure was used to collect athletes' perceived performance level, pre-intervention, post intervention, and at follow up. A 10 point Likert scale was used (cf. Butt, Weinberg, & Horn, 2003; Edwards & Hardy, 1996; Nicholls, Polman & Levy, 2010) and participants were asked to rate their current performance on two scales. The first scale was from 1 (much worse than usual) to 10 (much better than usual) and the second scale was 1 (worst it's ever been) and 10 (best it's ever been). The two scales were included with the intention of capturing performance rating in relation to athletes' normative performance as well as best performance.

5.3.2.6 Social Validation. Due to the lack of research targeting the delivery methods or benefits associated with strengths-based approaches in sport psychology, it was deemed necessary to obtain the subjective value by capturing individual responses of the participants after the intervention (cf. Reeves, Nicholls, & McKenna, 2011). This was achieved via social validation interviews in which participants were asked three main questions (adapted from Martin, Thomson, & Regehr, 2004): 1) To what extent do you think that identifying and developing your super-strengths is important?; 2) What do you think about the super-strengths intervention process you experienced?; 3) What do you think the outcome is/ results are from engaging with the super-strengths intervention?

5.3.3 Procedure. Upon ethical approval, all data were collected by the primary researcher (SP: Sport Psychologist). As per the sampling method (Patton, 2002), information about participation was sent to all participants with informed consent being sought prior to data being collected (see Appendix 5). All three athletes' coaches were briefed in full about the intervention procedure, what would be required from them (i.e., participation and co-

facilitation of all discussions) and the intended outcomes of the study. Baseline data were collected one week prior to the intervention commencing; all self-report measures were administered to athletes in person. In line with the previous two studies in this thesis, there were key phases of the approach, although they were adapted for the purpose of phase one and time/environment constraints. The intervention included: introduction, identification and contextualising (preparation), application, and monitoring/reviewing. All athlete interventions took place separately in the board room of the boxers' training facility and the SP, respective coach, and athlete were present for the full duration (approx. 3 hours). A follow-up was conducted with athletes three weeks after delivery of the intervention, whereby they were asked to complete the measures once more, and partake in a social validation interview with the SP.

5.3.3.1 Introduction. The purpose of the introduction was to outline the concept to the athletes and coaches and to discuss examples of how this might work for them, in order to emphasize the potential value of the approach. As the findings of study one alluded to, this provides an opportunity for the SP to "sell" the approach and to ensure that the intention and expected outcomes are understood by the athletes and coaches. The introduction was delivered at the start of the process using Microsoft PowerPoint slides (see appendix 12) and lasted for approximately 20 minutes.

5.3.3.2 Identifying and Contextualising. After the introduction to super-strengths, the next phase of the approach involved facilitation of discussions between the coach and athlete to try and identify the athlete's super-strength(s). A list of questions/probes that the SP/coach asked to spark discussion in this phase has been included in the Appendix (see Appendix 13). As indicated from the findings of study one, it was important at this stage to keep referring back to the definition of super-strengths to ensure consistency with the intention of the approach (i.e., it is utilising something they could aim to become world's best at, in a

performance context, to give them a competitive edge). Upon identification of the athlete's super-strength(s), the athlete and coach were required to agree the contextual boundaries for how they would use their super-strength(s) in competition. This was achieved by ensuring they could describe, behaviourally, what the super-strength looks like if used optimally, when overplayed, and when underplayed. In addition, athletes and coaches were asked to identify how super-strengths related to their general strengths and weaknesses and if there were any "boat sinkers", which were things that would nullify the development or application of their super-strengths in training/competition and thus need to be noted or addressed in subsequent plans. An example output from the information generated during discussions using this boat metaphor is included in the Appendix (see Appendix 14).

5.3.3.3 Application. In this phase of the approach, the main focus was on recording the plan for how their super-strengths will be applied in training and in competition, as well as the changes necessary for it to work best. For example if an athlete's super-strength related to their fitness, the involvement of the fitness coach would be agreed along with the plan for adapting the current training programme. Although the plan for application was achieved in the delivery of the intervention, participants were informed they would start actually implementing their plan for the next three weeks upon completion of the intervention session.

5.3.3.4 Monitoring and Reviewing. According to previous studies in the thesis, this part of the super-strengths intervention is critical to ensure that the athlete is benefitting from application of super-strengths and that their super-strength is still applicable in relation to the definition (i.e., that it remains a strategy for performance, it is utilising a potential world's best resource, and it has potential to provide them with a competitive edge in a performance context). In study one, it was suggested that the athletes' super strength(s) and development plans should be adapted accordingly, once the definition has been re-considered. The plan for how the athlete and coach would monitor and review super-strengths was achieved in this

session. However it should be noted that the actual implementation of the review was not captured due to the scope and time-frame of phase one of the intervention research.

5.3.3.5 Follow-up. Athletes completed self-report measures immediately after, and three weeks after facilitation of the intervention, in line with previous studies of a similar design (i.e., Evans et al., 2013). In addition to the measures being re-administered at follow-up, social validation was achieved by the SP conducting a structured interview with the athletes, adapted from previous research (Martin et al., 2004).

5.3.4 Data Analysis. The aims of the present study were to assess the practicality of delivering the super-strengths approach as an intervention, and administering of psychometric measures for detecting changes in engagement, confidence, coping skills and basic needs satisfaction, as well as a subjective performance rating, from pre-intervention to follow-up. To identify any changes between pre, post, and follow up, mean scores were calculated for each individual participant, for the four measures, and then plotted on linear graphs to allow for visual inspection, along with performance ratings. Social validation interviews were transcribed verbatim and thematically analysed using Braun and Clarke's (2006) six-step process (see study two for more detailed method).

5.4 Phase One: Results

5.4.1 Psychometric data and Performance. Descriptive statistics (i.e., means and difference scores) were calculated for each participant for the AEQ, BNSSS, SSCI, and ACSI and are illustrated in Table 1. Mean scores for individual participants are displayed for AEQ (Figure 5.1), BNSSS (Figure 5.2), SSCI (Figure 5.3), and ACSI (Figure 5.4). Participant 1 and 2's post-intervention and follow-up mean scores were higher than the pre-intervention scores, with a positive mean difference, across all measures. Participant 3's post-intervention and follow-up scores were lower than pre intervention for all measures, with a negative mean difference across time points. All participants' follow up scores for both usual performance

(Figure 5.5) and best performance (Figure 5.6) comparisons were higher than pre-intervention scores.

5.4.2 Social validation. It was intended that social validation interviews would add context to the psychometric and performance data collected, due to the small sample size, few data collected, and limited knowledge of strengths-based approaches. Generally, the social validation results highlighted that the psychometric data did not necessarily capture the perceived effects of the intervention for participant 3. However, participant 1 and 2's social validation supported/matched their statistical data. Specifically, six themes were generated from the raw data and are described in more detail under the three headings of the social validation questions. In addition raw data quotes are presented to provide context and enhance authenticity of the meaning generated (Roulston, 2010; Tracy, 2010).

5.4.2.1 The importance of super-strengths

5.4.2.1.1 Uniqueness. The concept of super-strengths, identifying and working on something that is based on ones' unique competencies, was viewed positively by all participants. To illustrate this, one participant suggested:

> It's good because it is individual so I'm working on my own thing, now you are not just going into a session and doing a theme that everyone else is doing, you are a different boxer to everyone else so it's good because you know what your thing is… I think everyone is different and everyone has different strengths so if you work on your own thing you are going to get better rather than working on the same as others all the time… your super-strength is just for you so it is only going to get you better (P1).

5.4.2.2 The super-strengths process

*5.4.2.2.1 Autonomy***.** All participants suggested that they enjoyed having something they were working on that they had been a part of agreeing and coming up with, alongside

their coach. It was suggested that the process allows for athletes to have involvement at all stages which helped with their awareness of expectations: "Because I have agreed it all, I know it and I know when I am doing it so I can change things myself and I am more aware of that now" (P2).

*5.4.2.2.2 Simplicity***.** All participants proposed that the process of super-strengths was simple and clear and that it simplified what they needed to do in training and performance:

> Taking it into my fight, it stuck in my memory because the tag was so simple and I could relate to it a lot**.** It was just simple and obvious like this is what I am good at, try to find where my optimum is for performance (P2).

Another participant reinforced feeling like the approach made their focus seem simple:

> When we narrowed it down it actually made it clear… I always knew it was a good attribute but it sort of made it clear, especially with the coaches' confirmation it made it clear that is the one thing I do really excel at in the ring (P3)

5.4.2.3 Outcomes of the intervention

*5.4.2.3.1 Engagement***.** Participants highlighted that upon identifying their super-strengths and subsequent development plan, they became more engaged day to day with their training sessions. Participants suggested that they felt more engaged with their goal immediately after the intervention session: "I felt great after the plan, I couldn't wait to start training and go try it out… I came out of there with a buzz and on a high ready to give it a proper go" (P2). Another participant reinforced feeling more engaged, as opposed to going through the motions:

> It has helped working on it in the gym, say if we are on the bags [coach] will say even if I am working on a theme with others [coach] will say to come back to working on my jab so that has helped me rather than just getting through the session (P1).

*5.4.2.3.2 Confidence***.** All participants highlighted confidence to be something they felt super-strengths influenced positively. Specifically they suggested this came from their own reflections of their capabilities and achievements, as well as the coaches highlighting their reflections on the athletes' abilities and strengths.

*Self-reflections***.** Super-strengths requiring participants to self-reflect on their ability and achievements seemingly had a positive influence on their confidence in the training environment. Participant 1 reflected: **"**I feel I am more confident now because I am working on my strength and I feel like it has already got better so I feel like it has helped". Participants who had competed post-intervention, prior to follow-up suggested that they felt more confident in competition as a result of super-strengths. Participant 3 suggested **"**I think I had more confidence going in there that yes I have that (super-strength) in my locker". Another reflection was that confidence is enhanced via through the questioning involved to identify super-strengths and that this made them feel more confident to compete: "When I looked back actually I was like yeah that's what won me this fight, and that's why I got selected for (National team), I am world class at my super-strength and that is a good feeling" (P2).

*Coach-reflections***.** All participants commented positively on the conversation between them and their coach, in identifying and agreeing the plan for developing their super-strength(s). In particular they suggested that hearing their coaches highlight what they thought they were great at was novel and that it was rare to discuss and plan for developing strengths: "It shows you what the coach thinks are your strengths and you don't really usually get one-to –one talks with coaches telling you what they think are your best strengths so yeah it was good" (P1). Another participant highlighted "it gave me confidence because the coach highlighted lots of things he thought I excelled at which was nice" (P3). Participant 2 reinforced the novelty of the concept of super-strengths:

> I think it's a good concept because it is nice to be reminded that I have something that is world class and that's what got me here in the first place, it's important to get reminded of that and hearing it from the coaches perspective it reinforces it for me then (P2).

5.4.2.3.3 Positive Performance Influence. Two of the three participants had competitions between the super-strengths intervention and the social validation follow-up. Both participants suggested that super-strengths had a positive influence on their performance in the ring. In particular, one participant suggested that having his super-strength in mind "helped to reassure" him and enabled him to "relax in the build up to the fight". Another participant suggested that his performance level increased post-intervention and that he had super-strengths in mind during competition:

> I have boxed recently and that was in my head, that I had that super-strength ready to use and it worked very well, considering I got introduced to super-strengths and then the first fight I had since, I boxed the best I have all season (P3).

Participant 1 did not compete during the intervention period but highlighted that they believed their performance in training had been influenced positively as a result of the super-strengths intervention: 'I feel like I have already got better at it in training so I feel like it has helped'.

Table 5.1 Individual participants' mean scores (pre, post, follow-up) and difference scores (pre-post, and pre-follow-up) for AEQ, BNSSS, SSCI, and ACSI

	Participant 1					**Participant 2**					**Participant 3**				
	Pre	**Post**	**Follow-Up**	**Pre-Post**	**Pre-Follow-Up**	**Pre**	**Post**	**Follow-Up**	**Pre-Post**	**Pre-Follow-Up**	**Pre**	**Post**	**Follow-Up**	**Pre-Post**	**Pre-Follow-Up**
	M			Difference		*M*			Difference		*M*			Difference	
AEQ	4.625	4.688	5.000	0.063	0.375	4.438	5.000	5.000	0.563	0.563	3.313	3.250	3.250	-0.063	-0.063
BNSSS	5.750	6.550	6.550	0.800	0.800	6.500	6.750	6.550	0.250	0.050	4.400	4.300	4.300	-0.100	-0.100
SSCI	7.460	8.769	8.769	1.309	1.309	7.692	8.846	8.308	1.154	0.616	6.077	6.000	5.690	-0.077	-0.387
ACSI	1.536	2.143	2.179	0.607	0.643	1.786	1.893	0.107	0.107	-1.679	1.250	1.000	1.107	-0.250	-0.143

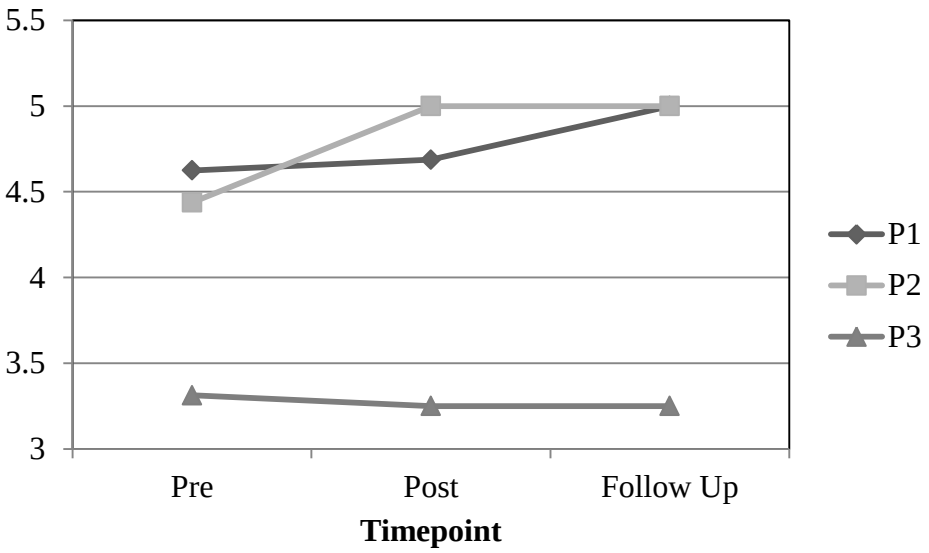


Figure 5.1 Individual participants' mean scores across pre, post and follow-up phases for the AEQ

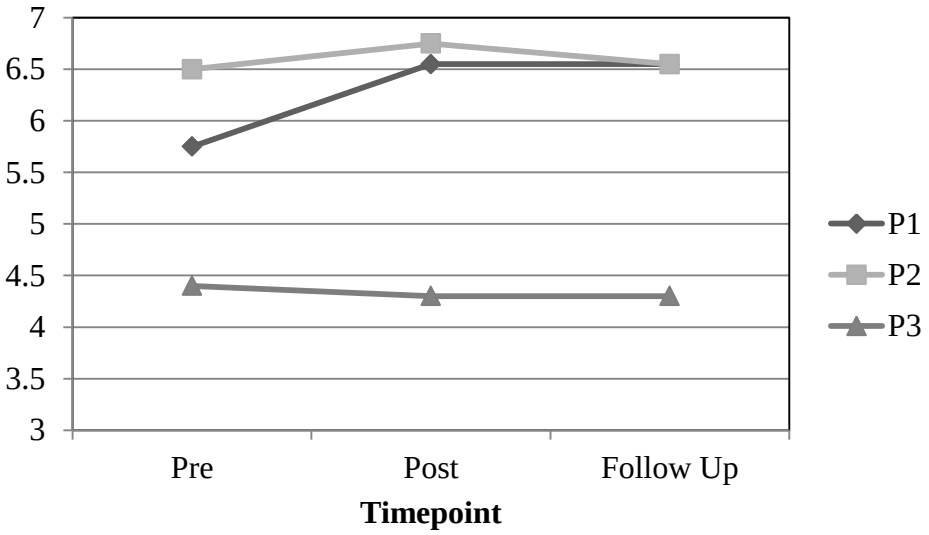


Figure 5.2 Individual participants' mean scores across pre, post and follow-up phases for the BNSSS

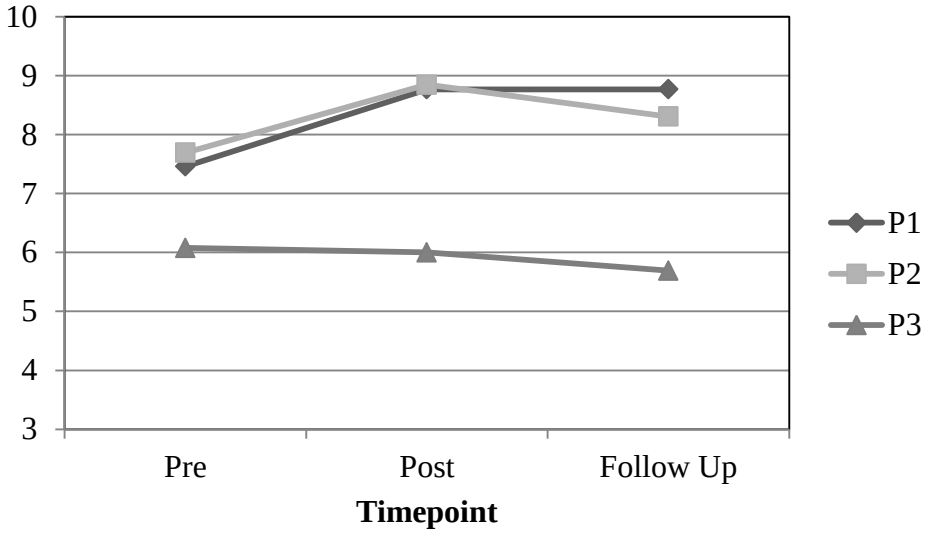


Figure 5.3 Individual participants' mean scores across pre, post and follow-up phases for the SSCI

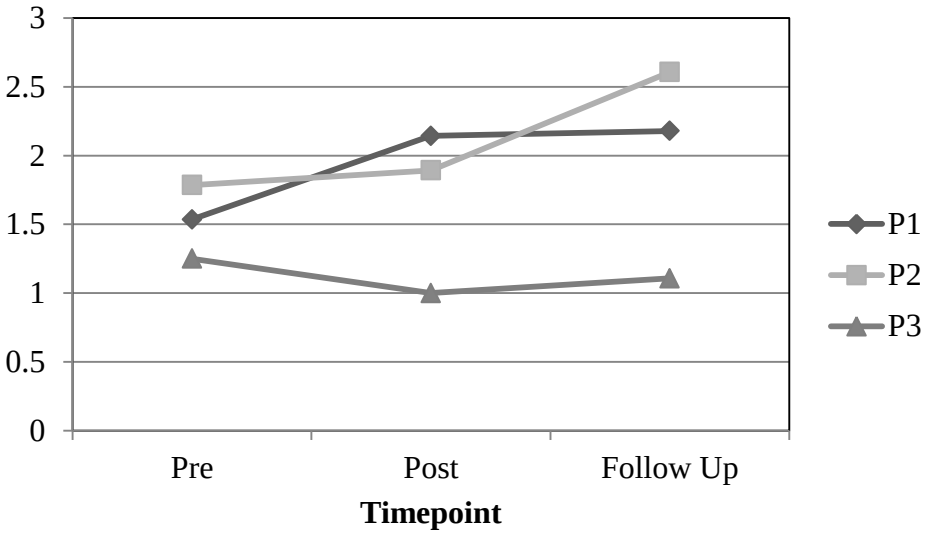


Figure 5.4 Individual participants' mean scores across pre, post and follow-up phases for the ACSI

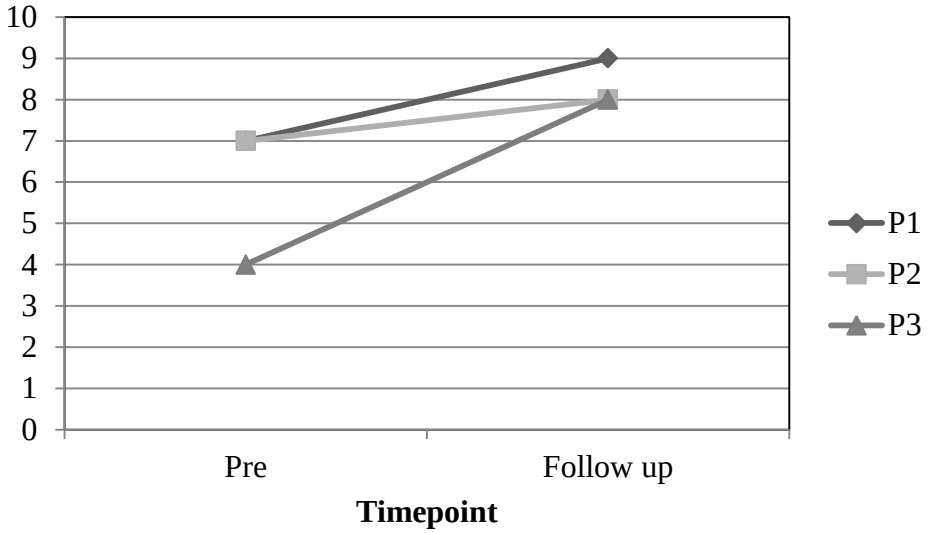


Figure 5.5 Individual participants' (usual) performance scores pre-intervention and at follow-up

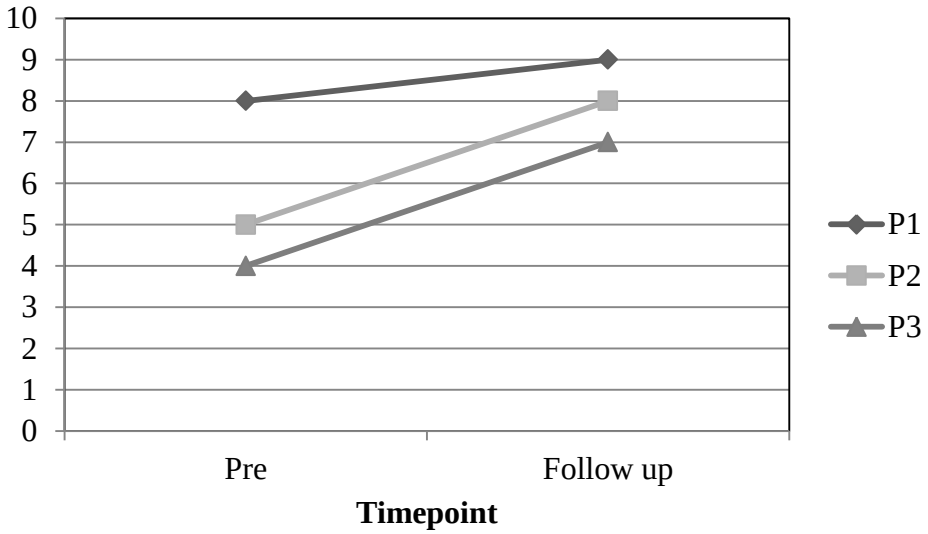


Figure 5.6 Individual participants' (best) performance scores across pre-intervention and at follow-up

5.5 Phase one: Key findings and Learning Points

5.5.1 Psychological Measures. Results highlighted that two of the three participants' scores were higher post-intervention for confidence, engagement, coping skills and basic needs satisfaction, whilst the other participant's scores remained similar or were lower post-intervention. Interestingly, P3 whose results did not indicate an increase in any of the psychological constructs via the measures administered, proposed via social validation that super-strengths allowed him to gain clarity about his way to win, gave him confidence going into his recent competition, and that he boxed the best he had all season after engaging with the super-strengths intervention. During the social validation interview he explained that a couple of days prior to the super-strengths intervention commencing, he was told he would not be selected for the upcoming Olympic qualifier and that his competitor on the squad would be going instead of him. He also suggested that he filled out the measures whilst in the gym, watching other people train that he knew had been selected for the Olympic qualifier, and that this didn't help! This information, coupled with the discrepancy between psychometric and social validation results, highlights the importance of study design if future research is to assess the impact of super-strengths. There is a need to consider the timing and physical environment when participants are required to consider the extent of their psychological characteristics, especially when using measures to monitor or evaluate impact. It should be noted that the purpose of the present study was to investigate the practicality of the procedures involved in delivering super-strengths, and assess whether psychometric measures could be used to capture changes in psychology. Thus in relation to the study purpose, there is definitely potential to employ measures, such as those included in phase one, to monitor the effects of super-strengths on psychological constructs. However, it would be suggested that measures should be administered in a more controlled environment and at multiple time points within all intervention phases (cf. Barker et al., 2013) to account for

changes in athletes' emotions or situation. Furthermore, the value and importance of social validation should not be over-looked, as this could be instrumental to provide context and a more in depth understanding of the results of the intervention (Page & Thelwell, 2013), especially given the lack of knowledge on strengths-based approaches and the mechanisms underpinning them, in sport.

Although there was no positive influence on the psychological constructs for Participant 3, two athletes scored higher on all measures post-intervention and at follow-up, and supported the legitimacy of the scores in their social validation interviews. Again, in relation to the study aims, this suggests that psychometric measures have potential to be used in the evaluation of strengths-based approaches. Though, due to the design of the study, assertions of impact or reference to the effects of the intervention delivered in the present study are limited. In contrast, typically research studies aimed to assess novel methods and interventions on sport psychology have included a single-subject, multiple baseline design as they allow for participants to act as their own control and capturing multiple data points strengthens inference of effect (Barker et al., 2013). Thus, single case research studies in this area are encouraged, in order to assess the impact of strengths-based approaches in a more robust manner. Nonetheless, the present study offers new insight into the practicality of delivering and evaluating strengths-based interventions sport.

One of the most prevalent findings across participants in the present study was the reported increase in confidence. Two of the three participants' mean scores on the SSCI increased post-intervention and at follow-up, and all three participants reported feeling more confident after engaging with super-strengths. This finding supports previous research in sport psychology that has indicated that developing athletes' signature strengths could be a potential method for developing robust sport-confidence (Beaumont et al., 2015). This finding is important for practitioners in sport psychology, as methods for applying strengths-

based approaches in practice are scarce, yet evidently there are growing suggestions that confidence can be impacted through such methods. Although it is appreciated that there are many factors that can influence an athlete's confidence, it is one of the most commonly cited desirable psychological characteristics for succeeding in elite sport (i.e., Gould et al., 2002). This highlights a gap in knowledge in an area that can seemingly have positive effects on a highly desirable psychological construct. Thus it is proposed there is a need for research to further explore strengths-based approaches as a way of enhancing confidence.

As outlined in the results, participants spoke positively about the discussions they had with their coach throughout the super-strengths process. Interestingly, participants suggested that one-to-one meetings, especially where coaches' highlight their strengths or the best things about them, were not something they were used to. This has previously been referred to in strengths-based research in sport; players in Gordon and Gucciardi's (2011) research into a strengths-based approach for developing mental toughness indicated they were not familiar with having discussions about their strengths. Consequently, Gordon and Gucciardi encouraged others in the discipline to explore the potential of strengths-based approaches, however judging by the lack of documented approaches, as yet this has been to little avail. By nature, strengths-based approaches underpinned by positive psychology focus on emphasising clients' competence (cf. Seligman & Csikzmentihalyi, 2000) and thus satisfy a basic need, further encouraging self-determination (Ryan & Deci, 2000). It would be argued that increasing an athlete's self-determination would be beneficial in any sport due to the positive associations with doing so, for example increased adherence to programmes (cf. Hagger & Chatzisarantis, 2007). Therefore we support Gordon and Gucciardi's recommendation for future research to continue exploring strengths-based approaches in sport psychology.

In line with basic needs satisfaction, autonomy of having input into their plans for development and training was something that was cited to have a positive impact on athletes' satisfaction in the present study. In addition, during social validation with participant 3 when discussing his perceptions of the impact of not being selected for the Olympic qualifier, he reported feeling unhappy about not being able to have a say in the matter or justify why he thought he should be selected. It has been suggested that athletes who perceive a lack of autonomy about decisions made about their sport are more susceptible to feeling emotionally and physically exhausted (Adie, Duda, & Ntoumanis, 2008). Similarly, the present study findings suggest athletes were lifted after having discussions to co-agree and co-create their plans for training and competition. Taken together, these findings indicate the importance of a coach-created, autonomy-supportive environment, something that has previously been encouraged in the literature (Adie et al., 2008; Black & Deci, 2000), and offer initial evidence to suggest that super-strengths can facilitate basic needs satisfaction and thus enhance athletes' self-determination.

5.5.2 Performance. Participants' performance ratings, from pre intervention to follow-up, indicated improvements across the sample. Additionally, social validation revealed all participants thought that super-strengths had a positive influence on their performance in training and/or competition. These results support findings from study two of the thesis (Chapter IV) where athletes who had previously experienced a super-strengths approach believed their performance was positively influenced as a result. Specifically, it was proposed that athletes perceived super-strengths to positively influence psychological characteristics (i.e., confidence and engagement), which in turn generated performance improvements. The results of the social validation from the present study would support this; athletes reported having greater clarity in their goals and way to win, greater confidence in general and specifically in their ability to compete, and had greater purpose/engagement in

the gym during training sessions, which they felt helped their performance in training and/or competition. The psychometric findings supported this notion for two of the three participants, although there was no objective data collected or triangulation procedures for capturing changes in performance, as only two of the boxers had upcoming competitions between intervention and follow-up. It would be recommended that future research evaluating the effects of strength-based approaches should include an objective performance measure, relevant to the goals and KPIs of each individual athlete/sport. In addition, it would be useful to capture coaches' perceptions of athletes' performance as another method of evaluating performance.

5.5.3 Applied Implications. As strengths-based approaches in sport are scarcely documented, the present study findings have many implications for applied practitioners. Due to super-strengths being in its infancy as an approach, it is appreciated that practitioners might not be familiar enough with the approach to replicate it as an intervention. However some of the processes comprising the approach, as detailed in the present study could be beneficial to those working in applied practice in sport. Although the present study has limitations, the findings even from an initial, small scale super-strengths intervention indicate the potential for positively influencing desirable psychological characteristics and performance. Specifically, participants discussed how nice it was to have discussions about what they are good at, for a change, and suggested they took a lot of confidence and positivity from the coach identifying and discussing their best attributes. This has implications for sport psychology practitioners if they can influence confidence and engagement through such a simple intervention method as facilitating strengths-based discussions. It is encouraged that practitioners reflect and consider to what extent competence-related, and autonomy-supportive discussions are taking place for athletes. This is something that could potentially be overlooked, especially in elite sport where performance

demands and key stakeholders' stress levels are high (cf. Fletcher et al., 2006). Specifically for super-strengths, the findings of the present study highlight that ensuring plans are co-created and agreed by the athlete and coach together is paramount for satisfying basic needs, but also for ensuring they are on the same page when it comes to putting the development plan in place, and for the monitoring and reviewing of these.

Another implication for practitioners looking to adopt a super-strengths approach in practice is considering the timing of the intervention. In the present study, one of the participants was experiencing a difficult time in his sport, as he was unsuccessful in being selected for the initial Olympic Games qualification tournament. This inevitably had a psychological impact which the participant cited to be negative, and the results of the measures employed reflected this for him. On the other hand, during social validation he reported greater levels of positivity, confidence and performance, post-intervention, thus suggesting that strengths-based approaches have potential to be useful during difficult times for athletes. It is suggested this is due to the facilitation of competence-based discussions and subsequent training and performance plans that involve emphasizing and maximizing the athletes' greatest attributes. Thus, practitioners could explore the potential of strengths-based approaches for keeping an athlete on track, avoid dropout, or to aid confidence and engagement during difficult or testing times in their sporting careers (e.g., Lavallee, 2005).

5.5.4 Limitations and Recommendations for Future Research. Phase one has offered new insight for sport psychology researchers and practitioners in the delivery and evaluation of a novel strengths-based approach. Although, as alluded to, there are certain limitations of the study that limit the implications or generalizability of the findings. First, the inclusion of a small sample, from the same sport limits the application of the findings to other sports, as the environment and context in amateur boxing will undoubtedly be unique to that setting. Nonetheless, the findings from the study highlighted considerations for delivering

and evaluating a super-strengths intervention that would be beneficial and relevant in any sporting context. Nonetheless, future research employing strengths-based approaches in other sport settings is encouraged to expand the current limited knowledge base. Second, as discussed, the lack of data points for psychometric measures and triangulation of performance measures, limits the ability to infer that the positive changes noticed by athletes were solely as a result of the super-strengths intervention. Future research (i.e., phase two) should aim to employ measures at multiple time points (Barker et al., 2013) and obtain coaches' subjective ratings of performance as well as athletes, along with an objective measure of performance. Finally, the present study did not necessarily capture the super-strengths approach in its entirety; the time frame meant that athletes /coaches did not have sufficient time to make all of the adaptations included in their super-strengths development plan, or conduct some of the monitoring/reviewing strategies discussed. Thus it is suggested that knowledge of the super-strengths process would be strengthened if future studies were more longitudinal in nature, considering athletes' competition calendar to enable full implementation of the application phase, and an objective evaluation of performance was included.

5.5.5 Phase One: Conclusions. Phase one aimed to preliminarily investigate the practicality of delivering a super-strengths approach in elite sport, using the knowledge generated by the previous two studies of this thesis. In response to the study aims, the delivery of super-strengths using the conceptual pathway generated was achieved with three elite athletes, and three different coaches within an elite sport context, and findings suggest it was generally well received across the sample. In terms of evaluation, it is proposed that psychometric measures can be employed to detect changes in confidence, engagement, basic needs satisfaction and coping skills between pre and post-super-strengths intervention. However social validation was an integral addition to support/provide context to the numbers

gathered, to paint a more comprehensive picture. There are key considerations to be made when delivering super-strengths in practice, to ensure that the process is successful, for example ensuring that super-strengths and subsequent plans for development are co-created by coach and athlete together, and that this process is autonomy-supportive for athletes. The findings are novel to the sport psychology discipline and offer new recommendations for practitioners looking to deliver and evaluate strengths-based approaches in an applied context. However, further exploration is needed and future research addressing the limitations of the present study design; employing a more robust, single-case, multiple baseline design would be encouraged. Finally, it is hoped that the findings of the present study indicate the benefits of adopting a strengths-based development approach in practice and will encourage sport psychologists to begin to bridge the vast gap in knowledge in this area.

Phase Two: Evaluating a Super-Strengths Intervention in Elite Sport

6.1 Refinements from Phase One

The aim of phase one was to preliminary investigate the practicality of the methods for delivering and evaluating super-strengths, with the intention of informing the method and evaluation procedures to be adopted in phase two. Findings from phase one highlighted that athletes perceived the approach to be helpful for enhancing their mind-set and performance, however there were several additions/reiterations of the intervention suggested for phase two.

- The need for coaches' to give a subjective rating of performance, not just athletes; the need for a more objective performance measure, relative to the athletes' role/situation in their sport, in addition to the subjective performance rating
- The need for increased data points/administering of psychometric measures (not just once) post super-strengths, and the potential for a follow-up data collection point to be added
- The need for social validation interviews to be conducted and the suggestion they are integral for gaining context and understanding of super-strengths
- The need to keep reminding participants of the super-strengths definition and ensure they are giving themselves the best chance of impacting performance as well as psychology
- The questions used when identifying super-strengths to be narrowed down and a more succinct list of questions to be adopted.

As the application of super-strengths or the evaluation of a strengths-based approach has not yet featured in sport psychology research, the recommendations from phase one primarily guided the design of phase two. However, it should be noted that the design of phase one was informed by studies one and two of the thesis, as well as recommendations from other strengths-based research underpinned by positive psychology (i.e., Biswas-Diener et al., 2011; Gordon & Gucciardi, 2011). Similarly, phase two was designed with the recommendations from both single-case research and strengths-based psychology studies in mind.

6.2 Phase two: Study Purpose and design

The intention of phase two was to evaluate the efficacy of delivering a full super-strengths intervention for enhancing elite athletes' psychology and performance in the context of their sport. When evaluating the effects of a novel intervention, it has been suggested that single-case research is well-suited (Barker et al., 2013). Specifically, a single-case design, with multiple baseline and multiple data collection points throughout the intervention, would allow for the identification of subtle changes in individuals' cognitions, emotions, and behaviours that might go unnoticed if an alternative/group design was adopted (Barker et al., 2013). As the intention of the present study was to further develop understanding of the delivery and evaluation of super-strengths, with a particular focus on any changes to athletes' psychological characteristics, the suitability of a single-case design was apparent. It was hypothesized that athletes' mean psychometric scores and individual measures of performance would be higher throughout the intervention phase than in the baseline phase.

6.3 Phase two: Method

6.3.1 Participants. A single-case, multiple baseline research design was adopted with male, elite athletes, in the UK (*M*age = 25.30, *SD* = 2.95). Participants (N=3) were

purposively sampled (Patton, 2002) and had a total of 18 years' experience in elite sport (*M*= 6.10, *SD*= 2.78). Participants were recruited via contacting sport psychology practitioners and/or coaches who were currently or had previously experienced working in elite sport in the UK. Further, practitioners/coaches were informed that athletes recommended by them must have had no previous experience of a super-strengths intervention either individually or in their team. Four participants were originally included in the sample, however due to deselection from competition during the super-strengths application phase participant 4's data was not included. To ensure consistency, recruitment eligibility was based on the previous studies of this thesis and the criteria for inclusion were that participants held current elite status. Elite status was defined in line with previous research; all participants were national squad members, performing at the highest level in their sport (Hanton, Fletcher, & Coughlan, 2005).

6.3.2 Dependent Variables (Measures)

Psychometric measures were selected in line with the findings from study two and phase one of the super-strengths intervention research. Performance measures were agreed with the athletes and coaches included in the sample, to ensure that meaningful changes in performance were detected.

6.3.2.1 Engagement. Engagement was measured by administering the Athlete Engagement Questionnaire (AEQ: Lonsdale, Hodge, & Jackson, 2007) which comprises sixteen items to measure four dimensions of engagement (see Appendix 7). Specifically, the dimensions are confidence (e.g., I believe I am capable of accomplishing my goals in sport), vigour (e.g., I feel energized when I participate in my sport), dedication (e.g., I am dedicated to achieving my goals in sport), and enthusiasm (e.g., I feel excited about my sport). Participants were asked to indicate how often they have felt engaged in relation to their sport so far this season using a 5-point Likert scale, ranging from 1 (almost never) to 5 (almost

always). The validity of the factors included in the measure has been previously tested and indicated satisfactory reliability coefficients (α = .84–.89) (Lonsdale, Hodge, & Jackson, 2007).

6.3.2.2 Confidence. Vealey's (1986) State Sport Confidence Inventory (SSCI) was used to measure athletes' confidence within the context of their sport (see Appendix 8). The SSCI includes 13 items asking participants to rate their current level of confidence using a 9-point Likert scale ranging from 1 (low) to 9 (high). Participants are asked to score themselves in comparison to "the most confident athlete they know" (e.g., compare the confidence you feel right now in your ability to execute the skills necessary to be successful to the most confident athlete you know). Previous research testing the use of the SSCI has reported good internal consistency, (r =0.95), and satisfactory concurrent validity, (r =0.64) (Vealey, 1986).

6.3.2.3 Basic Needs Satisfaction. The BNSSS (Ng, Lonsdale, & Hodge, 2011) comprises 20 items and measures athletes' perceptions of competence (e.g., I have the ability to perform well in my sport), relatedness (e.g., there are people in my sport who care about me), and autonomy which is comprised of three categories, namely volition (e.g., I feel I participate in my sport willingly), choice (e.g., In my sport, I have a say in how things are done), and internal perceived locus of causality (e.g., In my sport, I feel I am pursuing goals that are my own). Participants are asked to respond using a Likert scale ranging from 1 (not at all true) to 7 (very true) (see Appendix 10). Previous studies utilising the measure have shown supportive evidence for both construct validity and reliability, with alpha coefficient showing high levels of reliability; autonomy (α = 0.83), competence (α = 0.87) and relatedness (α = 0.80) (Ng, Lonsdale & Hodge, 2011).

6.3.2.4 Coping. To measure coping skills, the Athletic Coping Skills Inventory-28 (ACSI-28: Smith, Schutz, Smoll, & Ptacek, 1995) was administered (see Appendix 9). The ASCI comprises 28 items with four items for each of the 7 subscales: coping with adversity

(e.g., I maintain emotional control no matter how things are going for me), peaking under pressure (e.g., To me, pressure situations are challenges that I welcome), goal setting/mental preparation (e.g., I set my own performance goals for each practice), concentration (e.g., When I am playing sports I can focus my attention and block out distractions), freedom from worry (reversed scoring) (e.g., While competing, I worry about making mistakes or failing to come through), confidence and achievement motivation (e.g., I feel confident that I will play well) and coachability (e.g., If a coach criticizes or yells at me, I correct the mistake without getting upset). Participants are asked to indicate how often they experience the same thing as described on the inventory using a 4-point Likert scale where 0 represents "almost never" and 3 represents "almost always." Smith et al. (1995) reported sound test-retest validity (r=0.86) and reliability coefficients (*r*=0.86) for the measure in their research using the ACSI with athletes.

6.3.2.5 Performance. It has previously been suggested that when adopting a single-case research design, it is optimal where possible to triangulate outcomes (Barker et al., 2013). Furthermore, phase one of the super-strengths intervention research highlighted the need to capture coaches' subjective ratings as well as objective measures of performance to triangulate the findings. Thus the present study included three measures of athlete performance: athletes' subjective ratings of performance, coaches' subjective ratings of athletes' performance, and a specific, objective performance measure relative to the athletes' sport.

A subjective self-rating performance measure was used to indicate athletes' performance levels across time points. A 10 point Likert scale was used (cf. Butt, Weinberg, & Horn, 2003; Edwards & Hardy, 1996; Nicholls, Polman, & Levy, 2010) and participants were asked to rate their current performance on two scales. The first scale was from 1 (much worse than usual) to 10 (much better than usual) and the second scale was 1 (worst it's ever

been) and 10 (best it's ever been). The two scales were included with the intention of capturing performance ratings in relation to athletes' normative performance, as well as best performance (see Appendix 11). Coaches were also asked to complete the same measure, rating athletes' performance at baseline, post-intervention, and at follow up. In addition to the subjective measures, an objective performance measure was agreed between the coach and athlete that would represent level of performance in their sport. This measure was agreed during the intervention, when the context and application of super-strengths had been comprehended. The agreed measures were outcome or performance based and differed depending on upcoming competitions and the super-strengths identified. Specifically, the agreed performance measures were: finishing position in the next major competition (Shooter), statistics for key passes and involvement in goals (Footballer), and runs scored and strike rate when batting (Cricketer) (see Appendix 17).

6.3.2.6 Social Validation. Obtaining participants' subjective responses for social validation in single-subject design research has been highlighted as important for enhancing understanding of results (Page & Thelwell, 2013). Thus, it was deemed necessary to obtain the subjective value of the super-strengths intervention by capturing individual responses of the participants after the intervention (cf. Reeves, Nicholls, & McKenna, 2011). To obtain this social validation information, a semi-structured interview was conducted with each participant, and focused on the following three main areas (cf. Martin, Thomson, & Regehr, 2004): a) the concept, procedure and phases of the super-strength intervention; b) the perceived effects and value of the approach; c) improvements/ uses of the approach for the future.

6.3.3 Procedure. Upon gaining institutional ethics approval, all data was collected by the primary researcher/sport psychologist (SP). Information about participation was sent to all participants with informed consent being sought prior to data being collected. All three

athletes' coaches were briefed in full about the intervention procedure, what would be required from them (i.e., participation and co-facilitation of all discussions), and the intended outcomes of the study. Baseline data were collected prior to the intervention commencing. It has previously been suggested that single-case research should aim to have a minimum of three baseline data collections which was achieved across the sample (Barlow & Hersen, 1984). In line with the findings from study one of the thesis, there were key phases to the approach (see Appendix 6 for overview of conceptual pathway for the super-strengths approach). The intervention included: introduction, preparation (identification and contextualising), application, and monitoring/reviewing. As per the findings from studies one and two, the SP was involved in the introduction and preparation phases for all participants to facilitate discussion between athlete and coach. Initial introduction sessions and preparation sessions took place in an appropriate board room/space at a venue convenient for participants and their coaches (i.e., home training or competition facility). The SP, respective coach, and athlete were present for the full duration of the introduction and preparation phase. All psychometric measures were administered after this phase had occurred and then twice more during the application phase. The application phase involved the athletes applying the super-strengths development plan in their training environment leading into and eventually in competition, thus the SP was not present for this phase. Measures were administered to athletes via their coach and/or sport psychologist. Previous literature has stated that where possible researchers should endeavour to conduct a follow-up or maintenance check when employing single-case designs (Barker et al., 2013). Therefore psychometric and subjective performance measures were collected a further three times after the intervention period had ceased. Athletes were also required to partake in a social validation interview with the SP at this stage.

6.3.3.1 Introduction. The purpose of the introduction was to outline the concept of super-strengths to the athletes and coaches and to discuss examples of how this might work for them, in order to emphasize the potential value of the approach. As alluded to in study one of the thesis, this process provides an opportunity for the SP to "sell" the approach and to ensure that the intention and expected outcomes are understood by the athletes and coaches. The introduction was delivered at the start of the process using Microsoft PowerPoint slides (see appendix 12) and lasted for approximately 20 minutes.

6.3.3.2 Identifying and Contextualizing. After the introduction to super-strengths, the next phase of the approach involved facilitation of discussions between the coach and athlete to try and identify the athlete's super-strength(s). As highlighted by the findings of study one, it was important at this stage to keep referring back to the definition of super-strengths to ensure consistency with the intention of the approach (i.e., it is utilising something they could aim to become world's best at, in a performance context, to give them a competitive edge). Upon identification of the athlete's super-strength(s), the athlete and coach were required to agree the contextual boundaries for how they would use their super-strength(s) in competition. This was achieved by ensuring they could describe, in behavioural terms, what the super-strength would look like if used optimally, when overplayed, and when underplayed. In addition, athletes and coaches were asked to identify how super-strengths related to their general strengths and weaknesses and if there were any "boat sinkers", which were things that would nullify the development or application of their super-strengths in training/competition and thus need to be noted or addressed in subsequent plans. An example output from the information generated during discussions using this boat metaphor is included in the Appendix (see Appendix 14).

6.3.3.3 Application. In this phase of the approach, the main focus was on recording the plan for how athletes' super-strengths would be applied in training and in competition, as

well as the changes necessary for it to work best. For example if an athlete's super-strength related to their fitness, the involvement of the fitness coach would be agreed along with the plan for adapting the current training programme. Although the plan for application was achieved in the delivery of the intervention, participants were informed they would start actually implementing their plan upon completion of the preparation phase. The application phase was minimum eight weeks in duration, however as interventions were tailored for individual sport contexts, this differed slightly for each participant (cf. Neil, Hanton, & Mellalieu, 2013). As there is no previous literature on the recommended duration of a super-strengths application phase, this was agreed based on the aim of the present study, to accommodate three athletes from different sports. Specifically, upcoming competition calendars for each individual athlete were considered to ensure there would be sufficient time to develop the plan generated from the initial intervention, integrate this into the sport setting, and also an opportunity to measure their performance in competition.

6.3.3.4 Monitoring and Reviewing. According to the findings of studies one and two of the thesis, this element of the super-strengths intervention is critical to ensure that the athlete is benefitting from application of super-strengths and that their super-strength is still applicable in relation to the definition (i.e., that it remains a strategy for performance, it is utilising a potential world's best resource, and it has potential to provide them with a competitive edge in a performance context) (see Appendix 6). Results of study one suggested that the athletes' super strength(s) and development plans should be adapted accordingly, once the definition has been re-considered. The plan for how the athlete and coach would monitor and review super-strengths was achieved in the preparation session, and was employed by the coaches/athlete throughout the super-strengths intervention phases.

6.3.3.5 Follow-up. As recommended from phase one findings, and in line with previous single-case research (cf. Page & Thelwell, 2013), social validation was deemed to

be essential for providing context and enhancing understanding of the quantitative measures employed. Therefore, after completion of the super-strengths intervention, participants completed a semi-structured social validation interview with the SP. In addition, although not included in previous super-strengths research or aims of the present study, it was decided that re-administering the self-report measures to participants at this follow-up stage would provide further insight into the results of super-strengths. Thus, athletes completed all self-report measures (psychometric and performance) three times over a period of three months after the intervention (i.e., Neil et al, 2013).

6.3.4 Data Analysis. Based on the findings of study two, the aim of this intervention research was to capture any differences in athletes' confidence, coping skills, basic needs satisfaction, and performance from pre to post super-strengths intervention. In line with previous single-case design research (i.e., Slack et al., 2015), three main methods were employed to interpret the data collected; scores for psychometric data were plotted for visual inspection, descriptive statistics including means, mean difference scores, and percentage of non-overlapping data points were calculated, and qualitative data from social validation interviews were thematically analysed (Braun & Clarke, 2006). The strategy to detect whether an experiment effect had occurred, via graphic inspection, was informed by Hrycaiko and Martin's (1996) suggestions. Specifically, Hrycaiko and Martin proposed that confidence in the effectiveness of an intervention is greater when the following assumptions are satisfied via visual inspection: a) baseline is stable or opposite to the direction expected for the intervention; b) an immediate effect occurs following the intervention; c) the effect (change in mean score) is noticeable after the intervention, in comparison with stable baseline score; d) there is replication of the effect across participants (where increased consistency indicates experimental effect); e) there are few overlapping data points between pre and post

intervention (where less overlapping points indicates greater effectiveness of the intervention); f) results are consistent with existent data and/or theory.

To interpret the data, means and mean difference scores were tabulated for the results from the AEQ, BNSSS, SSCI, ACSI, and subjective performance ratings. Percentage of non-overlapping data points (PND) was used as a method to determine effect size. PND (Scruggs, Mastropieri, & Casto, 1987) has been extensively used in recent single-case research in sport psychology (e.g. Slack et al., 2015) and involves calculating the of number of data points in the intervention phase greater than the highest score in the baseline phase, and then the proportion of non-overlapping data points to intervention points. Scruggs and Mastropieri (2001) proposed that PND calculations of 90-100% would indicate high experimental effect, 70-90% indicates moderate experimental effect, 50-70% indicates minimal effect, and anything less than 50% would be deemed in-effective.

Finally, thematic analysis procedures (Braun & Clarke, 2006) were undertaken to interpret the social validation data. This six-step process involved familiarization with the data, generating initial data codes, searching for themes in the data, reviewing the themes, naming and defining the themes, and writing up the results. Inclusion of raw data quotes have been included in the text to enhance context for the reader, and authenticity of the meaning generated (Roulston, 2010; Tracy, 2010).

6.4 Phase two: Results

6.4.1 Psychometric data. Individual participants' descriptive statistics (i.e., means, mean difference scores, and number of non-overlapping data points) for the AEQ, BNSSS, SSCI, and ACSI are illustrated in Tables 6.1, 6.2, and 6.3. Mean scores for individual participants have been plotted for AEQ (Figure 6.1), BNSSS (Figure 6.2), SSCI (Figure 6.3), and ACSI (Figure 6.4). It should be noted that participant 2's follow-up measures were removed from the data set as he sustained an injury during the follow-up phase and was not

in training/competition; thus follow-up data was deemed irrelevant in relation to the study aims.

6.4.1.1 Athlete Engagement. Mean scores, throughout the intervention phase, were higher than baseline for two participants (see tables 6.1, 6.2, 6.3; figures 6.1, 6.2, 6.3, 6.4). Participant 1 scored the highest score possible on the measure throughout baseline, intervention, and follow-up therefore no change was detected. Participant 2 reported a positive change of 0.15 with all three non-overlapping data points (PND score of 100%; high experimental effect) in the intervention phase. Participant 3 had a positive change of 0.35 and three non-overlapping data points during the intervention phase, and 0.39 and three non-overlapping data points at follow-up (PND score of 100%; high experimental effect).

6.4.1.2 Basic Needs Satisfaction. All intervention scores were higher than the baseline scores, across participants for the BNSSS (see tables 6.1, 6.2, 6.3; figures 6.1, 6.2, 6.3, 6.4). Participant 1 reported a positive change of 0.3 and three non-overlapping data points in the intervention phase, and a higher difference score of 0.48 and three non-overlapping data points at follow-up (PND score of 100%; high experimental effect). Participant 2 reported a positive change of 0.15 with all 3 non-overlapping data points (PND score of 100%; high experimental effect) in intervention phase. Participant 3 had a positive change of 0.17 and three non-overlapping data points in intervention phase, and 0.3 and three non-overlapping data points at follow up (PND score of 100%; high experimental effect).

6.4.1.3 State Sport Confidence. A positive change was detected via the SSCI for all participants after initiating the intervention; all participants' intervention scores were higher than the baseline scores (see tables 6.1, 6.2, 6.3; figures 6.1, 6.2, 6.3, 6.4). Participant 1 reported a positive change of 0.92 and three non-overlapping data points in the intervention

Table 6.1 Participant 1 means (*M)*, mean difference scores (*MD*) (pre-post initiation of super-strengths and pre-follow up), and percentage of non-overlapping data points (PND) for the AEQ, BNSSS, SSCI, and ACSI

Participant 1

	Pre	**Post**	**Follow-Up**	**Pre to Post**		**Pre to Follow-up**	
	M			*MD*	PND	*MD*	PND
AEQ	5	5	5	0	0%	0	0%
BNSSS	6.12	6.42	6.6	0.30	100%	0.48	100%
SSCI	7.56	8.49	8.69	0.92	100%	1.13	100%
ACSI	2.43	2.63	2.74	0.20	100%	0.31	100%

Table 6.2 Participant 2 means (*M*), mean difference scores (*MD*) (pre and post initiation of super-strengths intervention), and percentage of non-overlapping data points (PND) for the AEQ, BNSSS, SSCI, and ACSI

Participant 2

	Pre	**Post**	**Pre to Post**	
	M		*MD*	PND
AEQ	3.71	3.85	0.15	100%
BNSSS	5.97	6.12	0.15	100%
SSCI	5.16	5.51	0.35	100%
ACSI	1.52	1.67	0.14	100%

Table 6.3 Participant 3 means (*M*), mean difference scores (*MD*) (pre-post initiation of super-strengths and pre-follow up), and percentage of non-overlapping data points (PND) for the AEQ, BNSSS, SSCI, and ACSI

Participant 3

	Pre	**Post**	**Follow-Up**	**Pre to Post**		**Pre to Follow-up**	
	M			*MD*	PND	*MD*	PND
AEQ	5.16	5.51	5.54	0.35	100%	0.39	100%
BNSSS	4.73	4.90	5.03	0.17	100%	0.30	100%
SSCI	4.51	4.74	4.69	0.23	100%	0.18	100%
ACSI	1.32	1.58	1.63	0.26	100%	0.31	100%

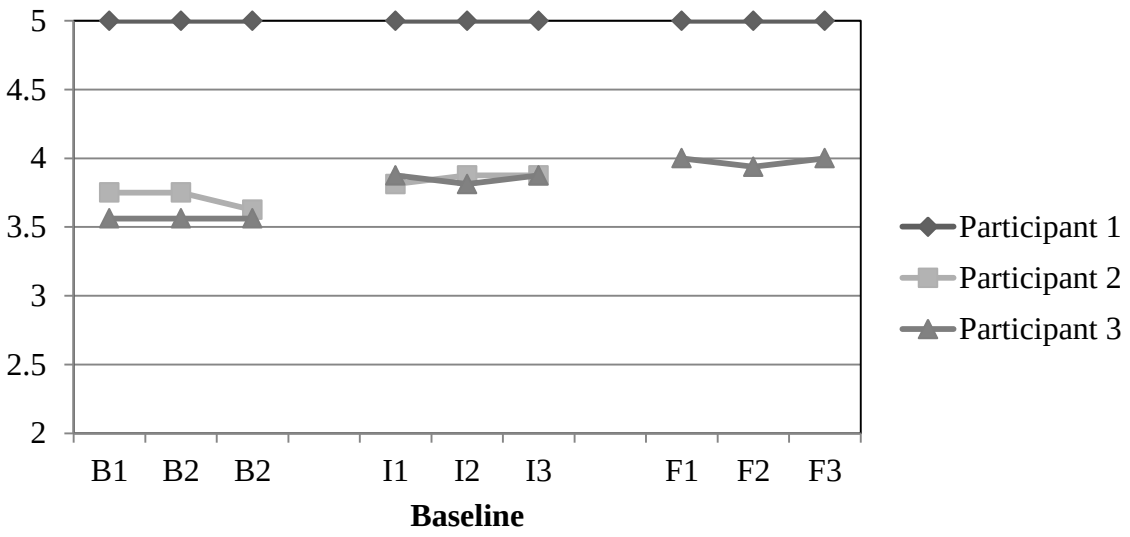


Figure 6.1 Participants' AEQ mean scores at baseline, intervention, and follow up phases

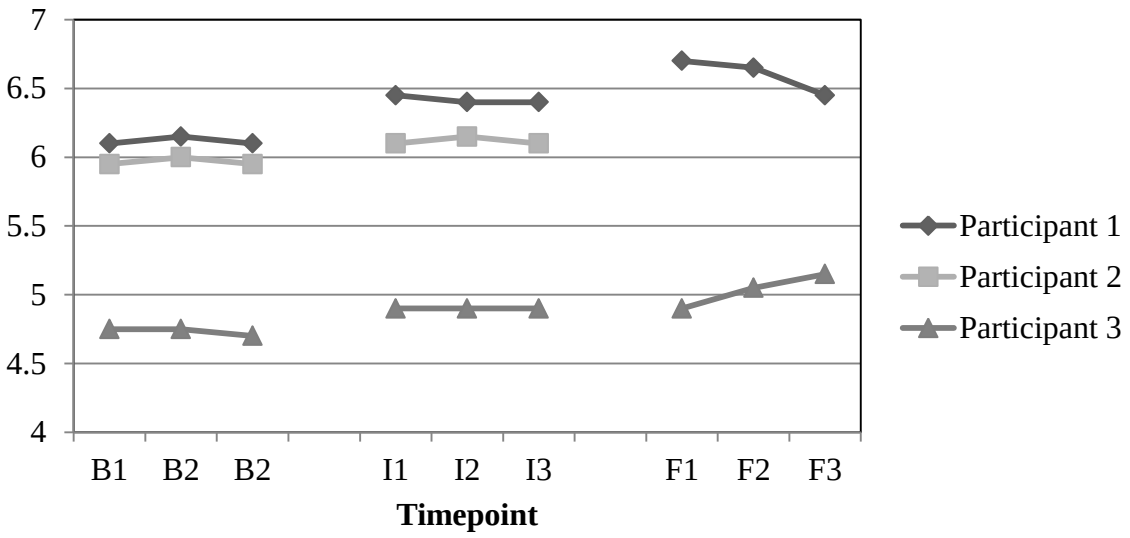


Figure 6.2 Participants' BNSSS mean scores at baseline, intervention, and follow up phases

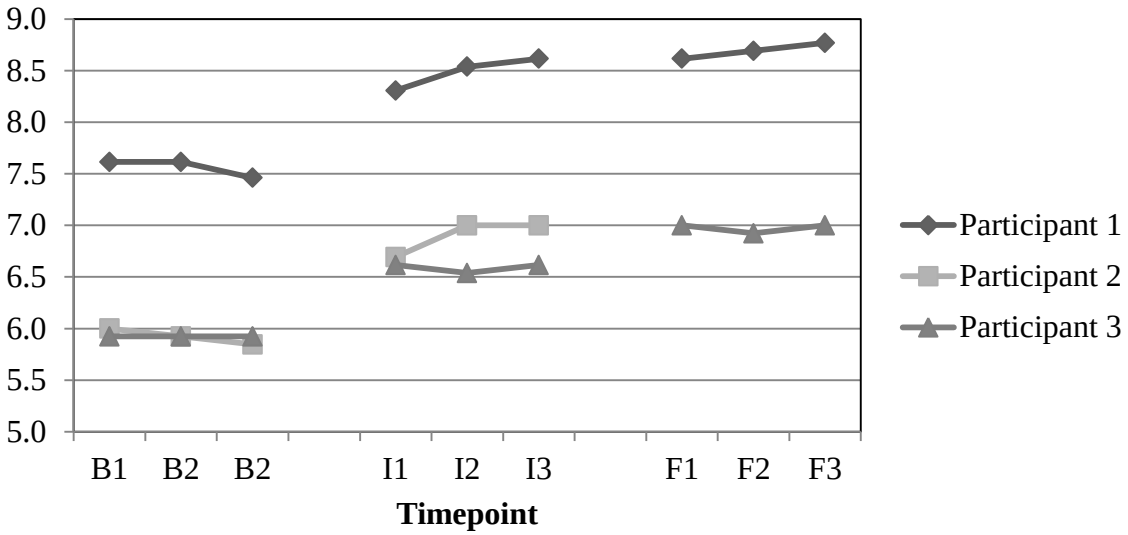


Figure 6.3 Participants' SSCI mean scores at baseline, intervention, and follow up phases

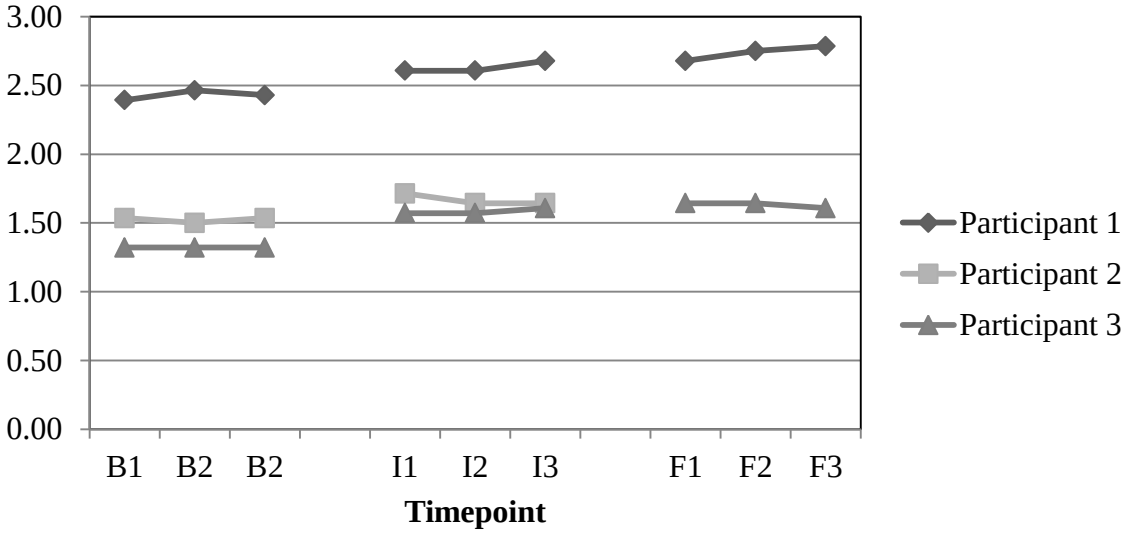


Figure 6.4 Participants' ACSI mean scores at baseline, intervention, and follow up phases

phase, and a higher difference score of 1.13 and three non-overlapping data points at follow-up (PND score of 100%; high experimental effect). Participant 2 reported a positive change of 0.35 with all 3 non-overlapping data points (PND score of 100%; high experimental effect) in intervention phase. Participant 3 had a positive change of 0.23 and three non-overlapping data points in intervention phase, and 0.18 and three non-overlapping data points at follow up (PND score of 100%; high experimental effect).

***6.4.1.4 Athlete Coping Skills*.** Intervention scores were higher than baseline for all participants on the ACSI, indicating a positive change (see tables 6.1, 6.2, 6.3; figures 6.1, 6.2, 6.3, 6.4). Participant 1 reported a positive change of 0.2 and three non-overlapping data points in intervention phase, and a higher difference score of 0.31 and three non-overlapping data points at follow-up (PND score of 100%; high experimental effect). Participant 2 reported a positive change of 0.14 with all 3 non-overlapping data points (PND score of 100%; high experimental effect) in intervention phase. Participant 3 had a positive change of 0.26 and three non-overlapping data points in intervention phase, and 0.31 and three non-overlapping data points at follow up (PND score of 100%; high experimental effect).

6.4.2 Performance data

6.4.2.1 Subjective Performance. Athlete and coach performance ratings for both usual and best performance were higher in the intervention phase than at baseline for all participants (See tables 6.4, 6.5, 6.6; figures 6.5, 6.6, 6.7). Participant 1's performance data indicated a positive change with a mean difference score of 0.83 in intervention phase with 8/12 non-overlapping data points (PND score 66%; minimal intervention effect), and 1.67 at follow-up with 12/12 non-overlapping data points (PND score 100%; high experimental effect). Participant 2's results indicated a positive change in performance with a difference score of 2.92 post super-strengths initiation with 12 non-overlapping data points (PND score 100%;

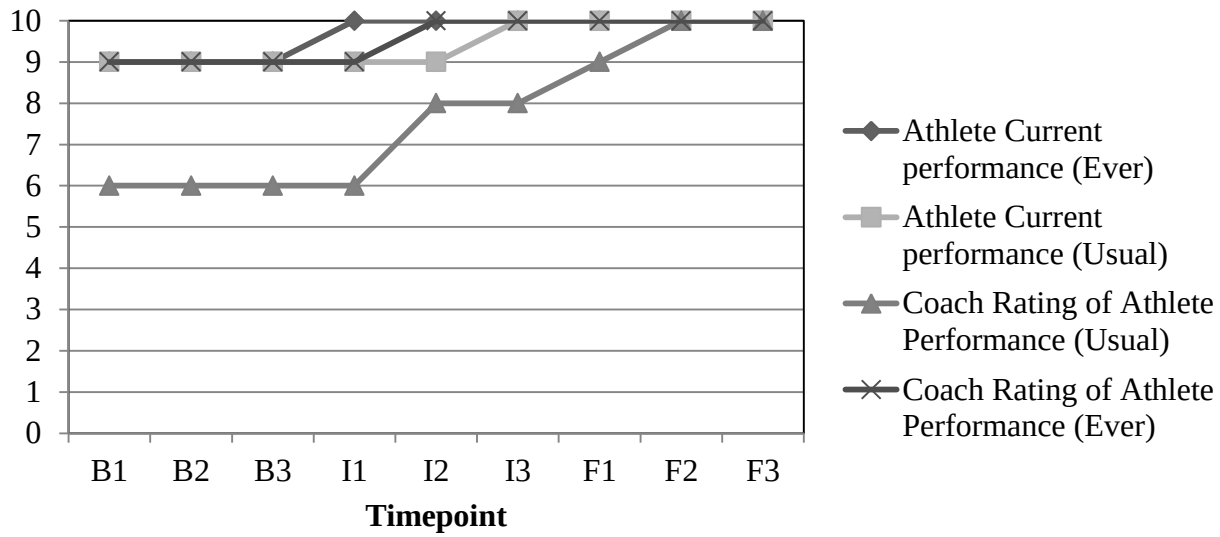


Figure 6.5 Participant 1 coach ratings and athlete ratings for current performance (in relation to ever and usual)

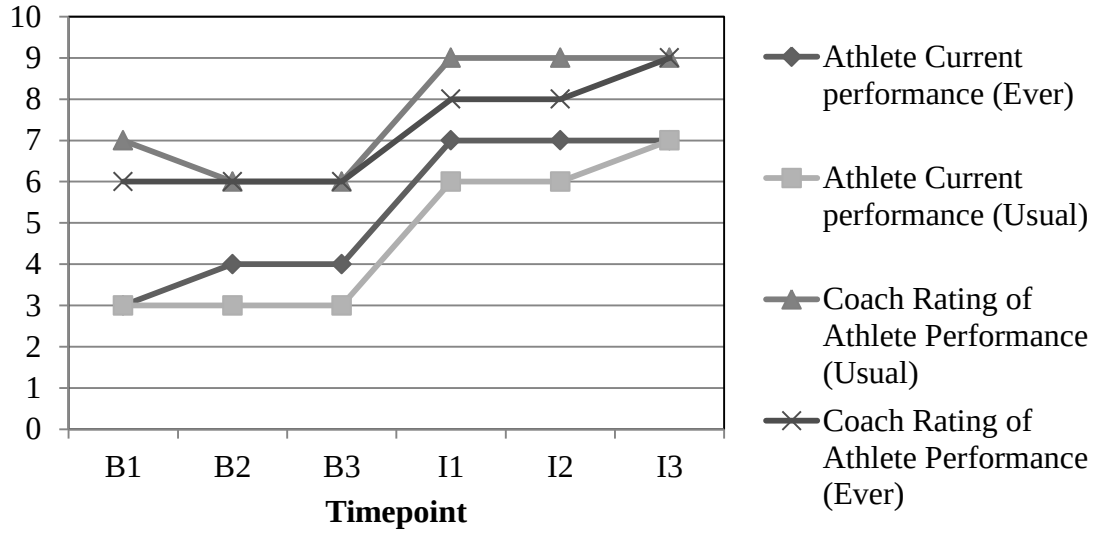


Figure 6.6 Participant 2 coach ratings and athlete ratings for current performance (in relation to ever and usual)

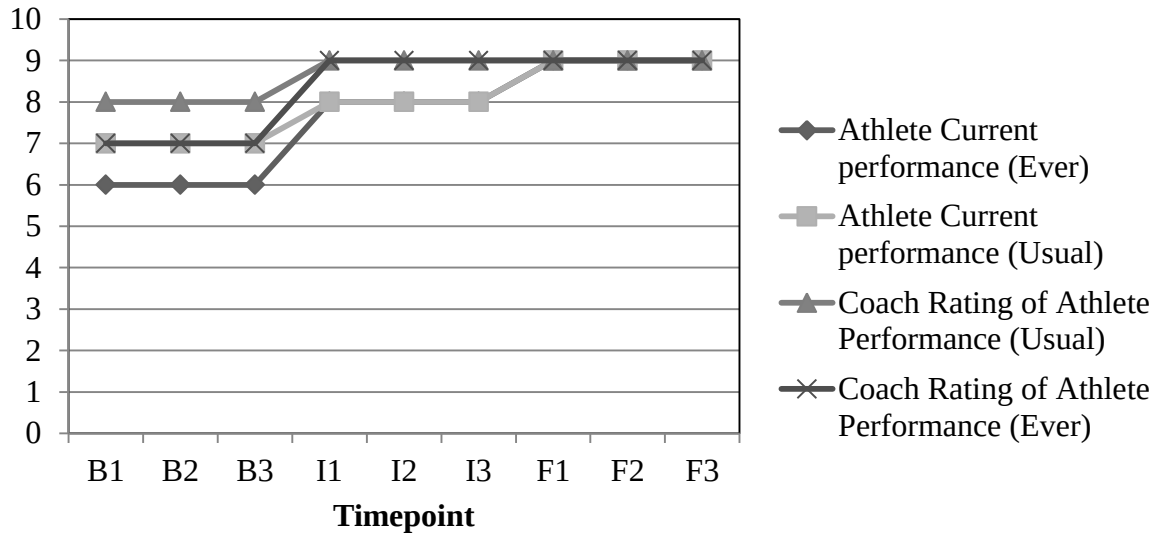


Figure 6.7 Participant 3 coach ratings and athlete ratings for current performance (in relation to ever and usual)

Table 6.4 Participant 1 subjective performance (usual and ever), mean scores, mean difference scores, overall averages, and percentage of non-overlapping data points

Participant 1

PERFORMANCE	*Mean*			*Mean Difference*	
	Pre	**Post**	**Follow-Up**	**Pre to Post**	**Pre to Follow-Up**
Usual (Athlete)	9	9.33	10	0.33	1
Ever (Athlete)	9	10	10	1	1
Usual Coach	6	7.33	9.67	1.33	3.67
Ever (Coach)	9	9.67	10	0.67	1
Average	8.25	9.08	9.92	0.83	1.67
PND Score				67%	100%

Table 6.5 Participant 2 subjective performance (usual and ever) mean scores, mean difference scores, overall averages, and percentage of non-overlapping data points

Participant 2

PERFORMANCE	*Mean*		*Mean Difference*
	Pre	**Post**	**Pre to Post**
Usual (Athlete)	3.67	7	3.33
Ever (Athlete)	3	6.33	3.33
Usual Coach	6.33	9	2.67
Ever (Coach)	6	8.33	2.33
Average	4.75	7.67	2.92
PND Score			100%

Table 6.6 Participant 3 subjective performance (usual and ever) mean scores, mean difference scores, overall averages, and percentage of non-overlapping data points

Participant 3

PERFORMANCE	*Mean*			*Mean Difference*	
	Pre	**Post**	**Follow-Up**	**Pre to Post**	**Pre to Follow-Up**
Usual (Athlete)	6	8	9	2.0	3.0
Ever (Athlete)	7	8	9	1.0	2.0
Usual Coach	8	9	9	1.0	1.0
Ever (Coach)	7	9	9	2.0	2.0
Average	7	8.5	9	1.5	2.0
PND Score				100%	100%

high experimental effect). Participant 3's performance ratings positively changed with a mean difference of 1.5 in intervention phase with 12 non-overlapping data points (PND score 100%; high experimental effect), and 2.0 at follow-up with 12 non-overlapping data points (PND score 100%; high experimental effect).

6.4.2.1 Objective Performance. In support of the subjective performance data collected, the objective performance measures also indicated a positive change across the sample, post-intervention. The following section comprises athletes' super-strength, performance measure/goal, and outcome of the intervention in relation to the specific performance measures co-agreed by participants and their coaches during the super-strengths identification phase.

Participant 1's super-strength (Shooting) was "using my world's best adaptable technique to maintain world-beating consistency". Along with his coach, he identified that the most relevant reflection of success in performance in shooting is not the round score (due to difference in conditions etc.) but the placing in a competition. Thus his performance measure/goal was securing a top-eight finish in an upcoming major competition (i.e., consistently getting through the rounds to the final). This was identified as he had recently not secured a top-eight finish and suggested that doing so would indicate a definite performance improvement if he achieved this in a populated major competition. The result of his performance measure was that he secured a place in the world-cup final (top eight) and finished in silver medal position, which indicates a successful performance and improvement from pre-intervention.

Participant 2 (cricket) identified his super-strength to be "using my ability to impose myself on opponents to generate confidence and momentum in the team". When discussing how we would measure this, the athlete and coach suggested that runs scored whilst in bat, and his strike-rate would indicate where he was performance wise. Specifically, in relation to

Table 6.7 Results of participant s' performance measure/goals pre-post intervention

Participant	**Super-Strength Context**	**Identified Performance Measure**	**Pre Intervention**	**Post Intervention**
1	Using my world's best adaptable technique to maintain world-beating consistency	Securing a top 8 finish in upcoming Major competition (i.e., consistently getting through the rounds to the final)	Not finished within the top 8 of a major competition	Silver Medal in World Cup
2	Using my ability to impose myself on opponents to generate confidence and momentum in the team	Run statistics & scoring 100	Highest score (Test) – 61 Strike rate = 32%	Highest score (Test) – 102 Strike rate = 79%
3	Using my work rate and football intelligence to exploit space and create opportunities	Passes Complete Balls Received Final Third Entries Penalty Box Entries Shots	26 35 5 2 0.8	38 49 8 4 0.8

a performance improvement, they suggested that strike-rate was important as this would reflect the player imposing himself on opponents and a high score/strike-rate would indicate momentum had been generated for the following batsmen. In addition they stated that scoring 100 runs was an important performance measure that they had not achieved so far that season, therefore this was another measure of performance success. Pre-intervention his statistics were: high score = 61 and strike rate = 32 runs/100 balls. Post intervention his statistics were: high score = 102 and strike rate = 79%. Therefore the three main performance measures indicated an improvement post-intervention; he scored more runs (mean average 41 runs more), at a better strike rate (47% improvement), and succeeded in achieving his goal of getting 100 runs.

Participant 3's super-strength (football) was "using my work rate and football intelligence to exploit space and create opportunities". Along with his coach, he identified 5 measures of performance that if enhanced post-intervention would indicate a performance improvement. These were: passes complete (PC), balls received (BR), final third entries (FTE), penalty box entries (PBE), and shots (S). The respective results were pre-intervention: PC=26, BR=35, FTE=5, PBE=2, S=0.8; post intervention: PC=38, BR=49, FTE=8, PBE=4, S=0.8. The difference scores from pre to post intervention indicated a positive change in passes completed (12.0 improvement), balls received (14.0 improvement), penalty box entries 2.0 improvement), and final third entries (3.0 improvement). Average shots did not change from pre to post intervention.

6.4.3 Social validation. Due to the small sample included in the study and the novel approach of super-strengths, it was intended that social validation would add context to the psychometric and performance data. Generally, the social validation results supported the psychometric and performance data collected. Specifically, six themes were generated from the raw data and are described in more detail under the three headings of the social validation

questions. In addition raw data quotes are presented to provide context and enhance authenticity of the meaning generated (Roulston, 2010; Tracy, 2010).

6.4.3.1 Process

6.4.3.1.1 Change of Perspective. Participants discussed the importance of the initial super-strengths identification phase and suggested that during this stage of the intervention is when they experienced a change in perspective. Large raw data quotes from two of the participants have been included to aid a more in-depth insight into the change of perspective they perceived. Participant 1 reflected:

> I think (SS) added a bit more to me in terms of how good I thought I was, I guess before I was reflecting on my performances rather than myself, and I thought that because I wasn't winning medals I thought that I wasn't the best. When actually I looked at my technique it is better than a lot of others and then it was like that isn't the reason I am getting beat in these scenarios! I would say (the penny drop moment) was during in that chat with my coach. I probably didn't really look at what I was good at or address that before that point (P2).

Participant 2 reinforced the notion that engaging in the process of identifying and developing super-strengths offers a change of perspective which he welcomed:

> I just want to say thanks, it was nice to just ask yourself what you are doing well, because so many times you just ask yourself what you are doing wrong and you go make adjustments based on what you are doing wrong, where actually sometimes it's actually way better to stop and go you know why don't I practice doing what I do well and make sure that's the thing I focus on… because I know if I'm doing that well then I know I'm going to be successful more often than not (P2).

6.4.3.2 Impact of Super-Strengths (Psychological)

6.4.3.2.1 Mind-set shift and clarity. Participants perceived that as a result of the super-

strengths approach, their mind-set towards what they were doing (in training and/or competition) positively changed. In particular, participants discussed changing the way they viewed themselves and their capabilities, through having to identify and focus on their super-strengths. Participant 1 discussed how his mind-set for how he would look to improve changed through the super-strengths process:

> I think it was the process (that made me feel better) that it is a good thing to look at your strengths rather than trying to improve your weaknesses because if everyone is like you are good at that, that's how you got so far but if you work on your weaknesses you will improve… whereas actually going these are the things you are really good at, if you improve these things you are going to really improve as well, it's not just about weaknesses (P1).

Similarly, participant 3 referred to a change in mind-set going into training or games that came about through engaging with super-strengths:

> I would say its having your own… not motto but that sort of thing that you can fall back on and it's something to build your confidence and make you feel good about yourself, when things aren't going well or you need motivation before training or games, if you look at your super-strengths beforehand you will feel better about yourself, and generally people perform better when they feel better about themselves as a player (P3).

Participant 2 discussed gaining clarity in his mind-set as a result of super-strengths:

> I think the way it worked for me was that as soon as my mind is right… and this is also a quote from my coach too… he said as soon as your mind is right, you score runs, and as soon as your decision making is at its best you score runs consistently. So it was like it gave me that piece of mind, that clarity of mind that I have had this in depth chat with him, I know all bases are covered because I know what my strengths

are and how this looks when I am performing at my best and it just gave me a bit more clarity to know what I wanted to do training wise and that spilled over into how I felt when I was batting which was a lot more clear minded (P2).

6.4.3.2.1 Confidence. All participants discussed how super-strengths had a positive influence on their confidence in their ability to perform in their sport. It was suggested that the reflection and discussions involved with their coach to identify their super-strength(s) gave them "self-awareness that actually I am really good at what I do" and enhanced their sport confidence. Participant 3 described how super-strengths impacted his confidence:

> I think it's good, I think it breed confidence, because obviously it was me with my coach that came up with it erm when you think of something as a super-strength it instantly makes you feel more confident about yourself and I think everyone knows if you are more confident about yourself then you will do better. So I think it is just good to get that self-confidence that is massive in sport (P3).

Participant 2, on the other hand, referred to more specific confidence in competition and how particularly he felt super-strengths impacted his confidence in performance:

> Confidence for me was affected in the actual situations in a game, so when I tried something and it came off it gave me the confidence to carry on playing in that game, that innings, that situation. So when I was going out to bat I had a clearer plan so then when I tried to express myself and one or two of them came off it was almost like the ball got rolling and I was like I am playing it right, I am moving well and that carried through then, everything you do when you are batting. I wouldn't say it was a general thing like I was waking up more confident or cocky it was more in the situation when I was batting, when I implemented something and it came off that filled me with confidence and made the result a positive one (P2).

6.4.3.2.2 Increased coping skills in performance. Participants indicated they felt more

able to cope with the demands of competition after engaging with the super-strengths approach. Participant 1 suggested that having his super-strengths in mind during performances helped him feel more positive, and helped him refrain from having a 'wobble' in competition:

> We had said about how it was going to be windy and that my super-strength is being adaptable so I executed it how I had to, I had to react a lot, I knew I made the odd mistake here and there but I didn't actually have a wobble at all in the match. It was really good, I was feeling really positive. We had a tough first day because the scoring (for everyone) was so much lower than I had been shooting because of the conditions, but when it came to the semi-finals day I walked off the range thinking that was the best performance that I had ever done, it felt really good and I knew I would definitely be in the final (P1).

Similarly participant 2 suggested feeling more able to cope with the demands of performing after engaging identifying and developing his super-strengths to apply in competition:

> "I was a lot calmer and at ease rather than being tense, because I knew I had put the preparation that I needed to put in so I knew I could just go out and relax and express myself exactly how we talked about it in the intervention… I think it was just being more positive, I wasn't worried about getting out or thinking about getting out as much I don't think, I was more just trying to be productive and positive in the manner that I portrayed everything on the field so you know my body language, almost picking a fight with the opposition to almost get myself in that more positive, aggressive mind-set rather than disengaging when a bowler has said something to me, taking my eyes off him and staying in my bubble, actually if someone said something to me I engaged with them and picked a bit of a verbal battle with them which made me feel more aggressive and pushed on, rather than like shying away from it. I think

> that's what sort of personality I am so the last few games I had been trying to suppress that and not get involved, whereas in actual fact I think it helps me to almost pick a fight with the opposition – it helps me feel more focused (P2).

Participants suggested that super-strengths enabled coping in competition as it gave them something to focus on when under pressure. Participant 3 proposed that super "the -strength moto is a nice little motto to keep coming back to whenever I doubt myself or whatever, I think this is my super-strength I can focus on and it's always something to fall back on". Similarly participant 1 reflected: "it always gave me a thing to fall back on in the pressure situations, so I was all the time thinking well my technique is good so that carried me through the tense moments".

6.4.3.3 Impact of Super-Strengths (Training)

6.4.3.3.1 More structure and purpose. Participants proposed that one of the positive changes they experienced from super-strengths was that they felt they had more structure and purpose to their training, and how they were going to approach their development. Participants reported feeling clearer and more confident as a result of this change, for example participant 1 stated:

> I have adapted my training. I have worked on the strengths more, more specific super-strengths time. I have been mainly driving training myself, as I usually do but I have been speaking my coach more about what I do well and those points. It has certainly made me feel more confident throughout everything both training and competition (P1).

Similarly Participant 2 discussed how he had more of a strategic plan for training as a result of super-strengths and reflected on how this made him feel different:

> I think what changed day to day was… I was very kind of… before some days I would come in and want to hit a lot of balls, some days I would come in and I

> wouldn't be that keen to hit balls so I would be doing some drills or some underarm stuff, but after (the intervention) my training became a lot more structured. So I was doing the same things a lot more often, I was making sure that I practiced shots. So when we did super-strengths we talked about the shots I would be playing when my coach would know that I was doing something right. So for instance we talked about the pull shot so when I was doing that, that was my strengths and my game so I made sure I practiced those on a more regular basis… and it became more structured as opposed to just going in and out of training and seeing what everyone else was doing I actually had specific things that I wanted to achieve, it was more structured and a bit more strict – I was making sure I was doing the things that I wanted to do but I was doing them more often (P2).

6.4.3.4 Impact of Super-Strengths (Performance). Participants indicated that super-strengths had a positive influence on their performance in competition, with all participants suggesting their performance was greater post-intervention. When asked about their performance, in relation to use of super-strengths (under used, optimal, or over use of super-strengths), participant 3 highlighted" "well in the last game I set up both the goals so I think I am in the optimal curve of the super-strengths model". Similarly, participant 1 reflected on how he felt super-strengths affected his psychology and resultant performance:

> Psych wise my performance was pretty high because I was even able to recognize where I was without looking at the scoreboard. The outcome was so good for me, I have been working so hard to take an increment that I probably would have taken a 5^{th} or 6^{th} but to go for 7^{th}=8^{th} straight to a medal was just the outcome I was looking for. I got a silver medal at a top level competition and it was my best performance ever (P1)

Participant 3 discussed the impact he perceived that engaging with the super-strengths approach had on his performance:

> We talked about making sure that my body language was right and that I had that mental edge to be aggressive and not worry about things and try to stamp my authority on things and my first 50 when I was opening the batting came off 53 balls so to put it into context it was a four day game but I was scoring at a rate of 20/20 cricket so I was certainly putting my stamp and showing my authority out in the middle. Before that, I think about a few games before we did super-strengths for instance I think I made 60 something from 190 balls and on the flip side after we spoke with you I got 50 off 43 balls against a better bowling attack, that was against a side that actually won the division and went up and got promoted and [team] were the side that I got 60 of 190 balls off and they finished second to bottom so the stark contrast is the bowling attack was way better than [team] yet I was… well because I went out with that aggressive mind-set it helped me and I found everything a lot easier ,to score runs and compose myself and to stay focused because I was actually enjoying batting rather than finding it a struggle like I have done in the last 12 months. I just felt like I was me again batting like I was actually me, my personality was actually coming through in the way I was playing, whereas I don't think that might have been the case over the last year or so previous to this (P2).

6.4.3.5 Development of the Super-Strengths Approach.

6.4.3.5.1 Adapt for lower level athletes. Generally, participants suggested the concept of super-strengths would be useful across ability levels/age groups, however they highlighted the need for consideration about how self-aware the players would be and also their ability to reflect and understand their game well enough to go through the whole process. Participant 2 suggested:

> Young players – I think they are still learning about themselves as a player, so they haven't really played enough or don't know what type of player they will become. I'

> m not saying you couldn't use it because I think in a way it's a very useful tool that I would have liked to have used earlier. But I think some of the questions would need to change as they might not actually know about that stuff yet, it wouldn't be as grand or as much detail as how you used it with us, but I think you could definitely use it.

Reflecting on the processes and tools used to identify and develop super-strengths in the intervention, participant 3 suggested the concept would be useful but the metaphors and tools used might not be applicable and would need adapting for use with younger athletes:

> I think so I just wouldn't go in too… like the curve is quite in depth, something like the boat would be quite easy for them to relate to and understand so I think that would be better with the younger age groups, but the curve is quite wordy and I don't know if they would engage with it as much as they would the boat metaphor.

*6.4.3.5.2 Need to remind and reinforce***.** Finally, in the third section of the social validation interview, participants suggested the importance of monitoring and reinforcing the plan for super-strengths development, especially when there are not a lot of people involved. To have continued success with super-strengths, Participant 2 suggested:

> I think it's very hard to judge it, you have to be honest with yourself on how you judge it. And you not being around loads, between me and the coach we have to stay on top of it with each other so you actually get a fair assessment of what you're trying to do so as long as I'm asking questions about him and he is asking questions about me and we are still talking about it and wanting to get to that level then the results continue to be positive … I think it's just sticking with it and keep on pushing it.

6.5 Discussion

The purpose of the present study was to evaluate the efficacy of a super-strengths intervention to enhance elite athletes' psychology and performance. Generally, the results generated showed that super-strengths had a positive influence on athletes' psychology and

performance in their sport. This conclusion was evident from the findings of both quantitative (psychometric and performance measures) and qualitative (social validation interviews) data analysis. The findings support previous research from other domains that has suggested the use and development of individual's strengths can have a positive impact on psychology (e.g., Govindji & Linley 2007; Proctor et al., 2011) and performance (Corporate Leadership Council, 2002). As this notion has not yet been evaluated in sport psychology, the present study offers novel insight and understanding of the impact of applying strengths-based approaches with athletes. Specifically, the results indicated positive changes in athletes' engagement, confidence, needs satisfaction, coping skills, and subsequent performance.

6.5.1 Psychometric Measures. Positive increases in the mean scores in the intervention phase compared to baseline were evident from the results of all psychometric tests. However, due to the elite sample included in the study, often the baseline measures were high to start, therefore large changes would not necessarily be observable post-intervention. This is understandable as it is expected that successful athletes will already exhibit a high level of mental skills/psychological characteristics (Gould et al., 2002), and that the desired marginal improvements that can make a difference to their performance are often less than 1% (Pyne, Trewin, & Hopkins, 2004). Therefore, it was important to have this context in mind when interpreting the results of the present study.

6.5.1.1 Engagement. As stated, it has been suggested that successful athletes will already exhibit a high level of mental skills/psychological characteristics (Gould et al., 2002) and thus it should be expected that the sample would score highly during baseline. Thus, although two of the participants in the present study saw positive changes in their mean scores of engagement from baseline to post-intervention, one participant saturated the potential for changes to be detected as he scored 5/5 throughout the baseline phase. This emphasized the importance of the social validation interview, in which this participant

highlighted he had pushed to adapt his training since the intervention to work more on his super-strengths, and had been driving these changes. These statements, along with other reports of increased engagement in social validation interviews and the improvements seen in two of the participants' AEQ results, suggests that super-strengths can positively influence athletes' engagement. These findings support previous research that has suggested the potential for strengths-based approaches to have a positive effect on individuals' engagement (i.e., Minhas, 2010). That said, it is necessary for future research evaluating strengths-based approaches to consider the measures they adopt if assessing psychological constructs such as engagement, especially if they are using an elite sport sample whereby they understandably would be highly engaged with their sport to start with. The explanation for the confounding results with participant 1 of the present study could also be explained via the context of the questions featured in the AEQ. Specifically, the questions referred to engagement and participation in their sport in general and not necessarily engagement with training or every day activities in their sport. Yet in the present study, when interviewed, participants talked about being more engaged with their development plans and focused in training. Therefore future research could use or develop a more specific measure relating to engagement within certain contexts, or situations that increased engagement would be desirable for.

6.5.1.2 Basic Needs Satisfaction. All participants reported positive changes in their basic needs satisfaction after engaging with the super-strengths intervention, with 100% non-overlapping data points, indicating a high experimental effect. This finding is important as Hrycaiko and Martin (1996) suggested that greater confidence can be assumed in an interventions' effectiveness if results are repeated across participants. Additionally, in social validation interviews all participants proposed that the process of super-strengths made them "feel good". In particular, they proposed it was the involvement of the coach during identification of super-strengths, the athletes co-creating their subsequent development plan,

and the plan being focused on their super-strengths (greatest competencies) that generated the positive change. This supports the literature surrounding basic needs satisfaction (Ryan & Deci, 2000), and further highlights the importance of coaches and sport psychologists facilitating an autonomy-supportive environment (Black & Deci, 2000), whereby athletes' competence is often highlighted/focused upon, and they have someone reinforcing and supporting them in their development. This environment is paramount if the desire is for athletes to be self-determined in achieving their goals and fulfilling their potential. It is appreciated that this environment may exist in many sporting institutions, however participants in the present study suggested they had not previously had discussions involving identifying or discussing their strengths, alongside their coach, suggesting that athletes' needs for competence and autonomy are not necessarily always being satisfied. Using strengths-based approaches as a vehicle for facilitating basic needs satisfaction and encouraging self-determination could be considered by sport psychology practitioners and those who have influence over the culture and/or environments that athletes are expected to succeed in. Furthermore, those looking to apply strengths-based approaches in sport should ensure these needs are considered when designing interventions, to ensure athletes benefit from the approach and the results of the intervention are maximized.

6.5.1.3 Confidence. The results from the SSCI, coupled with the results of the social validation interviews, indicated that confidence was enhanced for all participants, as a result of the super-strengths intervention. Confidence was highlighted to be one of the most significant factors to be influenced via engaging with the super-strengths approach. Athletes talked in depth about how they felt more confident generally in their ability, and more specifically during competition. These findings reinforce the suggestions from previous research that identifying athletes' signature strengths can be used to develop robust sport confidence (Beaumont et al., 2015). In addition, perceiving superiority over opposition or

competitors has been suggested to be a source of confidence for elite male athletes (Hays et al., 2007), which would be facilitated through the super-strengths approach as the process requires athletes to identify and develop their super-strengths to provide them with a competitive edge in their performance context. Again, although it is assumed that in elite sport, many athletes will already know and understand where they excel, the super-strengths approach offers a structured pathway for identifying and developing this competitive edge to facilitate performance gains at the highest level. For practitioners looking to adopt a super-strengths approach, it is important to ensure that athletes buy-in to the approach and co-identify/agree their super-strengths and subsequent development plan, for confidence to be enhanced and optimal results achieved. This notion was highlighted to be key for the successful delivery of super-strengths in the first study of the thesis, and has been reinforced from the results of the present study.

6.5.1.4 Increased coping skills focus and relaxed in competition. All participants reported a positive change in their coping skills through engaging with the super-strengths approach; this was evident from the psychometric data as well as the social validation results. Specifically, athletes noted that they gained clarity as to what was required of them in competition and that this, along with feeling more confident in their ability to deliver super-strengths, helped them cope better with the demands of performing in their sport. Again, this reinforces previous literature that highlighted athletes who are more confident can cope better under pressure (Hays et al., 2009).

Additionally, in the present study, participants suggested that super-strengths provided them with something they knew they could fall back on and rely on when they were under pressure in competition, which they also perceived aided their ability to cope better in performance. This is understandable as during the super-strengths intervention process, athletes agree with their coach what is expected of them in performance and what their

strategy would look like for implementing their super-strengths for greatest effect. This process seemingly provides clarity for athletes in terms of performance, but also by definition, their super-strength is something unique to them that they excel at more against others, therefore reducing their uncertainty as to whether they can deliver it. Indeed, uncertainty has commonly been reported as an antecedent to experiencing cognitive anxiety (Martens et al., 1990). Thus again, from an applied perspective, it is important for sport psychologists to consider the clarity, competence, and confidence athletes have in relation to what they are expected to deliver in performance. It is proposed that the concept of super-strengths, identifying and developing their greatest attributes, could be used across the board with athletes of all levels/ages to enhance perceived and actual ability to cope with the demands of their sport.

6.5.2 Performance Measures. To develop understanding from the results of phase one, phase two included both objective and subjective measures of performance for evaluating the super-strengths intervention. Subjective ratings from athletes and their coaches indicated a positive change in performance post-intervention across the sample. Furthermore, social validation results reinforced that all participants believed super-strengths had a positive influence on their performance. In addition to these subjective results, the objective performance measures (identified by athletes and coaches to be key performance indicators in their respective sports), suggested performance improvements had occurred after engaging with the super-strengths intervention. These findings are novel for the literature, as there are no studies to date that have evaluated the impact of a strengths-based approach on sporting performance. The findings are particularly relevant for coaches and sport psychology practitioners working in elite sport and being judged on performance impact. It is offered that the super-strengths approach, although novel to the literature could be delivered by sport

psychology practitioners as part of their consultancy with athletes, with the intention of creating a performance impact.

6.5.3 Applied implications. As the present intervention study investigated an applied strengths-based approach in a real-world context, there are numerous applied implications to discuss. Firstly, the inclusion of discussions between the coach and athlete to identify super-strengths and subsequent development plans was deemed by athletes to be a significant contributor to the positive results seen. Athletes stressed that receiving positive feedback and a plan to enhance their greatest attributes was a big part of the change they experienced. Reinforcing the conclusions from phase one, the need to highlight elite athletes' strengths and competence should not be overlooked, particularly as the findings of the present study suggest that super-strengths is potentially beneficial for facilitating enhancements in athletes' confidence, basic needs satisfaction, coping skills, and engagement. Coaches and practitioners working in elite sport should reflect on the amount of time athletes are expected to focus on identifying and developing their weaknesses, and consider how often they get to do the same for their strengths. It is evident from the sport psychology literature that there is a heavy focus on helping athletes to improve via working on weaknesses or areas for development (Gordon, 2012). Thus, it is suggested that addressing the balance of time spent working on strengths/super-strengths versus weaknesses, and encouraging more strengths-based focus could enhance desirable psychological characteristics and thus performance.

Second, coaches and athletes ensuring they were constantly monitoring and reviewing their super-strengths plans was highlighted to be of high importance. It is suggested that using the team around the athlete (e.g., other coaches or staff within the Multi-Disciplinary Support team) to ensure this is happening would be beneficial, which is something that has been referred to in sport psychology (Arnold & Sarkar, 2015). In addition, in the present study, the athletes themselves identified the need for consistent reinforcement and suggested

this to be key for continuing to see positive results with super-strengths. Thus, it is important for applied practitioners adopting such strengths-based approaches to consider how best to ensure the concept and processes will be continually reinforced and who might be the drivers/key people for this to keep happening. In terms of reviewing super-strengths and ensuring the plan is working, this would depend on the super-strength of the athlete and their schedule/ competition calendar. The nature of the super-strengths approach means that there is not necessarily a temporal structure for when you would formally review, however participants suggested reviewing after competition, or if they compete regularly, after a block of performances that is significant to their sport would be beneficial.

Third, athletes' objective performance results post-intervention were somewhat positive, and from the social validation interviews, all participants perceived they improved in performance as a result of engaging with the approach. Specifically related to performance, findings suggested that super-strengths can positively influence athletes' ability to cope with the demands of their sport, and enhance their confidence in competition. As coaches and practitioners working in elite sport are often held accountable for or judged in relation to athletes' performances, it is suggested that exploring how they might apply the concept of super-strengths in elite sport environments would be beneficial. Specifically, the findings suggest the need for practitioners to consider how super-strengths could be used to simplify athletes' performance plans, emphasize their competence, and thus facilitate enhanced coping and confidence in competition.

6.5.4 Limitations and Recommendations for Future Research. The present intervention study findings offer a novel contribution to the sport psychology literature, as it is the first attempt to date to evaluate an applied strength-based intervention in sport. However, as to be expected when venturing into new territory, there are certain limitations of the study that have been highlighted and suggested for future research to address.

First, the aim of the thesis was to generate understanding of an applied strengths-based approach in elite sport, which is an area that has not yet featured in the literature. In line with this, Barker et al. (2013) encouraged researchers to target unique populations, using single-subject designs, to enable the generation of new knowledge for the sport psychology discipline. Thus the sample of the present study included athletes who were performing at the highest international or professional standard in their sport. Although this is thought to be a strength of the research, as we are learning from those operating at the highest level, this obviously limits the generalizability of findings to other contexts. It is suggested that applied sport psychologists looking to apply a super-strengths/similar approach with athletes from a different level should do so with caution, having the athletes' needs and context in mind. That said, given the positive results reported in the present study it is suggested that many elements of the super-strengths intervention (i.e., highlighting and a planning to develop athletes' greatest strengths/attributes) would be relevant and beneficial across levels of sport and in many other performance contexts. Thus, future research is encouraged to continue bridging the evident gap in research on strengths-based approaches in sport and potentially to explore how super-strengths could be adapted and applied with younger or lower level athletes.

Second, in order to enhance knowledge of the delivery and evaluation of super-strengths across contexts, the sample included athletes from different sporting environments. It is believed that this has strengthened the understanding generated from the study surrounding the commonalities and differences that need to be considered when delivering super-strengths. However, it was difficult to accommodate three sports whilst maintaining a level of consistency in the duration and timings for intervention, and consequently there are limitations. Specifically, the performance measures used needed to be applicable for the individual within the context of their sport which meant they were different for all three

participants. In addition, the duration of the intervention was agreed with the coach and athlete in relation to their competition calendar so that performance measures could be included, which again meant this was slightly different for all participants. Similarly, it was not possible to collect follow-up data for participant 2 after they recovered from injury as they were then on off-season. To develop the understanding generated from the present study, future research could look to deliver a super-strengths intervention in one sport, with multiple athletes working on the same competition calendar/periodization, for example in a team sport. Still, the present study intervention, although not typically longitudinal, generated positive results and interesting findings and has increased the very limited knowledge base concerning strengths-based approaches in sport. In sum, super-strengths as an approach is still in its infancy, and coupled with the fact that strength-based approaches are so scarce in sport psychology, there is a need to explore such approaches in more depth moving forward.

6.5.5 Concluding Remarks. This intervention research has increased the knowledge and understanding of the impact of super-strengths on athletes' psychology and performance in elite sport. It is proposed that due to the positive findings reported for super-strengths enhancing both psychology and performance, there is a need for researchers and practitioners to begin applying and evaluating strengths-based approaches in sport psychology. Specifically, the theory-to-practice and the practice-to-theory pathways should be considered and targeted, where strengths-based approaches are concerned. It is appreciated that practitioners may well be successfully implementing such approaches in their applied practice, yet this insight is not apparent in the literature. As a practitioner, as well as a researcher, this highlights the need for future research to uncover, and study what best-practice might look like for applying strengths-based approaches in sport. Furthermore, it would be beneficial to investigate the potential for the use of super-strengths concepts or similar approaches with athletes from different levels/ages to those included in the present

study, to ensure the evident benefits of strengths-based approaches are being reaped throughout the sporting system. It is hoped that the findings of this study will encourage researchers and practitioners alike to investigate further, and to continue to bridge this evident gap in the literature.

CHAPTER VI

Summary, Discussion, and Conclusions

7.1 Introduction

The purpose of this chapter is to conclude the thesis by highlighting and discussing some of the outcomes of the programme of research conducted. Specifically, the chapter comprises three main sections: 1) a summary of the aims and key findings of each study; 2) a general discussion of the theoretical and applied implications of the research findings; 3) the perceived strengths and limitations of the thesis, suggestions for the direction of future research in the area of strengths-based approaches in sport, and final conclusions of the central messages of the thesis as a whole.

7.2 Summary of Findings

Strengths-based approaches, underpinned by positive psychology, have been adopted in various therapeutic and performance contexts including clinical, coaching, and organisational psychology. In sport psychology, the lack of literature documenting strengths-based approaches suggests this way of working has scarcely been explored. It is probable that sport psychologists may adopt strengths-based methods in their applied practice, however with the exception of one study (Gordon & Gucciardi, 2011) these have not yet been explored or shared in the literature. It has been suggested that practitioners often outpace research with their applied practice, and that methods being used in the field may be an untapped resource for enhancing knowledge of strengths-based approaches, and therefore should be studied (Biswas-Diener et al., 2011). Thus, the central purpose of this thesis was to explore a novel, strengths-based approach (super-strengths) that had been adopted by applied sport psychologists working within elite sport in the UK. Specifically, the aims were to identify the processes comprising a super-strengths approach, and explore the effects of the approach on athletes' psychological characteristics and sporting performance.

7.2.1 Study 1. The purpose of the initial study was to explore how a super-strengths approach had been implemented by sport psychologists (*n*=7) and coaches (*n*=8), with elite athletes in the UK. Findings from the semi-structured interviews conducted were categorized into three general dimensions: defining super-strengths, identification methods, and phases of development. Super-strengths were defined as a strategy for performance, utilizing a potential world's-best resource to gain a competitive edge in a performance context. Methods for identifying super-strengths included subjective (e.g., questioning and observing athletes) and objective (e.g., performance analysis/statistics). Participants emphasized three phases that captured the development of the approach: preparation, adaptation, and monitoring. Within these three phases, participants suggested key processes that they deemed to be crucial for delivering the approach to best effect. The results of the study facilitated an understanding of how super-strengths could be utilized in elite sport, providing a conceptual pathway for implementing the approach. The inclusion of development and monitoring phases made a novel contribution to the literature, as did the definition. It was clear from the emerging definition that the approach is context-specific for elite sport, due to the inclusion of discussions about potential world's best resources. This was understandable given the setting that participants were working in (i.e., world class performance programmes/leading professional sports). Findings also highlighted various practical considerations and recommendations for practitioners to maximize the intended outcomes of the approach. However, the need for further exploration of the perceived impact of the approach was evident, and it was suggested that those experiencing the approach would be most able to offer insight on this.

7.2.2 Study 2. Building on the knowledge generated from the findings of study one regarding implementation of a super-strengths approach, study two explored the perceived impact of this way of working on athletes' psychology and performance in elite sport. Semi-

structured interviews were conducted with elite athletes (*N*=12) who had previous experience of working with a sport psychology practitioner on super-strengths. Thematic analysis of the data (Braun & Clarke, 2006) indicated that athletes perceived super-strengths to have a positive influence on their mind-set, confidence (e.g., self-belief), clarity of purpose (e.g., goal direction), drive (e.g., more engaged with training and plans), coping ability (i.e., with the pressure of performance), and thus their performance. Previous literature has alluded to the potential for strengths-based approaches to be used as a method for enhancing psychological factors such as confidence (Beaumont et al., 2015) and mental toughness (Gordon & Gucciardi, 2011). However, this potential has not been sufficiently explored, nor has the athletes' perceptions of this, thus the findings offered a novel insight to the literature. Specifically, the study suggested engaging with a super-strengths approach might positively influence athletes' psychology and performance in an elite sport context. However, the retrospective nature of the data collected suggested the need for this to be explored further, in intervention research.

7.2.3 Intervention: Phase One. In line with the identified gaps in knowledge from the literature and encouraged by the results of study two, the purpose of the intervention was to apply the new knowledge generated from the previous two studies. Specifically, the aims of phase one were twofold: : to preliminarily investigate the practicality of a) delivering a super-strengths intervention guided by the conceptual pathway generated from studies 1 & 2; and b) employing sport-specific self-report measures as a way of evaluating efficacy, guided by the findings of study two. The intervention was conducted with male (N=2) and female (N=1) elite amateur boxers. The procedure included the delivery of a small scale super-strengths intervention, and explored the potential for sport-specific psychometric measures to be used in monitoring psychological effects of the approach. Specifically, engagement (via AEQ: Lonsdale, Hodge & Jackson, 2007) confidence (via SSCI: Vealey, 1986), basic needs

satisfaction (via BNSSS: Ng, Lonsdale, & Hodge, 2011), and coping skills (via ACSI: Smith et al., 1998) were assessed. A subjective measure of performance was also employed with athletes, and social validation interviews were conducted to gain a more in-depth, contextual understanding of the results. Based on the results of study one in particular, the super-strengths intervention included four key phases: introduction, identifying and contextualising, application, and monitoring. In line with the study purpose, the intervention provided an opportunity to investigate the practicality of delivering a super-strengths approach, and initial insight into the potential for capturing the effects of the approach using sport-specific psychometric measures. In response to the study aims, the delivery of super-strengths using the conceptual pathway generated in study one was achieved with three elite athletes and their coaches in an elite sport context. Furthermore, the findings suggested it was generally well received across the sample and social validation provided key insight as to what processes athletes deemed to be important. In terms of evaluation, it was proposed that psychometric measures can be employed to detect changes in confidence, engagement, basic needs satisfaction and coping skills between pre and post-super-strengths intervention. However, social validation was an integral addition to support/provide context to the numbers gathered, in order to paint a more comprehensive picture that the numbers alone (cf. Page & Thelwell, 2013). The findings suggested the need for further refinement/development of the approach, in particular delivery of a more comprehensive application of the conceptual pathway, to be employed in different sport contexts, to assess the impact on psychology and performance. Specifically, it was proposed that a single-case research design would be most appropriate for phase two, as this type of study has been deemed well-suited for evaluating the effects of novel interventions in sport psychology (Barker et al., 2013).

7.2.4 Intervention: Phase Two. In line with the suggestions from phase one of the intervention research, the purpose of phase two was to evaluate the efficacy of delivering a

full super-strengths intervention for enhancing elite athletes' psychology and performance in the context of their sport. Three elite male athletes from three different sports (cricket, shooting, football) were included in the study, and a single-case, multiple baseline research design was adopted. The psychometric measures employed were the same as in phase one, however an objective performance measure was added, as well as the inclusion of coaches' subjective rating of performance, and more data points per intervention phase. Findings supported the hypothesis that athletes' mean psychometric scores and individual measures of performance would be higher throughout the intervention phase than in the baseline phase. Positive change was indicated by all psychological and performance measures, although there were evident variances in the extent of such change across participants. Specifically, the elite sport context meant that often participants scored highly on measures at baseline, which made changes appear less significant. However social validation enabled development of understanding to be obtained and, taken together with the quantitative results, findings highlighted that super-strengths indeed facilitated positive change in all athletes' psychology and performance.

7.3 General discussion

Due to the aims of the thesis, and the novel approach studied, the programme of research has generated new knowledge regarding the potential role and impact of strengths-based approaches in sport psychology. When discussing the knowledge stemming from the programme of research, it is necessary to discuss the concept of super-strengths in relation to existing concepts/theories within sport psychology. However, as the research on strengths-based approaches in sport psychology is so limited, literature from further afield may be included to generate understanding of the implications of the findings, while referring to the gaps in knowledge that were identified in the initial review of literature. The findings

contained within the thesis have implications for sport psychologists, from both a theoretical and an applied perspective and these implications are discussed in this section.

To date, there is no clear, consistent theory or conceptual understanding in the sport psychology literature of the role or impact of strengths-based approaches on athletes' psychology or performance. While the notion of this has been briefly alluded to in recent research (i.e., Gordon & Gucciardi, 2011), knowledge of the concepts, mechanisms for change, and potential impact of strengths-based approaches, is extremely limited. Thus the thesis has provided a novel insight into the processes within, and potential role and effects of a strengths-based approach (i.e., super-strengths) in the context of elite sport.

7.3.1. Strengths-based approaches influencing psychological characteristics. The notion that strengths-based approaches have the potential to be used for developing mental toughness has been referred to in the sport psychology literature. Gordon & Gucciardi (2011) explored the potential for including strengths-based methods as part of their strategy for developing mental toughness with cricketers. While they outlined the strengths-based methods they included, their study aims and scope meant that the effects of the methods were not assessed. Although, they did suggest the potential for strengths-based approaches to be of use for mental toughness development. This gap in knowledge of the perceived effects of strengths-based approaches was evident from the review of literature, and thus study two included an athlete sample to gain such insight. Findings of study two produced new knowledge for conceptualising the role of strengths-based approaches in sport psychology. Specifically, athletes perceived super-strengths to have a positive influence on their mind-set, confidence (e.g., self-belief), clarity of purpose (e.g., goal direction), drive (e.g., more engaged with training and plans), coping ability (i.e., with the pressure of performance), and thus their performance. The findings support the contention that there is potential for the inclusion of strengths-based approaches to enhance key psychological characteristics required

for success in elite sport, such as in mental toughness development. However, the findings offer a more in depth understanding as to what may be influenced through adopting super-strengths in elite sport.

Another psychological factor that findings suggest super-strengths can influence is sport confidence, a finding that is supported in the sport psychology literature. Recent research exploring practitioners' applied methods for enhancing robust sport confidence indicated that developing athletes' signature strengths was used for this purpose in applied practice (Beaumont et al., 2015). The findings from study two and the intervention studies (phase one and phase two) reinforce this notion, and have furthered understanding of how/why this might be the case. The inclusion of an athlete population in study two, along with social validation interviews in the intervention studies enabled an in-depth understanding as to how confidence is influenced through the super-strengths approach. Specifically, athletes proposed that discussions with their coach during the identification phase, whereby their coach highlighted their greatest attributes and their subsequent development plan was focused around these strengths, enhanced athletes' confidence in their ability. Furthermore, it was suggested that athletes were more confident in performance due to knowing they had simplified their plan and focus for competition, and were being asked to deliver on something they perceived gave them a unique competitive edge. Previous literature on sport confidence supports this finding; perceiving superiority over their opponents has been suggested to be a source of confidence for elite male athletes (Hays et al., 2007). Therefore the super-strengths process would allow for this source of confidence to be built upon, as by definition the intention is to identify and develop a super-strength that provides a unique competitive edge in performance. Taken together with previous research, the findings reported in the thesis have broadened understanding of the association between developing athletes' greatest strengths and facilitating increased sport confidence.

Previous literature documenting the effects of strengths-based approaches being applied in organisational and educational settings has indicated that clients' performance can improve as a result of engaging with these approaches (CLC, 2002; Hodges & Clifton, 2004). However, the association between strengths-based approaches and sporting performance has not yet been explored in the sport psychology literature. Thus, the findings from this thesis have contributed towards understanding this association. Specifically, throughout the thesis findings indicated that athletes' performance improved as a result of engaging with the super-strengths approach and that this could be as a consequence of the increased levels of confidence, engagement, coping skills, and needs satisfaction athletes reported. For example, athletes suggested that in a performance context they felt better able to cope with the pressure of competing, more confident in their ability to deliver and to succeed, and thus were able to perform better in competition. This finding is significant, given that the sample throughout the thesis has been elite performers, and that it has been suggested that the desired marginal improvements that can make a difference to performance at this level are often less than 1% (Pyne, Trewin, & Hopkins, 2004). Thus, due to the requirements and expectations of sport psychologists' working in elite sport to facilitate performance enhancements, it seems beneficial for super-strengths and the implications detailed in the thesis to be considered by researchers and practitioners alike. Specifically, the findings suggest the need for sport psychologists to consider how super-strengths could be used to simplify athletes' performance plans, emphasize their competence, and thus facilitate enhanced coping, confidence, and performance in competition.

7.3.2 Applied Implications. Due to super-strengths being in its infancy as an approach, it is appreciated that practitioners might not feel familiar enough with it to replicate super-strengths as an intervention. However some of the processes comprising the approach, as detailed in the thesis, could be beneficial to those working in applied practice in elite sport.

The findings indicate that there are several potential benefits of adopting the approach with athletes, however there are considerations and recommendations apparent from the findings that should be used to guide practice.

Firstly, it should be noted that the principal researcher, who delivered super-strengths in the intervention studies, is a Chartered Sport & Exercise Psychologist and has thus acquired skills through professional training that could have enhanced the efficacy of the super-strengths intervention. For example being able to build rapport and trust with participants is key for consultancy efficacy (Sharp & Hodge, 2013), and possessing the necessary interviewing/questioning skills would be essential for eliciting information throughout the phases of the super-strengths approach. It is expected that the professional training of sport psychologists would equip those wishing to adopt a super-strengths approach with athletes with the appropriate skills and understanding for achieving success in applying the approach. Nevertheless, it is hoped that the inclusion of practical documents in the appendices such as examples of questions asked during identification (Appendix 13), and participants' output documents from phase two of the intervention studies (Appendices 14-16) will enhance the fidelity of interventions.

A particularly significant applied implication from the findings of the intervention studies was for practitioners to consider what they are trying to achieve by employing super-strengths. Specifically, findings from phase one suggested that although one of the participants was experiencing a difficult time in their sport (they were not being selected for Olympic Games qualification), they still reported greater levels of positivity, confidence and performance, post-intervention. This finding indicates the potential of super-strengths to be used as a method of enhancing positive affect and desirable psychological factors during difficult times for elite athletes. It is suggested these gains could potentially be due to the inclusion of competence-based discussions and subsequent training and performance plans

that involve emphasizing and maximizing the athletes' greatest attributes, within the super-strengths approach. Thus, practitioners could explore the potential of strengths-based approaches for keeping an athlete on track, avoiding dropout, or to aid confidence and engagement during difficult or testing times in their sporting careers (e.g., Lavallee, 2005).

In addition to having the purpose of super-strengths in mind when conducting the approach, the need for practitioners and coaches to be mindful of the definition of super-strengths throughout the intervention was also highlighted throughout studies in the thesis. Specifically, it was suggested that facilitators should initially ensure that athletes' identified super-strength(s) could indeed provide them with a unique competitive edge in their performance context. Further, the need for practitioners and/or coaches to engage in a continual process of reflection and monitoring to ensure that they are achieving this desired effect was highlighted as important. It is proposed that the benefits and outcomes associated with super-strengths may not be achieved if this monitoring is not conducted, thus indicating a necessary consideration for practitioners looking to adopt the approach. Additionally, it is suggested that using the team around the athlete (e.g., other coaches or staff within the Multi-Disciplinary Team) to reinforce the need to review progress would be beneficial, which is something that has been referred to in sport and organisational psychology (Arnold & Sarkar, 2015). Thus, it is important for applied practitioners employing similar approaches to consider how best to ensure the concept and processes will be continually reinforced and who might be the drivers/key people for this to keep happening. In terms of reviewing super-strengths and ensuring the plan is working, this would depend on the identified super-strength of the athlete and their schedule/ competition calendar. The nature of the super-strengths approach means that there is not necessarily a temporal structure for when you would formally review, however findings suggested reviewing after competition, or if completion is regular, after performance block that is significant to the sport would be beneficial.

Previous research exploring a strengths-based approach to coaching mental toughness (Gordon & Gucciardi, 2011) reported that some athletes favoured discussing and working on their strengths, as opposed to their weaknesses. In line with this, findings of study two, and the intervention studies (phase one and two) indicated that the inclusion of discussions between coach and athlete to identify their super-strengths and subsequent development plans was deemed by athletes to be a significant contributor to the positive results seen. Athletes stressed that receiving positive feedback and a plan to enhance their greatest attributes enhanced the positivity they felt, their sport confidence, basic needs satisfaction, and their engagement with subsequent plans. Indeed, previous research in positive psychology outside of sport has suggested that facilitating the development of positive emotions can spark an individual's urge to explore and develop the self (Fredrickson, 2001). Furthermore, in a clinical setting, activating clients' resources (strengths) is a favourable method as it is associated with various positive session outcomes for clients (i.e., goal progress, and failing to emphasise clients' resources resulted in lower confidence and rapport (Fluckiger & Grosse Holtforth, 2009; Gassman & Grawe, 2006). Collectively, the findings of the thesis have implications for sport psychology practitioners if positive psychological factors can be influenced through facilitating strengths-based discussions. It is encouraged that practitioners reflect and consider to what extent competence-related, and autonomy-supportive discussions are taking place for athletes. This is something that could potentially be overlooked, especially in elite sport where performance demands and key stakeholders' stress levels are high (cf. Fletcher et al., 2006). Furthermore, it is evident from the sport psychology literature that there is a heavy focus on helping athletes to improve via working on weaknesses or areas of development (Gordon, 2012). Thus, it is suggested that addressing the balance of time spent working on strengths/super-strengths versus weaknesses, and encouraging more strengths-based focus could enhance desirable psychological characteristics and thus

performance. In particular, it is suggested that ensuring plans are co-created and agreed by the athlete and coach together is paramount for satisfying basic needs, but also for ensuring consistency for putting the development plan in place, and for the monitoring and reviewing of these.

It has been suggested that research into strengths-development approaches is required, to better understand strengths-regulation i.e. how individuals' can apply their strengths contextually and to best effect as well as considering the notion of underplaying and overplaying strengths (Biswas-Diener et al., 2011). Similarly, the present thesis highlighted the need for practitioners to ensure that the boundaries and context for using their super-strengths are understood by athletes has been found to be important for ensuring that athletes do not become over-reliant on super-strengths. Studies one and three indicated that these boundaries can be established by working through examples of different situations, opponents, and/or conditions (depending on the type/context of the sport) for where using super-strengths would work best. Also, it was proposed that agreeing behavioral descriptions of what the coach would see if super-strengths are being used well, under used, or over used is invaluable for ensuring that context is understood. Overall, it is suggested these processes could facilitate greater shared understanding and be useful for monitoring and reinforcing (i.e., in the athletes' performance debriefs). It is argued that failure to agree contextual boundaries may lead to the use of super-strengths when it is not appropriate for the context the athlete finds themselves within, and thus may negatively impact performance.

In addition to providing context for using super-strengths in performance, gaining agreement on how athletes will maximize their super-strengths through adaptations to training was another finding deemed to be important for conducting the approach. It is proposed that ensuring such plans for development are co-created to satisfy the athletes' needs for autonomy. In addition to autonomy, it is suggested that co-created plans that allow

athletes time for them to focus on and indeed maximize the thing(s) that they are greatest at, could impact their perceived competence and potentially subsequent performance. This would support previous research related to self-determination theory and needs satisfaction (Ryan & Deci, 2000; Linley et al., 2010). This finding has implications for applied practice; in particular, the effects could be achieved through adapting methods of goal setting and individual athlete planning. Further, when agreeing athlete plans in relation to their super-strengths development, it is proposed that practitioners should aim to influence key stakeholders within the sport they are working in. In particular, it is suggested that bringing those who shape the athlete's training environment on board, could help achieve a shared-language, common understanding of the rationale and intended plan for super-strengths, and ultimately ensure that the focus of development (i.e., super-strengths) is being reinforced and not compromised. This is important, given that strengths-based philosophies of athlete development are not apparent from the sport performance literature. Instead, the predominant focus of coaches tends to be on helping athletes to improve via working on weaknesses (Gordon, 2012). This notion has wider implications for the implementation of strengths-based approaches, as it necessary for practitioners to consider how they might influence the culture within the sport to be more strengths-based in nature. Indeed, the need for organisations and leaders to better understand and appreciate the potential for strengths-based approaches to be used for psychological and performance enhancement has been reinforced in the literature (Wagstaff & Leach, 2015), and the findings of the thesis echo this.

7.4 Strengths and Limitations

7.4.1 Strengths of the thesis. The programme of research detailed in this thesis has advanced the knowledge and understanding of a strengths-based approach to consultancy in elite sport. Due to the uniqueness of the topic being studied, some of the findings and subsequent implications of the research have not been previously referred to in sport

psychology, thus the thesis offers new knowledge to the discipline. It is proposed that facilitating an understanding of a novel applied approach, concerning a topic that has received scant attention (strengths-based consultancy approach) is a worthy contribution to our discipline and a strength of the overall thesis.

Furthermore, it is proposed that the elite sample included throughout the studies is a strength of the thesis. Specifically, it has been suggested that in elite sport, the desired marginal improvements that can make a difference to performance at this level are often less than 1% (Pyne, Trewin, & Hopkins, 2004) and thus it is expected athletes will already display high level mental skills (Gould, 2002). The findings of this thesis have indicated that super-strengths can impact psychology and performance at the very top level of sport. Thus, it is argued that the implications are important for future research and practice. Furthermore, elite sport is becoming so results-driven (UK Sport, 2012), and practitioners are often required to demonstrate how their work has facilitated performance enhancements (Fletcher & Wagstaff, 2009), therefore it is suggested that extending the knowledge of approaches that can impact psychology at this level is important for practitioners working or aspiring to work in this setting.

In addition to bridging the gap in knowledge of the application of strengths-based approach in elite sport, the thesis has also extended understanding as to how super-strengths might impact psychology and performance. Although the notion of employing strengths-based approaches to enhance psychology has been referred to in the literature (Gordon & Gucciardi, 2011; Beaumont et al., 2015) this has not yet been measured. Thus, a novel strength of the thesis is the theoretical knowledge development stemming from evaluating super-strengths using a combination of both qualitative and quantitative research methods. Strengths-based interventions outside of sport psychology have typically included quantitative investigations, with large numbers to infer impact, with a lack of attention paid to

clients' perceptions or experiences of the approaches. Conversely, the programme of research in this thesis included qualitative explorations to develop an in depth understanding of the super-strengths approach and athletes' perceptions of this. Further, the final study enabled a greater understanding of the actual impact of the approach with the inclusion of a single-subject, multiple baseline design, as well as social validation interviews to better understand the mechanisms for change within the approach. Finally, it is proposed that designing the super-strengths intervention based on the findings from the first two studies was a notable strength of this thesis. It is offered that this progression highlights the significant development of knowledge and evident thread throughout the programme of research.

7.4.2 Limitations of the thesis. As to be expected when venturing into new territory, there are certain limitations of the thesis that need to be considered. First, the aim of the thesis was to generate understanding of the process, role, and effects of an applied strengths-based approach in elite sport, which is an area that has not yet featured in the literature. In line with this, Barker et al. (2013) encouraged researchers to target unique populations, using single-subject designs, to enable the generation of new knowledge for the sport psychology discipline. Thus, studies included athletes who were performing at the highest international or professional standard in their sport. It is appreciated that the ability level of athletes that applied sport psychologists engage with varies significantly from school level (Martin, 2005) through to Olympic champions (Fletcher & Sarkar, 2012). Consequently, although generalizability is not the intention of qualitative research enquiries, the sample used in the study limits the possibility of generalizing the findings to other populations. It is suggested that applied sport psychologists looking to apply a super-strengths/similar approach with athletes from a different level should do so with caution, having the athletes' needs and context in mind. That said, it is suggested that many of the processes and elements of super-

strengths would be relevant and beneficial across levels of sport and in many other performance contexts.

A second limitation to consider is the retrospective nature of data collected in the initial exploration of studies one and two of the thesis. Although the practitioners, coaches, and athletes included in the studies had experience of super-strengths, they were not necessarily engaging in/employing the approach at the time of data collection. Therefore athletes were asked to recall experiences and thus were often speaking retrospectively about how their thoughts, emotions, and behaviours were impacted. Although retrospective data always has the potential to limit accuracy due to influencing factors (i.e., social desirability or memory bias), it is proposed that the procedures employed, such as member checking, alleviated the potential for this (Brewer, Vose, Raalte, & Petitpas, 2011). In addition, the inclusion of the two-phased intervention studies to then apply and test the effectiveness of the findings generated from studies one and two lessened the impact of any retrospective data issues as intervention data was collected in situ.

Finally, the third limitation to note relates to the inconsistencies that stemmed from conducting a super-strengths intervention with athletes from three different sports, in the final study of the thesis. It proved somewhat difficult to accommodate three sports whilst maintaining a level of consistency in the duration and timings for intervention, and consequently there are limitations of this. Specifically, the performance measures used needed to be applicable for the individual within the context of their sport which meant they were different for all three participants. In addition, the duration of the intervention was agreed with the coach and athlete in relation to their competition calendar so that performance measures could be included, which again meant this was slightly different for all participants. Similarly, it was not possible to collect follow-up data for participant 2 after they recovered from injury, as they were then on off-season and not in a performance phase.

Although these limitations should be considered, it is believed that this application across contexts has strengthened the understanding generated from the thesis, surrounding the commonalities and differences that need to be considered when delivering super-strengths. Overall the thesis has contributed significantly to furthering the knowledge and understanding of an applied strengths-based approach in elite sport. Still, it is hoped that future research will aim to address the limitations discussed and continue bridging the evident gap in this area.

7.5 Suggestions for Future Research

With reference to the strengths and limitations of the present thesis, and the identified gaps in knowledge of super-strengths, suggestions for future research are discussed in this section. Specifically, there are three main avenues that future research should endeavour to explore: alternative contexts, strengths-based culture, and longitudinal research. First, due to the approach studied, as well as the sample and design included in the programme of research in this thesis, there are limitations concerning the generalisability of findings to non-elite populations. Thus it is proposed that there is a need for future research to continue investigating the adoption of strengths based approaches, in particular exploring how super-strengths or some of the methods/processes within the approach could be adapted and applied with younger, lower level, or developing athletes. It is offered that this would generate new knowledge to the sport psychology literature, due to the lack of applied strengths-based interventions documented. In echo of the sentiments of Martens (1987), it is believed that applied approaches from the field should be brought to light in a research context, and if such approaches are found to be effective then further study is warranted. Thus future research should aim to explore how strengths-based methods, such as those detailed within super-strengths, could impact psychology and performance in other settings. Super-strengths as an approach is still in its infancy, and coupled with the fact that strength-based approaches are so

scarce in our discipline, there is a need to explore these approaches in more depth moving forward.

Second, as previously alluded to, given the positive findings within the thesis, it seems timely for sport psychology researchers to consider bridging the gap in knowledge related to the adoption of strengths-based approaches to enhance psychology and performance. However, it is suggested that there is a need to explore how this way of working might be adopted in a wider context within sport. As highlighted, there is an evident focus on helping athletes improve via focusing on developing their weaker areas (Gordon, 2012). Furthermore, the findings of the thesis suggested that athletes had not previously considered developing and maximising their strengths in training and performance contexts, and that this was different to their usual way of working, highlighting a potential bias as to where coaches and athletes look to improve. Yet the findings of the research conducted highlight the potential for super-strengths to enhance key psychological factors performance and thus positively impact performance. Collectively, the thesis findings indicate the need for sport psychologists to consider how to integrate strengths-based approaches into sports and to begin to address the weakness bias.

Third, although the final study included a follow up phase, in an attempt to assess any lasting impact of super-strengths, the small sample and lack of consistency of different sports' competition calendars limited generalisability of the findings. To develop the understanding generated from the thesis, and address the limitation of the final study design, it is proposed that future research could conduct more longitudinal super-strengths research. Specifically, the delivery of a super-strengths intervention in one sport, with multiple athletes working on the same competition calendar/periodization, for example in a team sport would extend knowledge of the role and impact of the approach. This would allow for the assessment of any lasting impact to be conducted, as well as a more in depth understanding to

be generated as to how culture might be influenced when an extensive super-strengths approach is conducted. In sum, it is hoped that researchers/practitioners continue to bridge the knowledge gap of strengths-based approaches in sport psychology by exploring the areas discussed in this section.

7.6 Concluding Remarks

This thesis has provided novel insight to an applied strengths-based approach to practice. Specifically, the research has generated the development of a framework for delivering a super-strengths intervention in elite sport (see Appendix 6), understanding of the importance of each phase of the approach, a method for identifying super-strengths (see Appendix 13), the role of super-strengths and the mechanisms for change within the approach, and understanding of the impact of super-strengths on psychology and performance. The thesis has introduced a novel approach that has the potential to enhance elite athletes' confidence, coping, engagement and needs satisfaction, as well as performance in competition. It is proposed that this new knowledge could benefit not only sport psychologists working in elite sport, but also coaches and other members of staff, as well as athletes. To do so, it is believed that there is need to move research and practice away from the deficit/weakness bias (Seligman, 2005), something that is evident in sport, and in some of the advocated approaches in sport psychology (Gordon, 2012). Specifically, it is proposed that an alternative focus, upon capacities and greatest strengths, could produce numerous desirable psychological outcomes and enhance performance to a greater extent. It is hoped that the thesis inspires a shift in the emphasis of sport psychologists' research and practice alike.

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Word Count

55,252

Appendices

Appendix 1: General Consent Form (All Studies)

PARTICIPANT CONSENT FORM

TITLE OF RESEARCH STUDY: Implementation of a Super-strengths approach in Elite Sport

Please answer the following questions by ticking the response that applies

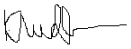
		YES	NO
1.	I have read the Information Sheet for this study and have had details of the study explained to me.	☐	☐
2.	My questions about the study have been answered to my satisfaction and I understand that I may ask further questions at any point.	☐	☐
3.	I understand that I am free to withdraw from the study within the time limits outlined in the Information Sheet, without giving a reason for my withdrawal or to decline to answer any particular questions in the study without any consequences to my future treatment by the researcher.	☐	☐
4.	I agree to provide information to the researchers under the conditions of confidentiality set out in the Information Sheet.	☐	☐
5.	I wish to participate in the study under the conditions set out in the Information Sheet.	☐	☐
6.	I consent to the information collected for the purposes of this research study, once anonymised (so that I cannot be identified), to be used for any other research purposes.	☐	☐

Participant's Signature: _____ Date: _____

Participant's Name (Printed): _____

Contact details: _____

Researcher's Name (Printed): _ Katie Ludlam_____

Researcher's Signature: ___  **_____**

Researcher's contact details:
(Name, address, contact number of investigator)

Katie.ludlam@eis2win.co.uk
English Institute of Sport (Support Centre)
Coleridge Road
Sheffield
S9 5DA
07749469248

Please keep your copy of the consent form and the information sheet together.

Appendix 2: Information Letter (Study 1 & 2)

Sheffield Hallam University

Faculty of Health and Wellbeing Research Ethics Committee
Sport and Exercise Research Ethics Review Group

Participant Information Sheet

Project Title	Strengths-based approaches in in elite sport.
Supervisor/Director of Studies	Ian Maynard
Principal Investigator	Katie Ludlam
Principal Investigator telephone/mobile number	07749469248/ katie.ludlam@eis2win.co.uk

Purpose of Study and Brief Description of Procedures
(Not a legal explanation but a simple statement)

The purpose of this study is to explore the underpinning and application of strengths based approaches in elite sport. The study forms part of the principal investigator's doctorate thesis.

Participants will be required to partake in a semi-structured interview conducted by the principal investigator, at a suitable time and location. The interviews will last approximately 45 minutes and will be digitally recorded in order for the principal investigator to transcribe the interviews accurately.

Participation is voluntary and you have the right to withdraw from the study at any time. Data will solely be used for the purpose outlined above, however the results could potentially be published in an academic journal. All information and data will remain anonymous and participants will be assigned pseudonyms in the written report of the data. All data will be kept on a secure, password protected computer and written copies will be locked in a drawer.

If necessary continue overleaf

It has been made clear to me that, should I feel that these Regulations are being infringed or that my interests are otherwise being ignored, neglected or denied, I should inform Mr David Binney, Chair of the Faculty of Health and Wellbeing Research Ethics Committee (Tel: 0114 225 5679) who will undertake to investigate my complaint.

Appendix 3: Interview Guide (Study 1)

Study 1: Exploring the Super-Strengths approach

- = probe

Concept

1) Can you describe what Super-Strengths is about, for you?
   - What are the most important parts of it?
   - How does it relate to sport and psychology?
   - If you had to offer a definition, what would that be?
2) Can you explain what you perceive to be the role of super-strengths?
   - What are you trying to achieve by adopting this method/approach?
   - When would it be used, with who etc.

Identification

3) Can you describe how you identify an athlete's super strength, in an ideal world, what does this look like in practice?
   - Who is involved in this process and why?
4) Can you specify the process, so what tools/techniques are used and how?
   - Questioning? What questions? What other tools?
5) Can you describe how long does this process might take and when you would do it?
6) For you, what are the challenges with identification?

Key Phases of Approach

7) Can you outline the process of the approach, once you have identified athletes' super-strengths, i.e. what happens next?
8) What needs to change for the athlete to maximise their super strength?
   - Mind-set? Actual training?
9) How do you measure the impact or success of the approach in your sport?
   - Objective and subjective measures?
10) What would you do differently if you were to do/use it again?
11) In summary, what do you think the most important elements of the approach are and why?

Appendix 4: Interview Guide (Study 2)

Interview Guide: Study 2 - Athlete's perceptions of Super-Strengths approach

- = probe

1) What is your experience of super strengths/strengths based approach?
    - How did it come about?
    - What was it used for?
    - What do you understand about it?
    - What is it about for you?

2) Can you explain how you identified your super strength(s)?
    - Who was involved?
    - What sorts of questions were asked?
    - Were you previously aware of these areas of strength?
    - How did it make you feel?

3) Can you tell me about anything that you adapted that came from your experience of super-strengths?
    - Mind-set
    - Training
    - Performance

Moving forwards

4) What are your thoughts on this aproach compared to other development approaches?
    - What is your default way of working to improve?
    - How does this approach differ?
    - What change was required, if any?

5) What is the best thing about super strengths?
    - The golden nugget or the most important thing for you

6) Can you tell me what we should be mindful of when adopting the approach with athletes?

- Who with, why, what, when?
- When would be a good time to do it?
- How would you prefer to do/use it?

7) How would it help others and how?
    - Everyday life?
    - Performance context?

8) How would you make the approach more effective?
    - What would you have changed about what you experienced?
    - Do you think anything was missed/ not done that you would have liked?
    - Anything you did not like about it?

9) Any other comments?

Appendix 5: Information Letter (Intervention: Phase one and two)

Sheffield Hallam University

Faculty of Health and Wellbeing Research Ethics Committee
Sport and Exercise Research Ethics Review Group

Participant Information Sheet

Project Title	Implementation of a Super-Strengths Approach in Elite Sport
Supervisor/Director of Studies	Joanne Butt/ Ian Maynard
Principal Investigator	Katie Ludlam
Principal Investigator telephone/mobile number	07749469248/ katie.ludlam@eis2win.co.uk

Purpose of Study and Brief Description of Procedures
(Not a legal explanation but a simple statement)

The purpose of this study is to investigate the practicality of super-strengths interventions with athletes within elite sport. The study forms part of the principal investigator's doctorate thesis.

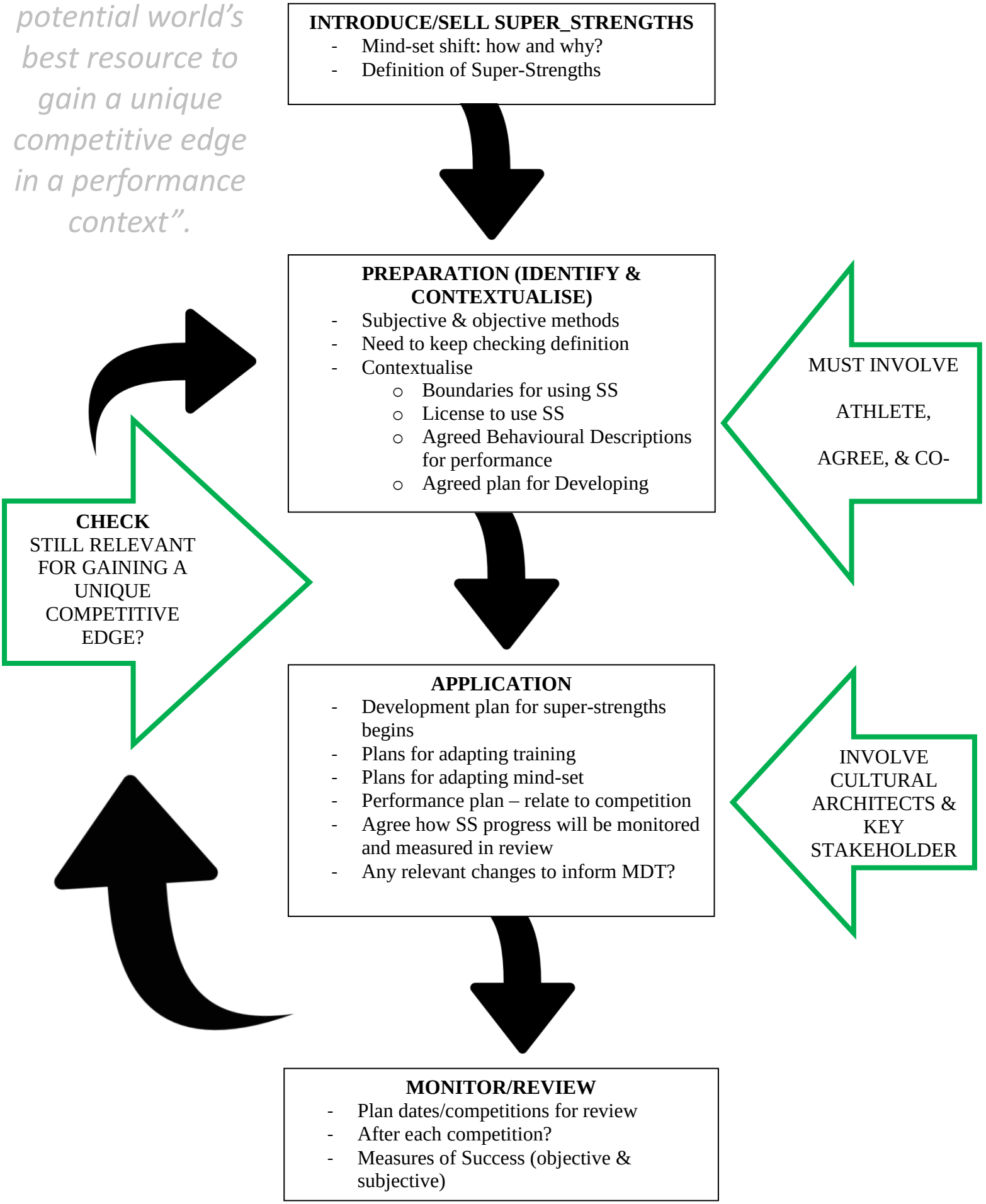
Participants are required to partake in an intervention procedure which aims to identify and develop their 'super-strengths', alongside their coach and/or sport psychologist (more information regarding the procedure is attached). This will take place in the participants' usual place of training. Prior to, during, and upon completion of the intervention, participants will be asked to complete psychological measures related to the approach. Participants will also be interviewed after the intervention to gain a subjective account of their experiences of the intervention.

Participants will have ample opportunity to discuss participation with their coach, psychologist and the principal investigator, prior to data collection commencing. Participation is voluntary and you have the right to withdraw from the study at any time. Data will solely be used for the purpose outlined above, however the results could potentially be published in an academic journal or presented at an academic conference. All information and data will remain anonymous and participants will be assigned pseudonyms in the written report of the data. All data will be kept on a secure, password protected computer and any written copies will be locked in a drawer. Upon completion of the study, results will be available for all participants and a member checking procedure will be conducted to ensure all information is correct and agreed by participants.

It has been made clear to me that, should I feel that these Regulations are being infringed or that my interests are otherwise being ignored, neglected or denied, I should inform Mr David Binney, Chair of the Faculty of Health and Wellbeing Research Ethics Committee (Tel: 0114 225 5679) who will undertake to investigate my complaint.

"A strategy for performance that utilizes a potential world's best resource to gain a unique competitive edge in a performance context".

Appendix 6: Conceptual pathway of Super-Strengths Approach



Appendix 7: Athlete Engagement Questionnaire

The Sport Experiences Scale

(Lonsdale, Hodge, & Jackson, 2007)

Below are some statements people have made about their experiences in sport. Using the scale provided, please indicate how often you have felt this way about your participation in your main sport this season. Your sport participation includes all training and competition. There are no right or wrong answers, so do not spend too much time on any one question and answer as honestly as you can. Some items may appear similar but please respond to all the statements by circling the appropriate number.

		Almost Never	**Rarely**	**Sometimes**	**Frequently**	**Almost Always**
1.	I believe I am capable of accomplishing my goals in sport.	1	2	3	4	5
2.	I feel energized when I participate in my sport.	1	2	3	4	5
3.	I am dedicated to achieving my goals in sport.	1	2	3	4	5
4.	I feel excited about my sport.	1	2	3	4	5
5.	I feel capable of success in my sport.	1	2	3	4	5
6.	I feel energetic when I participate in my sport.	1	2	3	4	5
7.	I am determined to achieve my goals in sport.	1	2	3	4	5
8.	I am enthusiastic about my sport.	1	2	3	4	5
9.	I believe I have the skills/technique to be successful in my sport.	1	2	3	4	5
10.	I feel really alive when I participate in my sport.	1	2	3	4	5
11.	I am devoted to my sport.	1	2	3	4	5
12.	I enjoy my sport	1	2	3	4	5
13.	I am confident in my abilities.	1	2	3	4	5
14.	I feel mentally alert when I participate in my sport.	1	2	3	4	5
15.	I want to work hard to achieve my goals in sport.	1	2	3	4	5
16.	I have fun in my sport	1	2	3	4	5

Appendix 8: State Sport Confidence Inventory

SSCI (Vealey, 1986)

Think about how confident you feel right now about performing successfully in the upcoming competition.

Answer the questions below based on how confident you feel right now about competing in the upcoming contest. Compare your self-confidence to the most self-confident athlete you know.

Please answer as you really feel, not how you would like to feel. Your answers will be kept completely confidential.

How confident are you right now about competing in the upcoming contest? (circle number)

1) Compare the confidence you feel right now in ***your ability to execute the skills necessary to be successful*** to the most confident athlete you know.

Low				Medium				High
1	2	3	4	5	6	7	8	9

2) Compare the confidence you feel right now in ***your ability to make critical decisions during competition*** to the most confident athlete you know.

Low				Medium				High
1	2	3	4	5	6	7	8	9

3) Compare the confidence you feel right now in ***your ability to perform under pressure*** to the most confident athlete you know.

Low				Medium				High
1	2	3	4	5	6	7	8	9

4) Compare the confidence you feel right now in ***your ability to execute successful strategy*** to the most confident athlete you know.

Low				Medium				High
1	2	3	4	5	6	7	8	9

5) Compare the confidence you feel right now in ***your ability to make critical decisions during competition*** to the most confident athlete you know.

Low				Medium				High
1	2	3	4	5	6	7	8	9

6) Compare the confidence you feel right now in ***your ability to adapt to different competitive situations and still be successful*** to the most confident athlete you know.

Low				Medium				High

1 2 3 4 5 6 7 8 9

7) Compare the confidence you feel right now in ***your ability to achieve your competitive goals*** to the most confident athlete you know.

Low Medium High
1 2 3 4 5 6 7 8 9

8) Compare the confidence you feel right now in ***your ability to be successful*** to the most confident athlete you know.

Low Medium High
1 2 3 4 5 6 7 8 9

9) Compare the confidence you feel right now in ***your ability to think and respond successfully during competition*** to the most confident athlete you know.

Low Medium High
1 2 3 4 5 6 7 8 9

10) Compare the confidence you feel right now in ***your ability to meet the challenge of competition*** to the most confident athlete you know.

Low Medium High
1 2 3 4 5 6 7 8 9

11) Compare the confidence you feel right now in ***your ability to be successful based on your preparation for this event*** to the most confident athlete you know.

Low Medium High
1 2 3 4 5 6 7 8 9

12) Compare the confidence you feel right now in ***your ability to perform consistently enough to be successful*** to the most confident athlete you know.

Low Medium High
1 2 3 4 5 6 7 8 9

13) Compare the confidence you feel right now in ***your ability to bounce back from performing poorly and be successful*** to the most confident athlete you know.

Low Medium High
1 2 3 4 5 6 7 8 9

Appendix 9: Athlete Coping Skills Inventory

ACSI – 28

A number of statements that athletes have used to describe their experiences are given below. Please read each statement carefully and then recall as accurately as possible how often you experience the same thing. There are no right or wrong answers. Do not spend too much time on any one statement.

		Almost Never	Sometimes	Often	Almost Always
1	On a daily basis I set very specific goals for myself that guide what I do	0	1	2	3
2	I get the most out of my talent and skills	0	1	2	3
3	When a coach or manager tells me how to correct a mistake I've made, I tend to take it personally and get upset	0	1	2	3
4	When I am playing sports I can focus my attention and block out distractions	0	1	2	3
5	I remain positive and enthusiastic during competition, no matter how badly things are going	0	1	2	3
6	I tend to play better under pressure because I think more clearly	0	1	2	3
7	I worry quite a bit about what others think about my performance	0	1	2	3
8	I tend to do lots of planning about how to reach my goals	0	1	2	3
9	I feel confident that I will play well	0	1	2	3
10	When a coach or manager criticizes me, I become upset rather than helped	0	1	2	3
11	It is easy for me to keep distracting thoughts from interfering with something I am watching or listening to	0	1	2	3
12	I put a lot of pressure on myself by worrying how I will perform	0	1	2	3
13	I set my own performance goals for each practice	0	1	2	3
14	I don't have to be pushed to practice or play hard; I give 100%	0	1	2	3
15	If a coach criticizes or yells at me, I correct the mistake without getting upset about it	0	1	2	3
16	I handle unexpected situations in my sport well	0	1	2	3
17	When things are going badly I tell myself to keep calm and this works for me	0	1	2	3
18	The more pressure there is during a game,	0	1	2	3

	the more I enjoy it				
19	While competing, I worry about making mistakes or failing to come through	0	1	2	3
20	I have my own game plan worked out in my head long before the game begins	0	1	2	3
21	When I feel myself getting too tense, I can quickly relax my body and calm myself	0	1	2	3
22	To me, pressure situations are challenges that I welcome	0	1	2	3
23	I think about and imagine what will happen if I fail or screw up	0	1	2	3
24	I maintain emotional control no matter how things are going for me	0	1	2	3
25	It is easy for to direct my attention and focus on a single object or person	0	1	2	3
26	When I fail to reach my goals, it makes me try even harder	0	1	2	3
27	I improve my skills by listening carefully to advice and instruction from coaches and managers	0	1	2	3
28	I make fewer mistakes when the pressure's on because I concentrate better	0	1	2	3

Appendix 10: Basic Needs Satisfaction in Sport Scale

Feelings About My Main Sport

Please answer the questions according to your feelings and experiences when participating in your main sport.

	Not true at all			Somewhat true			Very true
1. In my sport, I feel close to other people.	1	2	3	4	5	6	7
2. In my sport, I feel I am pursuing goals that are my own.	1	2	3	4	5	6	7
3. I feel I participate in my sport willingly.	1	2	3	4	5	6	7
4. In my sport, I get opportunities to make choices.	1	2	3	4	5	6	7
5. In my sport, I feel that I am being forced to do things that I don't want to do.	1	2	3	4	5	6	7
6. I can overcome challenges in my sport.	1	2	3	4	5	6	7
7. I show concern for others in my sport.	1	2	3	4	5	6	7
8. I choose to participate in my sport according to my own free will.	1	2	3	4	5	6	7
9. In my sport, I have a say in how things are done.	1	2	3	4	5	6	7
10. There are people in my sport who care about me.	1	2	3	4	5	6	7
11. I am skilled at my sport.	1	2	3	4	5	6	7
12. I feel I am good at my sport.	1	2	3	4	5	6	7
13. In my sport, I can take part in the decision making process.	1	2	3	4	5	6	7
14. I get opportunities to feel that I am good at my sport.	1	2	3	4	5	6	7
15. In my sport, I really have a sense of wanting to be there.	1	2	3	4	5	6	7
16. In my sport, I feel I am doing what I want to be doing.	1	2	3	4	5	6	7
17. I have the ability to perform well in my sport.	1	2	3	4	5	6	7
18. In my sport, there are people who I can trust.	1	2	3	4	5	6	7
19. I have close relationships with people in my sport.	1	2	3	4	5	6	7
20. In my sport, I get opportunities to make decisions.	1	2	3	4	5	6	7

Appendix 11: Subjective Performance Measure (Intervention Studies)

PERFORMANCE SCORES

I would rate my current performance level:

1	2	3	4	5	6	7	8	9	10
Worst it's ever been								Best it's ever been	

I would rate my current performance level:

1	2	3	4	5	6	7	8	9	10
Much worse than usual								Much better than usual	

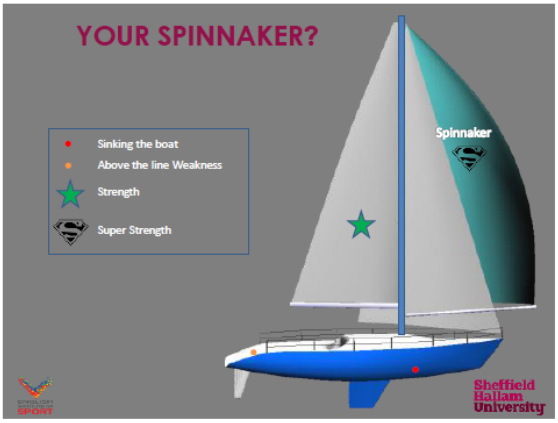
As coach, I would rate the athlete's current performance level:

1	2	3	4	5	6	7	8	9	10
Much worse than usual								Much better than usual	

As coach, I would rate the athlete's current performance level:

1	2	3	4	5	6	7	8	9	10
Worst it's ever been								Best it's ever been	

Appendix 12: Introduction to Super-Strengths Presentation (Intervention Studies)



SUPER-STRENGTHS

- **INTRO** - define and explain super-strengths
- **IDENTIFY** - Coaches & athlete to agree on super-strength(s)
- **DEVELOP** - Athletes and coaches will agree when to use super-strengths and how it will be developed/ used in training and competition. Application phase duration and procedure will be agreed.
- **IMPACT** – Completing measures to assess changes in psychology and performance

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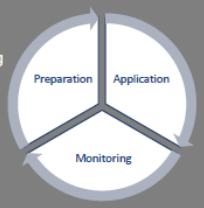
PHASES OF DEVELOPMENT

- Defining
- Context for utilising
- Strategic Plan



- Adapting training & culture
- Change in Mind-set
- Review
- Reinforce
- Measures of Success

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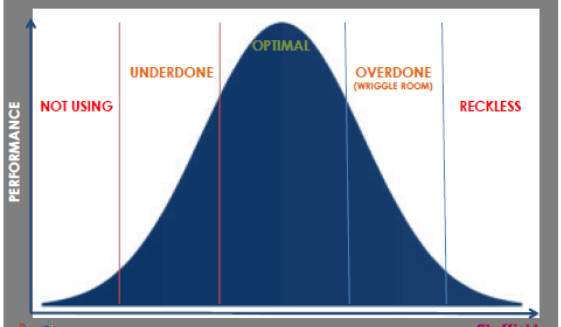
SUPER-STRENGTHS



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SUPER-STRENGTHS

WHY?

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INTENDED IMPACT

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Appendix 13: Example Question List for Identification of Super-Strengths

1) Describe your greatest performance (Video description)
2) What are your weapons/best things in your locker?
3) What are you better than everyone else at/ the thing that sets you apart from others?
4) What is the best thing about your game?
    a. Technical, tactical, physical, psychological
5) What do you think you get selected for/ if you were a coach, why would you pick you?
6) Perceptual positioning – If I went and asked team mates/athletes you compete against what your super-strength is, what would they say?
7) How did you progress through the ranks, what did people keep seeing?
8) What is the one thing that is different about you/ your x factor?
9) What usually wins you points/scores you runs/makes you win?
10) What do you love the most about competing in your sport – which bit of the game/sport/comp?
11) What would it take for you to be world's best in their position/weight/sport etc.
12) What do they currently have that potentially could be/already is world's best?
13) What is the one thing that makes you great?

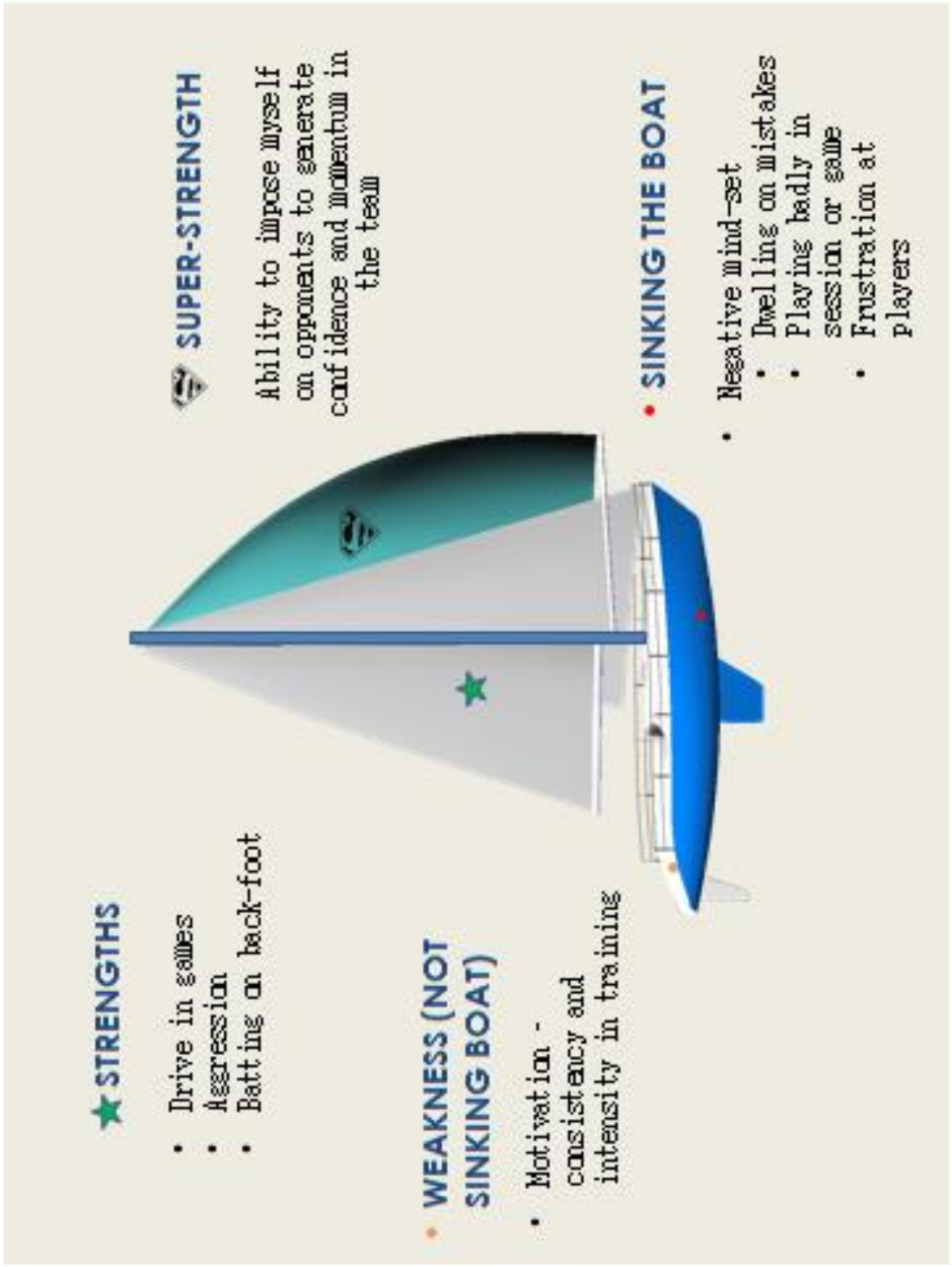
CHECK QUESTIONS (WHEN IDENTIFIED SUPER-STRENGTHS):

1) Does this give them a strategy for performance?

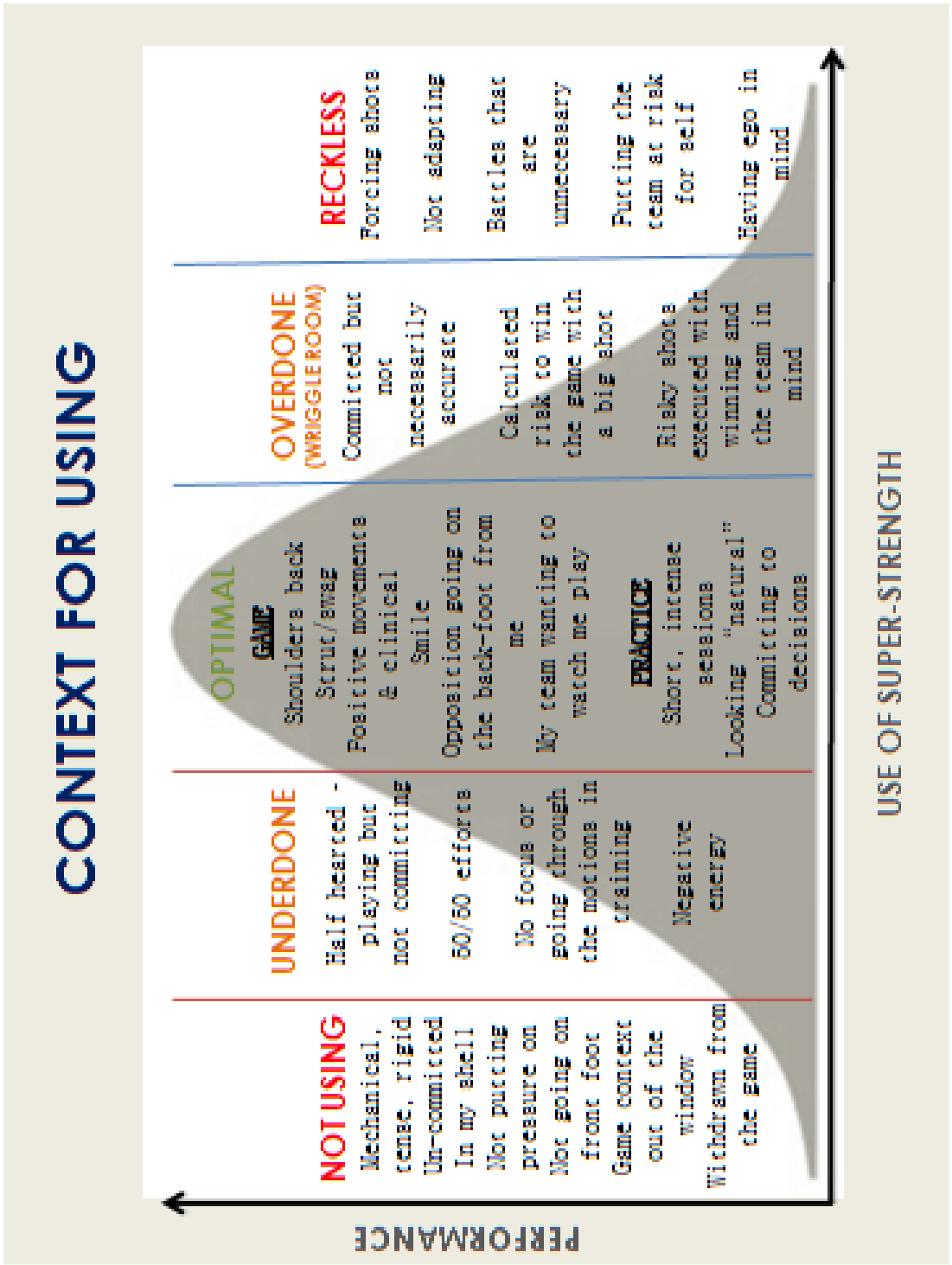
2) Is this utilising a potential world's best resource?

3) Will it give them a unique competitive edge in performance?

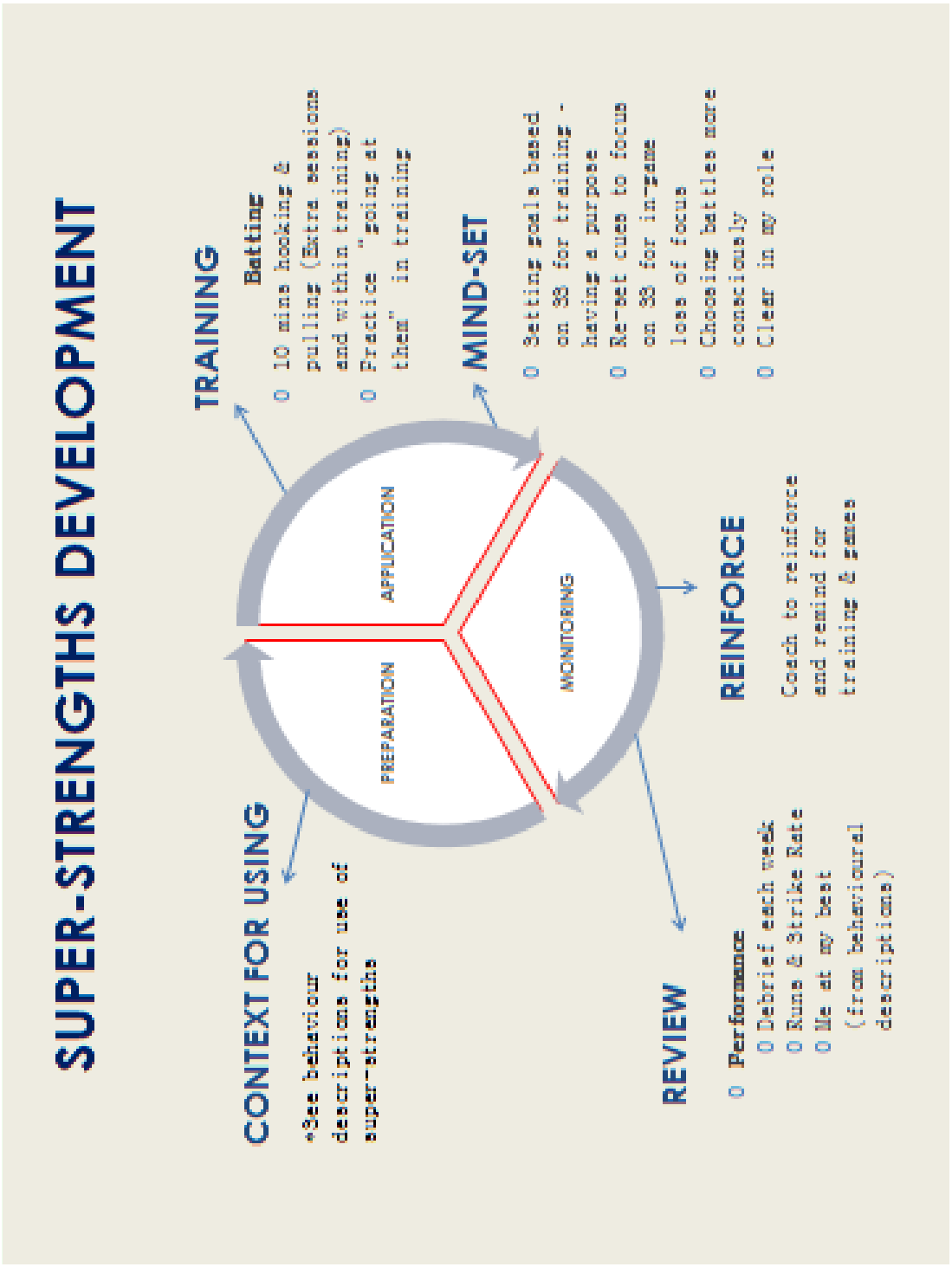
Appendix 14: Example Output for Participants - Super-Strengths Boat Metaphor (Intervention Phase Two)



Appendix 15: Example Output for Participants - Super-Strengths Context for Using (Intervention Phase Two)



Appendix 16: Example Output for Participants - Super-Strengths Development (Intervention Phase Two)



Appendix 17: Table comprising Objective Performance Measures (Intervention Phase Two)

Participant	Super-Strength Context	Identified Performance Measure	Pre Intervention	Post Intervention
1	Using my world's best adaptable technique to maintain world-beating consistency	Securing a top 8 finish in upcoming Major competition (i.e., consistently getting through the rounds to the final)	Not finished within the top 8 of a major competition	Silver Medal in World Cup
2	Using my ability to impose myself on opponents to generate confidence and momentum in the team	Run statistics & scoring 100	Highest score (Test) – 61 Strike rate = 32%	Highest score (Test) – 102 Strike rate = 79%
3	Using my work rate and football intelligence to exploit space and create opportunities	Passes Complete Balls Received Final Third Entries Penalty Box Entries Shots	26 35 5 2 0.8	38 49 8 4 0.8