

**Cardiff School of Sport**  
**DISSERTATION ASSESSMENT PROFORMA:**  
 Empirical <sup>1</sup>

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<b>Comments</b>	<b>Section</b>		
	<p><b>Title and Abstract</b></p> <p>Title to include: A concise indication of the research question/problem.</p> <p>Abstract to include: A concise summary of the empirical study undertaken.</p>		
	<p><b>Introduction and literature review</b></p> <p>To include: outline of context (theoretical/conceptual/applied) for the question; analysis of findings of previous related research including gaps in the literature and relevant contributions; logical flow to, and clear presentation of the research problem/ question; an indication of any research expectations, (i.e., hypotheses if applicable).</p>		
	<p><b>Methods and Research Design</b></p>		

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	<p>To include: details of the research design and justification for the methods applied; participant details; comprehensive replicable protocol.</p>
	<p><b>Results and Analysis <sup>2</sup></b></p> <p>To include: description and justification of data treatment/ data analysis procedures; appropriate presentation of analysed data within text and in tables or figures; description of critical findings.</p>
	<p><b>Discussion and Conclusions <sup>2</sup></b></p> <p>To include: collation of information and ideas and evaluation of those ideas relative to the extant literature/concept/theory and research question/problem; adoption of a personal position on the study by linking and combining different elements of the data reported; discussion of the real-life impact of your research findings for coaches and/or practitioners (i.e. practical implications); discussion of the limitations and a critical reflection of the approach/process adopted; and indication of potential improvements and future developments building on the study; and a conclusion which summarises the relationship between the research question and the major findings.</p>
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**CARDIFF SCHOOL OF SPORT**

**DEGREE OF BACHELOR OF SCIENCE (HONOURS)**

**SPORT AND EXERCISE SCIENCE**

**Sources of sport-confidence identified by a range of athletes towards their success performing in individual sports or team sports and the possible differences between them.**

**(Psychology)**

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## **Abstract**

This study examined sport-type effects on the different sources of sport-confidence in order to attempt to direct applied practice for developing confidence within athletes. A sample of male (N=26) and female (N=30) athletes, aged between 19 and 25 ( $M=20\pm 0.9$  years), from either a team sport (N=32) or an individual sport (N=24) completed the Sources of Sport Confidence Questionnaire (SSCQ) (Vealey et al., 1998). Athletes were asked to refer to their general level of confidence when completing the SSCQ. A one way analysis of variance (ANOVA) was conducted which revealed no significant differences between sport-type scores. These findings highlight that differences do not exist between athletes competing in different types of sport, which suggests that interventions or strategies designed to enhance levels of confidence in athletes does not have to be altered when concerning sport-type, and should be as effective with both individual and team-sport athletes. Therefore, practitioners do not need to change their interventions when dealing with athletes from different sport-types.

**Chapter 1**  
**Introduction**

## **Sport Psychology**

Sport psychology is seen as a fairly recent domain within sport in comparison to other sporting areas such as physiology and biomechanics. However, due to the competitive nature of sport and the small margins that can be the difference between winning and losing, sport psychology has rapidly developed and expanded (Horn, 2008). Kontos & Feltz, (2008) have stated the positive impact that psychology has on sport performance, and remains a constant driving force behind lots of the research that is continuing to be conducted. Particularly, the area of self-confidence in sport is believed to be one of the major determinants towards sporting success (Kingston, Lane & Thomas, 2010).

## **Self-confidence**

Self-confidence is seen as an integral psychological area to success in many different parts of life, and has been shown to have a consistent and significant influence on sporting performance (Jones & Hanton, 2001). The role of self-confidence has a significant impact upon athletes within sporting environments. Hemery (1986) in fact, found that 90% of sports highest achievers have a very high level of self-confidence. More recently there has been support in lots of the sport-confidence literature (i.e. Moritz et al., 1996), that has found a positive relationship between confidence and performance.

One of the most significant examples of confidence in sport was from Roger Bannister. Scientists and the like stated that a four minute mile was impossible, and that neither Bannister or any other athlete was ever going to be able to achieve this feat as no human being had the physiological ability to run that quickly and would consequently die in their attempts. However, Bannister had so much confidence and belief in himself that on 6<sup>th</sup> May 1954, it was he, who was the first human to break the 4 minute barrier. This feat by Roger Bannister was the catalyst for many more runners to break the four minute mile barrier, and it was suggested that it was the belief they got from seeing Bannister complete the unthinkable that gave them the confidence to achieve the same.

Many top-class athletes have also been quoted as saying that it is the confidence and belief in their ability that is the most important factor in determining their sporting success. As basketball star Michael Jordan stated.

*I've missed more than 9000 shots in my career. I've lost almost 300 games. 26 times, I've been trusted to take the game winning shot and missed. I've failed over and over and over again in my life. And that is why I succeed.* (Michael Jordan)

Female tennis star Venus Williams stated that her self-confidence is what gives her the belief before a performance.

*In my mind I'm always the best.* (Venus Williams)

Football icon Cristiano Ronaldo spoke confidently of his ambitions for his footballing career,

*There is no harm in dreaming of becoming the World's best player. It's all about trying to be the best. I will keep working hard to achieve it, but it is within my capabilities.* (Cristiano Ronaldo)

Footballer Perparim Hetemaj claimed that his self-belief is crucial in his performance levels.

*In my opinion, it's just that, when you play, you have to believe in yourself and give it your all.* (Perparim Hetemaj)

Confidence can be the difference between winning and losing, making it to professional level, or being able to accomplish a target that may not have been achievable without that extra self-belief. In fact, fluctuations in confidence have been identified as accounting for differences in the best and worst performances in sport competitions (Greenleaf, Gould & Dieffenbach, 2001). As Vealey (2001) stated, self-confidence has consistently been identified as an important influence on athletic performance. Jones, Hanton & Connaughton (2002) found that international athletes identified self-confidence as the most critical mental attribute when defining mental toughness. This shows that there is a strong relationship between self-confidence and mental toughness in top level athletes, and as Bull et al (2005) noted, elite athletes state that the key to mental toughness is an

unshakable self-confidence that is robust and resilient. An understanding of the factors that can influence confidence, and the ways in which it can affect performance, are imperative to sports psychologists to try and implement efficient interventions and strategies which will enable athletes to increase their confidence.

### **Aims of study**

Based on the previous research that has been conducted in the area of self-confidence in sport, the aim of the current study was to investigate the influence that sport-type has on the sources of confidence that athletes deem important towards success in sport.

**Chapter 2**  
**Literature Review**

## **Introduction**

There have been several conceptualisations within the self-confidence area of literature. This literature review will aim to concentrate on the two main conceptualisations supported: Self-Efficacy Theory (Bandura, 1977, 1997) and Sport-Confidence Theory (Vealey, 1986, 2001; Vealey et. al., 1998; Vealey & Chase, 2008).

## **Self-Efficacy Theory**

The main model of research that looks into self-confidence comes from Bandura's Self-Efficacy Theory (Bandura, 1977, 1997). Self-efficacy is defined as 'beliefs in one's capabilities to organize and execute the courses of action required to produce given attainments' (Bandura, 1997, p.3). Self-efficacy is therefore focused on the perceptions that athletes have about their abilities to succeed rather than how many skills they may possess (Hardy, Jones & Gould, 2001), and is a situation-specific form of self-confidence. Perception is the key word, each athlete's perceptions of their abilities varies from day to day and is a very personal opinion. This is important to take into consideration, as every individual will judge a situation in their own unique way which, in a sporting context, could lead to significant differences between athletes of similar abilities. Some may perceive their ability as positive to success, whereas others may perceive their ability level as debilitating to success. The self-efficacy theory was based around four sources: past performance accomplishments, vicarious experiences, verbal persuasion and physiological states in Bandura's models; which Bandura stated would predict efficacy expectations. Each source was ranked in order of strength for an individual's self-efficacy, with past performance accomplishments being the most significant source, followed by vicarious experiences, verbal persuasion and then physiological states being the least significant. Self-efficacy is seen as a dynamic and fluctuating property which involves the control of physical performance execution, disruptive thinking, and affective states. Hence, self-efficacy takes different forms. These include behavioural self-efficacy, cognitive self-efficacy and emotional self-efficacy (Maddux & Lewis, 1995). This was then further developed by Maddux (1995) and Schunk (1995), who added a further two sources to

Bandura's model. The two extra sources were imagery and emotional experiences.

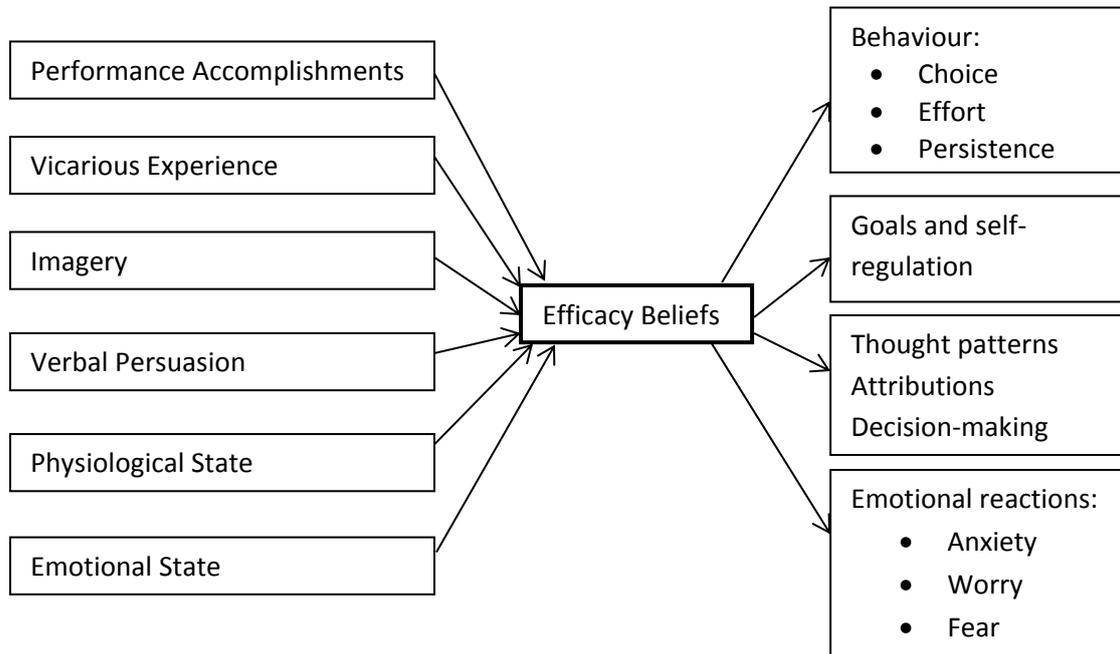


Figure 1. An overview of self-efficacy theory: sources and outcomes (adapted from Short & Ross-Stewart, 2009)

This model by Short & Ross-Stewart (2009) explains how efficacy beliefs are created through the complex process of self-appraisal, self-persuasion and cognitive processing that leans upon the numerous sources of efficacy information (Feltz et. al., 2008). The efficacy beliefs that are developed from the sources then have an influential effect on an individual's behaviour, thoughts, self-regulation and emotions (Bandura, 1997). As Fig.1 shows, the impact of behaviour affects the choices, effort and persistence of the individual. Emotional reactions such as anxiety, worry and fear are also affected based on the influence of the efficacy beliefs that an individual experiences. The beliefs from the sources of self-efficacy can also influence the self-regulation, thoughts and decision making of an individual that can have subsequent results on behaviours, actions and cognitive thoughts (Bandura, 1997).

However, although the self-efficacy theory was effective in developing a model that could be used to explain how an individual gains confidence, it is situational specific and generalised to everyday situations and it would be questioned as to

whether the sources identified in the self-efficacy theory were the most salient within the unique context of sport, which has been commonplace with reference to this theory in relation to sport. For example, performance accomplishments can mean many things to an athlete; it could be to perform a personal best in a race, executing a successful technique or winning a match. As well as this, the model can also lead to negative effects from efficacy beliefs and this can subsequently lead to negative performances or effort.

### **Sport-Confidence Model**

The Sport-Confidence model was developed in order to try and create a sport-specific form of confidence. Vealey (1986) created the original sport-confidence model, which was aimed at being specific to sporting context. The model took the general foundations of the self-efficacy theory and developed it into a conceptual model in which measurement instruments were developed to create a sport-specific conceptual framework and inventories. In her original model in 1986, Vealey defined sport-confidence as *'the belief or degree of certainty that individuals possess about their ability to be successful in sport.'* (Vealey, 1986; p 222). This model of sport-confidence separated confidence into two constructs: sport-confidence trait; the usual belief that athletes possess regarding ability to be successful in sport, and sport-confidence state; one's beliefs at a particular time. A further, dispositional, construct considered in this model was competitive orientation. Success means different things to different people, and so it considers the performance versus outcome orientation. Vealey also stated that sport-confidence trait and competitive orientation interacted with the situation to determine the sport-confidence state of each individual, with sport-confidence state being the most important mediator of behaviour. This will lead to behavioural responses from the athlete and result in the outcomes.

For this conceptual model, Vealey developed appropriate inventories to be able to measure sport-confidence. The inventories created were the Trait Sport-Confidence Inventory (TSCI) and the State Sport-Confidence Inventory (SSCI), which were both 13-item inventories that assess sport-confidence as a one-dimensional construct, based on the athletes' perceived abilities to execute skills successfully under pressure, make critical decisions etc. These inventories were

valid and reliable measurement tools to be able to calculate the scores of the athletes' sport-confidence.

There were however, some limitations of this initial model of sport-confidence. Martin & Gill (1991) found no significant relationship between competitive orientation and sport-confidence state. Roberts & Vealey (1992) also established that sport-confidence trait was a better predictor of sport behaviour and performance than sport-confidence state, which was contrasting to Vealey's 1986 model. Other factors that can influence the levels of sport-confidence an athlete perceives, such as coaching behaviours and expectations of significant others, were not accounted for. The impact of social and organisational factors on the development and manifestation of confidence in athletes were also not considered. This lack of research supporting the model, and the need for other factors that influence sport-confidence to be considered, highlighted the need for a re-developed model of sport-confidence.

In 1998, Vealey and colleagues reconceptualised the sport-confidence model, which was based on a social-cognitive perspective (Feltz et al., 2008). This model stated that the organisational culture of a programme, and athlete characteristics influence sources and levels of sport-confidence. Organisational culture includes factors such as competitive level, motivational climate, and the goals of particular sport programmes. Athlete characteristics include all the personality characteristics, attitudes, and values of individual athletes. It also includes demographic factors such as age, sex and ethnicity. This model also took into account situational-specific effects and strategies associated with influencing confidence, and also took into account the multi-dimensional nature of beliefs. Vealey et al. (1998) found nine sources of confidence specifically salient to athletes; demonstration of ability, mastery, physical/mental demonstration and physical self-preparation, social support, vicarious experiences, coach leadership, environmental comfort and situational favourableness. Three types of confidence were also identified and used in the model as important to athletes engaging in competitive sport (Vealey & Knight, 2002). These were cognitive efficiency, physical skills and training, and resilience. This model suggested that the organizational culture of sport, along with various individual difference characteristics, influences the manifestation of sport-confidence in athletes, which

then predict sport-confidence levels. The types of confidence they possess as well as the sources which they base their confidence on also have a big influence. These nine sources of confidence formed the sub-scale structure of the Sources of Sport Confidence Questionnaire (SSCQ) (Vealey et al., 1998). The SSCQ is the only questionnaire available that assesses sources. Vealey and colleagues' study used the SSCQ and found that organisational culture impacted upon the sources of sport-confidence. For high school athletes mastery, social support, physical and mental preparation, coach leadership and demonstration of ability were viewed as the most significant sources of sport-confidence, however for college athletes they viewed social support and demonstration of ability as most important (Vealey et al., 1998). The high school samples were all basketball team players, whereas the college sample included a large proportion of individual sport athletes, which may have influenced the results due to the type of sports being performed. This is something that Vealey and colleagues did state and that further research into this area was needed. The results also support the inclusion of athlete characteristics in the sport-confidence model. This is because social support and self-presentation were more important for female participants, which provides support towards the predictions of the study (Vealey et al., 1998).

In 2001, Vealey yet again reconceptualised the previous sport-confidence model from 1998 by creating a more advanced framework. This developed model does not differ drastically from the previous models, but it illustrates a broader and more explicit perspective as to how confidence is able to 'work' in sport (Vealey, 2001). It showed the psychosocial processes that can influence the make-up of sport-confidence. As Figure 2 shows, the integrative model looks to serve two purposes – as an organisational framework to elicit meaningful extensions to the research examining confidence in sport, and as a foundation for interventions designed to enhance confidence in athletes (Vealey, 2001).

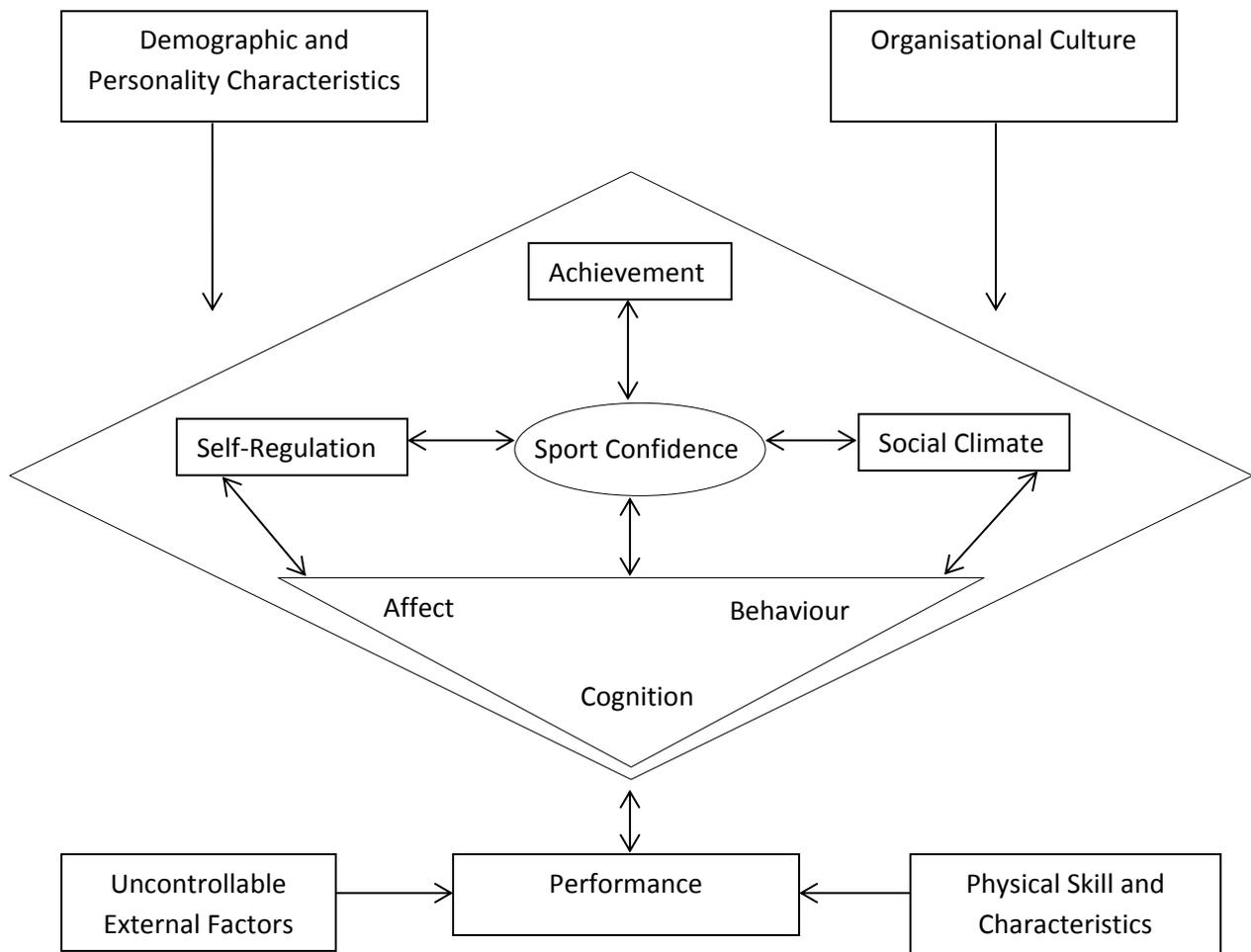


Figure 2: An integrated model of sport-confidence for research and practice (Vealey, 2001)

Sport-confidence is situated in the centre of the diamond of the model as it defines the beliefs of certainty that an individual possess about their ability to be successful in sport. This is then surrounded by the three domains of achievement, self-regulation and social climate representing the sources of confidence for athletes. Beliefs about one’s sport-confidence influence performance through the mediating effects of the athlete’s affect, behaviour, and cognition of human functioning (ABC’s). Due to the ABC’s being interactive, they are shown together within a triangle in the model to emphasize their continual interactional reciprocity (Vealey, 2001). These constructs interact continuously to influence the sport performance. Throughout the entire model although sport-confidence is viewed as a critical influence on human functioning and sport performance, the model also indicates that physical skill and characteristics of the athlete as well as

uncontrollable external factors such as luck and weather, can also influence performance.

### **Research using the Sport-Confidence Model**

Further research, based on the previous models (Vealey, 1986, 2001, Vealey et al., 1998) was required to examine the sport-confidence model in varying athlete samples, in relation to the sources of confidence salient to athlete groups. Through Vealey and colleagues (1998) showing that certain athlete characteristics and organisational contexts influenced the sources of confidence this meant that the focus was on the source as they may change based on the athlete and environment. Wilson, Sullivan, Myers, and Feltz (2004) failed to replicate the 9-factor structure of the Sources of Sport Confidence Questionnaire (SSCQ) set out by Vealey et al. (1998). Only eight matches were found in comparison to Vealey et al. (1998), with situational favourableness being absent. The results from Wilson and associates' (2004) study found that mastery and physical/mental preparation were viewed as the most significant sources of sport confidence for master athletes.

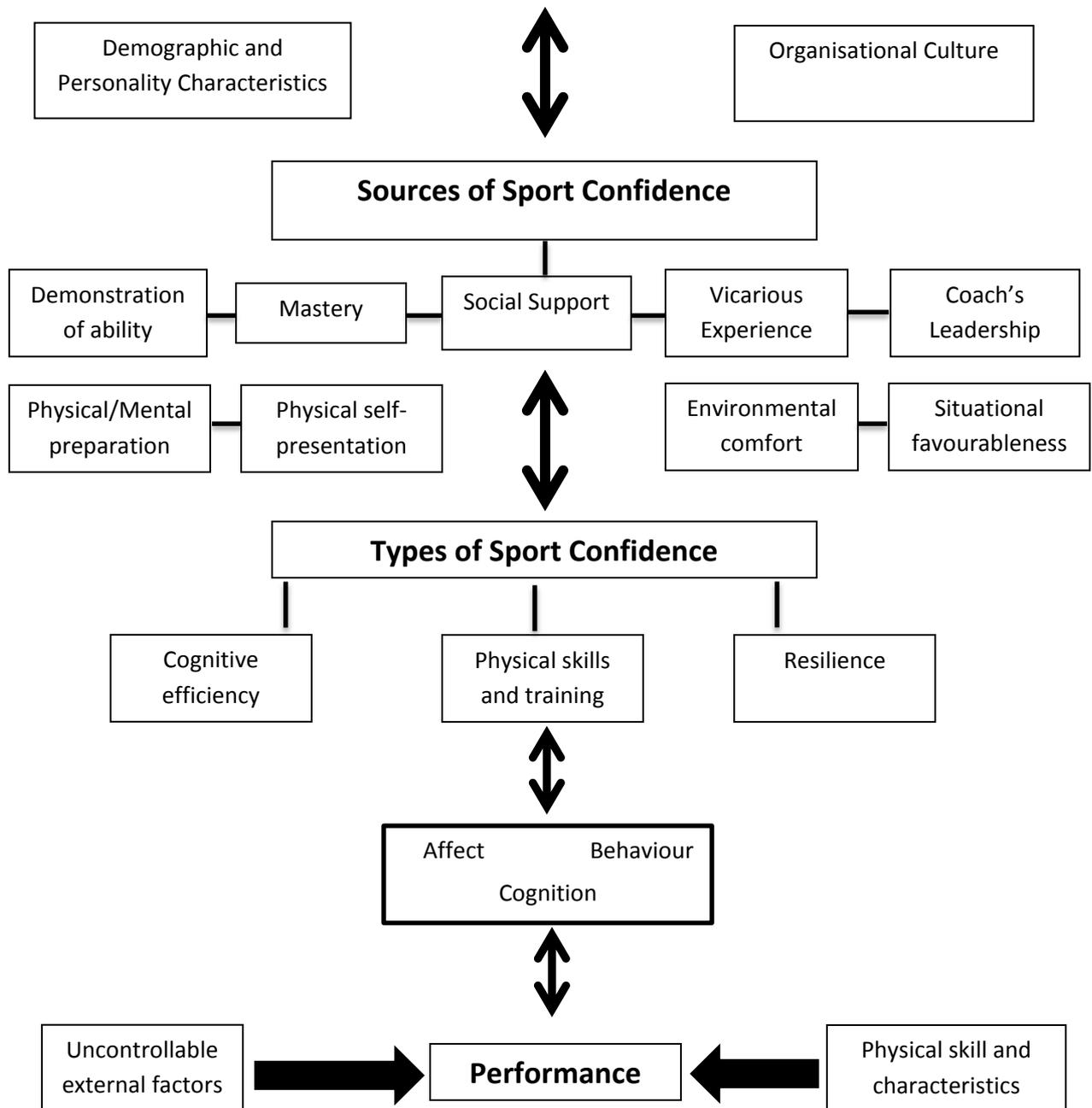
More research into the sport-confidence area was conducted by Hays, Maynard, Thomas and Bawden (2007). They looked to identify the types and sources of sport-confidence salient to 14 World-Class athletes in a qualitative study. Within this study, nine sources of sport-confidence were identified, which included performance accomplishments, preparation, social support and coach's ability. These sources were similar to those that were originally found by Vealey et al., (1998). A further five sources; innate factors, experience, perceived competitive advantage, trust and self-awareness were also identified. These sources were found to overlap with sources of Bandura's self-efficacy theory (Vealey & Chase, 2008). Six types of confidence were also found to be important for athletes, including achievement, confidence in skill execution, physical factors, psychological factors, superiority to opposition, and tactical awareness (Hays et al., 2007). In the results and discussion of Hays et al. (2007) it was noted that organizational factors influence the sources of sport-confidence utilized by athletes. For example, physical self-presentation was only acknowledged by one of the world class, international athletes in the Hays and colleagues' (2007) study,

whereas in Vealey et al.'s (1998) study on collegiate athletes it was identified as an important source of confidence for the majority of the athletes. This cannot be put down to athletes performing in individual sports in Vealey et al.'s (1998) study as 86% of the athletes in the Hays et al. (2007) study performed in individual sports. Further research is therefore needed in this area to examine the causal explanations for the importance that collegiate athletes place upon physical self-presentation and could be necessary to coaches working with these athletes. Another point to consider is that, although the sample provided evidence for gender differences in the sport-confidence model and provided a vigorous analysis of the sources used by elite athletes, the sample collected consisted only of elite athletes, and therefore the results cannot be generalised to other athlete populations. Further research is therefore needed to be able to investigate the sources of confidence that are salient to different competitive level athletes, which can be used in comparison to the results collected from Hays et al. (2007) elite athlete sample. As well as this, sport-type differences were not compared, and due to the contrasting results with Vealey et al. (1998) for sources that would be considered more important towards either individual-sport athletes or team-sport athletes, this is certainly an area for further research.

In 2008, Vealey and Chase created an updated and revised sport-confidence model from the 2001 model due to further research that had been conducted within the sport-confidence area (Vealey & Chase, 2008).

Figure 3 illustrates the revised model.

Figure 3: Revised sport-confidence model by Vealey & Chase (2008)



This revised model of sport-confidence suggests that various individual characteristics, as well as the organisational culture in the sport, influence the manifestation of sport-confidence within athletes. This includes the types of confidence which they possess as well as the sources that they base their confidence upon (Vealey & Chase, 2008). The nice sources identified in this sport-

confidence model have a clear overlap with the sources identified in self-efficacy theory; however they focus more specifically on the competitive and training nature of sport (Vealey & Chase, 2008). The three types of confidence identified in this model were cognitive efficiency, physical skills and training, and resilience. These types of confidence were stated as important to athletes engaging in competitive sport (Vealey & Knight, 2002). Cognitive efficiency refers to an athlete's belief that they can mentally focus, maintain concentration and make effective decisions to perform successfully; physical skills and training is an athlete's belief about their ability to execute a physical skill necessary to perform successfully; and lastly resilience is the belief of certainty that an athlete can regain focus after setbacks or negative performances (Vealey & Knight, 2002). Hays, Maynard, Thomas and Bawden (2009), used the 2001 sport-confidence model by Vealey to develop the role of confidence in relation to affect, behaviour and cognitions, linking in with the 2008 sport-confidence model. What they found was that high sport-confidence was positively linked with affect; for example being able to maintain focus, whereas on the other hand low sport-confidence was linked with negative affect (Hays et al., 2009). The results of the study by Hays et al. (2009) also found support with the contentions set out by Vealey (2001), in that high sport confidence facilitated sport performance through its positive effect on athletes' thoughts, feelings, and behaviours.

Further research by Kingston et al. (2010) studied gender differences whilst examining temporal changes in the sources of sport-confidence given by elite athletes. An adapted version of the SSCQ was used in this study, and this allowed for a specific temporal aspect of self-confidence to be measured (Kingston et al., 2010). The study compared the temporal changes that occurred with the sources of sport-confidence over five different pre-competitive phases. Kingston and colleagues (2010) found changes with the sources of demonstration of ability, mental and physical preparation, physical self-presentation and situational favourableness over the pre competitive phases. In relation to gender, the study found that female athletes placed a greater importance on social support, environmental comfort and coach's leadership as sources of confidence than male athletes, and this illustrated the importance of gender differences as an influence on the sources of sport-confidence. Although Kingston et al. (2010) found

differences in the sources of sport-confidence identified for different genders, they acknowledged, along with other previous research that sport-type was not taken into consideration and that due to only using an individual-sport sample, the results cannot be translated to team-sport athletes. This is due to the importance placed upon specific sources varies depending on individual or team sport participation (Vealey et al., 1998; Hays et al., 2007; Kingston et al., 2010), and therefore this was seen as an important direction for future research to investigate comparisons between sport-type differences and the importance placed on the sources of sport-confidence.

### **Rationale for the Study**

Since the development of the sport-confidence models (Vealey et al., 1998; Vealey & Chase, 2008), research has been conducted comparing gender differences (Hays et al., 2007; Kingston et al., 2010) and analysed how the competitive level of an athlete affects the influence on the sources of sport-confidence (Vealey, 1986; Hays et al., 2009). However, previous research has yet to show the importance or relationship of sport-type differences on the sources of sport-confidence. Research has touched upon not being able to replicate results from one sport-type to another due to the specific nature of certain sports and organisational and socio-cultural factors that can influence the sources of confidence within different sport-types. However, it cannot be assumed that this is the case; neither can the results from previous research dismiss any differences between sport-types. Therefore, an investigation into the sources of sport-confidence that are deemed important towards individual-sport athletes and team-sport athletes would further expand the knowledge and understanding of sport-confidence, and will help provide more effective interventions and strategies for sports psychologists/practitioners to use to be able to enhance sport-confidence levels within athletes.

Should the findings from the research on sport-type demonstrate a significant difference in relation to the influences it has on the sources of confidence, then this will have an impact upon the interventions that will be designed by the sports practitioners, as they will have the knowledge from the research to be able to create specific strategies in relation to the type of sport the athlete performs in.

However, if there are no differences between sport-type, this can also be useful information as sports practitioners will know that they do not need to create separate interventions for individual-sport players in comparison to team-sport players, and in fact they can all use similar strategies to try and enhance sport-confidence levels. This study will look to use previous research conducted in the area of sport-confidence (Vealey, 1986, 2001; Vealey et al., 1998; Vealey & Chase, 2008; Hays et al., 2007, 2009), to create a design that is aimed to enhance and aid the limited research within the specific subject area of sport-type and the influences on the sources of sport-confidence. This should, in effect, help sports practitioners and coaches create effective methods to help increase confidence within their athletes. The current study will therefore aim to establish the relationship between sport-type and the sources of sport-confidence that athletes consider important towards successful performance.

**Chapter 3**  
**Methodology**

## **Introduction**

The following chapter will describe the methodology of the study, which will include the participants' characteristics, instruments used, the data collection procedures and finally the analysis of the data that was collected.

## **Participants**

With institutional ethics approval, a sample of 56 athletes was used. The sample consisted of 56 participants (26 male, 30 female), between the ages of 19 and 25 years of age ( $M=20\pm 0.9$  years). There were 32 team sport athletes and 24 individual sport athletes in the sample. Participants were selected on a random sampling basis and were recruited through contact via University lectures, student portal emails and local sports clubs and were asked to give their full consent and fill out one questionnaire. The participants were competing in sports ranging between club level and international level.

## **Instrumentation**

For this study the use of the Sources of Sport-Confidence Questionnaire (SSCQ) which was developed by Vealey et al. (1998) was used to measure the sources of sport-confidence. This required the participants to complete the inventory which comprises 43 items across nine subscales: mastery (5 items), demonstration of ability (6 items), physical/mental preparation (6 items), physical self-presentation (3 items), social support (6 items), coach's leadership (5 items), vicarious experience (5 items), environmental comfort (4 items), and situational favourableness (3 items). Specifically, participants were asked to indicate how important the source represented by each item was for them in general to competing in a competitive sporting situation on a Likert scale ranging from 1 (not at all important) to 7 (of highest importance). The subscale scores were then calculated as a mean score of all items on each individual.

Vealey *et al.* (1998) reported acceptable reliability scores for all nine sources of sport confidence between .71 and .93. Although Wilson et al. (2004) conducted a

validation study, where there was little support found for situational favourableness as a source, the current study used the full SSCQ consisting of 43 items due to Wilson and colleagues highlighting an error with their sampling as a possible cause of the poor fit (Wilson et al., 2004). A reliability analysis of the SSCQ was completed prior to variance analysis in order to establish internal reliability, due to the inconsistencies with the reliability scores of the previous research (Vealey et al., 1998; Wilson et al., 2004).

### **Procedures**

Athletes were contacted via university e-mail, during lectures and at local sports clubs advertising the opportunity to participate in the study. Participants were informed that the researcher was interested in understanding more about the effects sport-type has on the sources of sport-confidence and were given the opportunity to ask any questions about the study (See Appendix A). Once each participant had agreed to take part and had completed an informed consent sheet (See Appendix B), they were asked to then complete one SSCQ (See Appendix C) in their own time. Each participant was encouraged to answer as honestly as possible and that there were no right or wrong answers. There was no temporal frame by which the athletes needed to complete the questionnaire as the study was looking at the athletes' general level of sport-confidence, and so put no pressure on the participants to complete the questionnaire just before a performance.

### **Data analysis**

As Tabachnick and Fidell (1996) recommended, data was pre-screened for internal reliability and statistical analysis (i.e., multivariate normality, homogeneity of variance). From this, the subscales that achieved Cronbach's alpha values of above .7 were accepted as having good reliability as stated by Nunnally (1978). However, Kline (1999) highlights the issues that are linked with quantitatively testing psychological constructs and notes that Cronbach's alpha values below .7 can be expected. This is due to the variety of constructs being measured and so

any subscales that had values of between .7 and .6 were screened to measure the degree of scale variance.

Analysis involved a one way analysis of variance (ANOVA). ANOVA will identify whether there are any interactions or main effects between the sport-types in the subscales of the SSCQ. Any source that achieved a significant statistical value of .05 or lower were deemed to be of statistical significance and this would mean that a further analysis of the significant difference could be investigated as to the influence the source has on the athletes' confidence in relation to the sport-type.

## **Chapter 4**

### **Results**

## **Introduction**

The following chapter presents the results from the reliability testing and Analysis of Variance test that were conducted to determine the importance of the sources of sport-confidence from the methodology as part of the study.

## **Reliability Testing**

Reliability scores of the sources of sport-confidence were recorded after all results were collected using Cronbach's alpha reliability analysis test (1951). (See Appendix D). From the nine sources taken into account, there were no sources that were excluded or deleted from the test. This was due to all the sources being within the accepted alpha criterion value of .7 and .8 (Kline, 1999). However, Kline (1999) highlights the issues that are linked with quantitatively testing psychological constructs and notes that Cronbach's alpha values below .7 can be expected. This is due to the variety of constructs being measured and so any subscales that had values between .7 and .6 were screened to measure the degree of scale variance. The highest Cronbach alpha score was demonstration of ability at .750, environmental comfort had a score of .713, coach's leadership, vicarious experiences, and mastery were similarly scored at .690, .689, and .687 respectively. Physical self-presentation scored at .683, mental and physical preparation was .681, situational favourableness scored at .673, with the lowest score being from support at .664. The Cronbach alpha scores can be seen in *Appendix D*. The overall Cronbach alpha value of the nine sources was .717.

There were two scores that had a corrected item-total correlation below the minimum of .3; demonstration of ability and environmental comfort. However, these scores are not considerably below the minimum, and due to having nine sources and the fact the two values are within the .7 - .8 alpha criterion, these sources did not significantly affect the alpha value for the whole scale. Therefore, all nine items remained in the subscale of the SSCQ and reached acceptable alpha values to be used in a one way ANOVA test.

Table 1. shows a summary of reliability and ANOVA test scores.

Table 1: Summary of ANOVA and Reliability statistics results

Sources	Levene Stats	$\alpha$	sig. diff	Mean	
				Team	Ind.
Mastery	.579	.687	.255	25.2	26.6
Demonstration of ability	.258	.750	.836	30.8	31.2
Mental/Physical Prep	.066	.681	.191	29.2	31.0
Physical Self Presentation	.575	.683	.055	11.2	13.4
Support	.057	.664	.515	33.4	32.6
Vicarious Experience	.857	.689	.754	19.3	19.8
Environmental Comfort	1.895	.713	.683	18.1	18.6
Situational Favourableness	.057	.673	.653	11.6	12.0
Coach's Leadership	2.126	.690	.580	24.1	23.1

### **Assumption Testing**

The fundamental assumptions associated with the use of ANOVA testing were met. These assumptions are that: the population sample drawn was normally distributed; the sample of participants was randomly selected and totalled 32 team-sport players and 24 individual sport players performing at a minimum of club level and maximum of international level. The homogeneity of variance is

near equal; the variance within the sources does not differ drastically throughout. All subscales achieved Levene's statistical test significance greater than .05 (See Table 1 for all Levene statistics scores), which suggests that homogeneity of the scores is acceptable (Field, 2005). The scores are independent of one another; the scores of each subject conducting the SSCQ have no dependence upon one another's scores. And finally, that the data are based on a parametric scale; the data collected is interval data due to the scores being rated on an equal number scale (Vincent, 2005).

### **Analysis of Variance**

After completing a one way ANOVA test, the results failed to reveal any significant differences below  $p = .05$  between any of the nine sources. A summary of the results are provided in *Table 1*. This suggests that team-sport players and individual-sport players tend to place similar importance on the sources of sport-confidence within their sporting performances that were identified within the SSCQ. However, the source of physical self-presentation did show a difference of .055 and this could be of significance when comparing the type of sport performed and how they view their physical self-perception. The mean totals and standard deviations for the type of sport comparison can be viewed in *Table 2*. As stated above, there were no significant differences found between the nine sources and the type of sport being performed by the athlete using ANOVA testing.

Table 2: Means and standard deviations for the subscales of SSCQ for team sport and individual sport athletes.

	Sport-Type	Mean	Std. Deviation
Mastery	Team	25.2	4.6
	Individual	26.6	4.1
Demonstration of ability	Team	30.8	6.6
	Individual	31.2	7.7
Mental and Physical Preparation	Team	29.2	4.8
	Individual	30.9	4.9
Physical Self Presentation	Team	11.2	3.8
	Individual	13.4	4.4
Support	Team	33.4	4.6
	Individual	32.6	4.4
Vicarious Experience	Team	19.3	6.3
	Individual	19.8	5.0
Environmental Comfort	Team	18.1	4.7
	Individual	18.6	3.8
Situational Favourableness	Team	11.6	3.5
	Individual	12.0	3.3
Coach's Leadership	Team	24.1	6.1
	Individual	23.1	7.5

## **Chapter 5**

### **Discussion**

## **Introduction**

Using Vealey et al.'s (1998) Sport Confidence model, this current study was primarily exploring whether there was an effect on the type of sport an individual performed and if this had an influencing effect on the sources of sport-confidence that an individual perceived to be important towards successful performance. This chapter will present a discussion around the results of the study and produce a comparison with the current findings and previous research. The following chapter will therefore be split into sections. The first section will look to analyse the effects that the current results have on the sources of sport-confidence an athlete uses. The second will link towards section one and will discuss previous research that has found similar results to the current study and look to examine any differences or further knowledge that has been gained. The third area will look to highlight any theoretical and practical implications that arose within the results of the current study. The fourth section will discuss limitations and strengths of the research design and results of the study. And the final part will look to provide a direction for future research in sport-confidence

## **Sport-Type effects on sport-confidence**

Following an analysis of the results from the sample completing the Sources of Sport Confidence Questionnaire (SSCQ), no significant differences we found between the sources of sport-confidence that team-sport athletes and individual-sport athletes give towards their successful performances. This suggests that the sources did not have a substantial effect on the type of sport that the athlete performed in. The only source from the results collected that may have been viewed as significant was physical self-presentation due to its significance level of .055, which was just above what is deemed as a significant difference at 0.05. However, this source has to be viewed with caution as a significant score. With the other eight sources of confidence, there were no significant differences in the results of the ANOVA and this suggests that there is no major effect or influence that the type of sport has on the sources of confidence that they deem important towards their success.

Physical self-presentation was deemed more important for individual sport players when compared to team sport players. Although the results may show that physical self-presentation was a significant source towards individual sports performers, it was still deemed overall as one of the least important sources of confidence from the results. This follows Kingston et al.'s (2010) study, where they found physical self-presentation to be one of the least important sources of sport-confidence that was identified by the elite athlete sample. Research by Vealey et al. (1998) also found that high school team-sport players viewed physical self-presentation as one of the least important sources of confidence, which also coincides with this study's results. The reason there may have been a significant difference could be due to the fact that, as an individual sport performer, the athlete is performing their sport solely on their own, which means all the focus is on that one individual. Whereas, team sport athletes have other team-mates performing in the match/competition with them, and so may not feel as though all the attention is being focused on them, which may lead to their self-presentation becoming less important. As an individual athlete, it is therefore important to present themselves well in front of the audience/judges, as they are the sole focus of the performance, and if they feel that they are physically self-presenting themselves well, this may lead to an increase in confidence levels which could have a corresponding effect on their performance.

Environmental comfort was viewed with very similar importance between sport-types in the results of the present study. The mean scores of 18.1 for team-sport athletes in comparison to a mean score of 18.6 for individual-sport athletes, shows that there is not much difference in the importance that the athletes place on environmental comfort as a source of their sport-confidence. However, overall this source is ranked as the third lowest source of importance towards athletes' sport-confidence levels, and this supports Hays et al.'s (2007) qualitative study, where they found environmental comfort to be of little importance to the elite athletes and was also ranked as one of the lowest sources of importance towards the athletes' confidence levels. Although 95% of the athletes in the present study were not elite athletes (performing at international or highest level of sport), these results still support the findings from Hays et al. (2007), and this may suggest that environmental comfort may generally be viewed as an un-important source of

sport-confidence to athletes in all levels of sport, and future research could look specifically at environmental comfort, and how much it really influences an athlete's confidence levels.

The source of social support in the present study was regarded as being of more significance towards team-sport players. Social support has been viewed as an important source in previous research (Vealey et al., 1998; Hays et al., 2007) for athletes deriving confidence, and the results of the present study found that both team-sport athletes and individual-sport athletes rated support as the most important source for confidence. Vealey et al. (1998) found that social support was viewed as one of the most important sources of sport-confidence for both high school team-sport players and collegiate individual sport-players, which corresponds with the results of the current study. Vealey and colleagues did state however, that female athletes used social support as a source of confidence more-so than male athletes and this gender difference for social support could be an area for future research. A more recent study by Machida et al. (2012) also found that social support was the most important source of sport-confidence, which supports the results of the current study. This study also reported that two-thirds of the sample were female athletes, which also corresponds with Vealey et al.'s (1998) findings. Therefore, future research should be conducted into this area looking for further reasons as to why females view social support as the most important source towards their confidence levels in performance.

Team-sport athletes placed more importance on the coach's leadership as a source of confidence compared to that of individual-sport athletes. This was the second source where team-sport athletes placed more significance towards a source than individual-sport performers. The mean score of 24.1 for team-sport players in comparison to 23.1 for individual-sport players showed that there was a general difference in scores. However, although the scores were not viewed as being significantly different, it is interesting to analyse the greater importance that team-sport athletes place on the source of coach's leadership. The credibility, enthusiasm, and knowledge of Olympic-level coaches have been identified as critical to their athletes' success (Gould et al., 1999), and so this states how elite athletes view their coach and how they lead as a crucial source towards their success. In the present study, coach's leadership was viewed as the fifth most

important source of confidence. Alongside this, the sample of athletes in the current study was heavily weighted with non-elite players, and so this may not relate to the Gould and colleagues' (1999) results, due to their sample being only elite athletes. This however, could be an area for research to analyse more in-depth.

Females derived confidence primarily from their coach's encouragement, positive feedback/reinforcement, and compliments, akin to the 'social support' source of sport confidence identified by Vealey et al. (1998). In contrast, male athletes tended to derive confidence from a belief in their coach to establish an appropriate training program, comparable to Vealey et al.'s (1998) 'coach's leadership' source of sport confidence.

The source of demonstration of ability was a source that had a very minimal difference between team-sport players and individual-sport players, with mean scores of 30.8 and 31.2 respectively. These findings indicate that sport-type does not have an effect on the importance that athletes place on the source of demonstration of ability towards their confidence. It was considered as the second most important source towards the athletes. This coincides with previous research (Vealey et al., 1998; Kingston et al., 2010), which established demonstration of ability to be one of the most important sources of confidence to the athletes in their respective samples which include both team and individual-sport athletes. This suggests that no matter what the sport-type, athletes find that demonstrating their superiority over opponents and showcasing their abilities/skills is of high importance when relating to confidence levels.

Similar to the results of demonstration of ability, the source of situational favourableness showed very little difference between team-sport athletes and individual-sport athletes. Mean scores of 11.6 and 12.0 respectively, shows that neither sport-types found this source to be significantly more important towards confidence levels. From the results, situational favourableness was viewed as the most insignificant source of confidence overall. These results agree with previous research from Wilson et al. (2004), who removed situational favourableness from the nine sources of confidence, as athletes didn't deem it important towards their confidence. It is important to note however that the source was removed due to

the sample being elite athletes who did not view it as an important source, and this may not relate to other athlete populations. Hays et al. (2007) also found limited support for situational favourableness as an important source of confidence, which also supports the current study. On the flip side to this, Kingston et al, (2010) found that situational favourableness was viewed with moderate levels of importance to the athletes, which suggests that it may be an important source towards athletes based on the setting and level that the athlete is competing in. This is certainly a source that requires further specific research into its importance as one of the nine sources of sport-confidence that Vealey et al. (1998) first suggested.

Another source that had a very small difference in results between sport-types was vicarious experience. The mean results showed that individual-sport athletes placed slightly more importance on the source with a score of 19.8 compared to 19.3 for team-sport athletes. Due to the difference being so small, this again implies that both sport-types place near equal amounts of importance on vicarious experience as a source of their confidence. Vicarious experience in comparison to all the other sources was rated with lower importance. It was the sixth most important source which shows that it may not be viewed as a crucial source towards athletes' confidence levels. Kingston et al. (2010) also found that vicarious experience was not of great importance to the athletes in their sample, who consistently ranked vicarious experience as the most insignificant source of confidence. A further study that supported the current results was from Machida et al. (2012), who found vicarious experience to be the seventh most important source of confidence for collegiate athletes. This may imply that vicarious experience, on a general level, isn't viewed with major significance for athletes' confidence levels.

The source of mental and physical preparation resulted in a greater importance being placed on individual-sport athletes compared to team-sport athletes. Mental and physical preparation had the second greatest difference in the sources between sport-types from the results of the current study, which suggests that athletes performing in individual sports view this source to be more important. This may be down to the fact that they are the sole focus and only they can influence their performance, unlike in team sports where there can be numerous other team-

mates who partake in the performance. Individual athletes may feel they need to be more mentally and physically prepared before performing than someone who performs in a team sport. Overall, in the current study physical and mental preparation was the third most important source of confidence. In Hays and colleagues' study (2007), they found that all their elite athletes viewed preparation as an important source of their confidence, which coincides with the results of the current study. Vealey et al. (1998) also found similar results to the present study, in that the athlete samples all found mental and physical preparation as one of the most important sources of confidence and this source has consistently been found to be important to athletes of all levels and genders.

The final source of the nine sources used within the current study was mastery. Overall, mastery was viewed as the fourth most important source of confidence, behind social support, demonstration of ability, and physical and mental preparation. Individual-sport players scored higher for mastery with a mean score of 26.6. Team-sport players on the other hand, had a total mean score of 25.2, and this may state that for individual players, mastering/improving their skills is viewed as a more important source towards their confidence, due to the nature of performing on their own with no other team-mates at hand. A team-sport player, who will have other team-mates performing in the same match/competition, may not view mastery as being as crucial to performance, as other players can help them out and the outcome is not just specific to that singular individual. This is not the case in individual sports, where all the attention is on that one individual, and the overall outcome comes down to how well the athlete can execute their skills towards their performance. In a study by Vealey et al. (1998), they suggested that deriving confidence from mastery-based sources would produce stable beliefs, which also reads consistent with Bandura's (1997) self-efficacy theory. These results coincide with Kingston et al. (2010), who found mastery to be one of the most significant sources of confidence towards their sample of elite athletes. Support has been found to support the current study, however further research into the source of mastery and the sport-type and competitive level influenced by this source could further increase the knowledge area.

## **Theoretical and practical implications**

The results that were collected from the present study have implications, both theoretically and practically.

### **Theoretical implications**

The nine sources of sport-confidence that were used in the current study by means of the SSCQ were proposed by Vealey et al. (1998), who stated that athletes develop their confidence from these sources. However, from the sources, Wilson et al. (2004) conducted a study which found that situational favourableness posed little importance as a source of sport-confidence. Wilson and colleagues therefore proposed a new, revised 8-factor model that did not include situational favourableness as one of the sources of sport-confidence. The results of the current study provides support towards Wilson et al. (2004) revised model, due to little support being found for situational favourableness with both team-sport players and individual-sport players due to being ranked overall as the least important sources of confidence.

The athlete sample used within the study by Wilson et al. (2004) was aged between 50-96, which may have been the reason for the 8-factor model being designed. It could be argued that the sample was older than the average sports athlete and that the athletes may have been experienced and therefore used to performing in all different types of situations, which may have led to the low score in the source of situational favourableness. However, the sample within the current study was aged between 19-25 and this sample also scored situational favourableness as the least important source of confidence for both sport-types. This suggests that the question of age was not a problem in the Wilson and colleagues study, and that the current study provides support for the revised model of sport-confidence, independent of the age of the sample.

This is something that needs to be taken into consideration in future research as situational favourableness may be excluded as a source permanently should other research coincide with Wilson et al.'s findings.

## **Practical implications**

From a practical perspective, it has been stated by Vealey et al. (1998) that it would be helpful to analyse the nine sources of confidence used within the SSCQ to falling into three separate domains. These domains fall under the categories of; achievement (mastery and demonstration of ability), social climate (social support, vicarious experience, leadership, environmental comfort and situational favourableness), and self-regulation (mental and physical preparation and physical self-presentation). However, the results of the current study don't support the sources that fall within each domain in respect to the sport-type effects. This is further supported by Kingston et al. (2010) who suggested that while the three domains that were developed are useful to categorise each separate source of sport-confidence, the sources that athletes deem important towards confidence should be analyzed by sports psychologists/practitioners individually to create interventions for athletes, rather than creating interventions for the broader and less-specific domains with which the sources fall under.

As there were no significant differences found with sources of confidence in the present study and sport-type, this brings about a practical implication for sports psychologists/practitioners. From the results, no significant differences between team-sport athletes and individual-sport athletes means that it would be important for sports practitioners to understand this, as it means that they would not need to differentiate between athletes' sport-type when they are working with an athlete in the confidence area. Practitioners may analyse the sport the athlete performs in before making an assessment, to possibly further their knowledge of the sport or for any sport differences that occur to try and design solutions to the problem the athlete has. However, what this study has found is that this is not the case, and in fact sport-type is not a significant factor that sports practitioners need to take into account.

## **Limitations**

This study aimed to further the knowledge of sport-confidence research, by aiming to discover whether particular sources influence confidence levels between differing sport-types. However, several limitations arose throughout the study.

This study's sample was derived from one university, bar three participants. This therefore suggests that the results from the current study may not be applicable to other sporting populations and therefore the results may not be sufficient to relate to the wider sporting populations. There have been numerous studies (e.g. Wilson et al., 2004; Hays et al., 2007; Kingston et al., 2010) that have highlighted that the sources of confidence can be influenced by organisational and socio-cultural factors. The fact that the vast majority of the current sample is from one university suggests that the results may have been different had other athletes from different organisations/populations been used.

Another limitation of the current sample was that there were more team-sport athletes than individual-sport athletes. This meant that the results became less reliable than if even samples of sport-types were collected. However, the chances of this happening randomly are always going to be very rare. The un-matched sample of sport-type did not affect the assumptions of ANOVA testing, although Field (2004) indicated that even-grouped can achieve more reliable results.

In relation to sample size, there was another limitation that can be associated with the current study. The sample consisted of fifty-six participants over both sports types, and this may not be viewed to hold any significant statistical power within the research area. A bigger sample size would have created this statistical power and would also have increased the reliability of the results as well as possibly leading to more significant results. Other previous studies that have analysed college/high school athletes have used sample sizes in excess of 200 participants (Vealey et al., 1998; Machida et al., 2012), which in relation to the current study is significantly more, and will provide greater and more reliable results.

A further limitation of the current study is the retrospective nature of the sample answering the SSCQ. Due to the questionnaire asking athletes to answer the questions with how they 'generally' gain self-confidence in their sport, this is not

using a temporal frame as to answering the question in relation to their sport. Although the removal of a temporal framework was meant to increase reliability levels, it could be questioned due to the wording of 'general' in the question being very un-specific. It is also hard to relate specifically to their sport or performance, as some athletes gain their confidence when approaching competition or after performing/training well and may be very different to their 'general' confidence levels, which may have altered the reliability. However, asking participants for a general level of self-confidence meant that they didn't have to think back to specific events or at times leading up to an event, in which their judgements may not be as accurate. So, although this can be viewed as a limitation, the reasoning for its implementation was justified.

The fact that only sport-type was analysed in the current study is also a limitation. No gender or competitive levels differences were compared and this may have created greater results and more significant differences between the differing variables. Investigating further variables would have strengthened the current study, as greater comparisons of each source could have been made and this could have led to further contrasts being made with previous research (e.g. Wilson et al., 2004; Hays et al., 2007; Kingston et al., 2010) into confidence that has compared gender or competitive level differences. This is not a major limitation as the current study was analysing the area of sport-type, which has had very little research conducted on, however in future this could be expanded to add further variables to increase reliability of the results.

### **Strengths**

On top of the limitations stated, there was also a key strength of the current study. This particular strength was that the sample considered sport-types, in the categories of team-sport athletes and individual-sport athletes, as the main variable. This allowed for the results to be analysed and to understand whether there are any significant differences between the sources that different sport-types give towards their confidence. Many studies look towards sport level, age or gender as the independent variable when looking into sport-confidence, but very few studies look into sport-type as the independent variable. Therefore, the current study has allowed for the sport-type variable to be examined into the

sources of confidence athlete's give towards their successful performance and can be applied to team-sport and individual-sport performers.

### **Direction for future research**

As stated in one of the limitations previously, the current study only looked into sport-type as the variable to affect the sources of confidence athletes give towards their success. However, gender and competitive level differences also play a crucial role in the sources that athlete's view as important towards their confidence. Kingston et al. (2010) found that gender differences have an important impact on the sources of confidence athlete's use for their performances, and studies such as Hays et al. (2007), that used just elite performers in their sample, shows that there is a scope to analyse both elite and non-elite performers. Therefore, a recommendation for future research is to look into a study that considers sport-type and gender differences, or sport-type and competitive level differences, or all three together to find out if there are any significant differences between these variables and the sources of confidence that the athlete's deem important to performance.

Situational favourableness as a source within the SSCQ has been questioned as to its importance to athletes. A study by Wilson et al. (2004), found that situational favourableness is not an important source towards athletes' confidence, and was removed. Wilson and colleagues therefore developed a revised 8-factor model without situational favourableness. The findings from that study were supported by the results from the current study, which found situational favourableness to be the least important source of confidence. This may suggest for future research to be directed towards the revised 8-factor model that Wilson et al. (2004) developed. However, Kingston et al, (2010) did find some support for situational favourableness as a source of confidence for athletes, and so further research into this source on different sporting backgrounds is needed to work out its validity as a source of confidence towards athletes.

Another possible direction for future research to go down would be looking into the source of physical self-presentation. There are inconsistencies with the previous

research (Vealey et al., 1998; Hays et al., 2007; Kingston et al., 2010) concerning the significance physical self-presentation has on elite athletes. Although the current study consisted of a non-elite sample, the results found that physical self-presentation was the second lowest source of importance to athletes' confidence, and this provides further fuel for the analysis of the importance of this source in more depth by future research. Although no significant differences were found in the current study, physical self-presentation reported the most significant results, with individual-sport athletes using this source significantly more than team-sport athletes. This difference may be down to the nature of individual sports consisting in all attention being placed on that one athlete; in performance, the way they present themselves, and the clothes they wear, which isn't always the case with team-sport athletes. Further research may investigate how the nature of the sport being performed can have an influence on physical self-presentation as a source of sport-confidence towards sports type.

In the current study, as stated as a limitation above, the sample consisted of participants from one university organisation, apart from only three participants. Future research should be directed to use a wider population within the sample as, highlighted by previous research, sources of sport confidence are influenced by organizational and socio-cultural factors (Hays et al., 2007; Kingston et al., 2010). Therefore the future research should look broaden the population of the sample, as well as look to investigate competitive level and/or gender differences on sport-types. A research question such as *'how does sport-type and gender differences influence the sources of confidence of an athlete?'* or *'what influence does competitive level differences and sport-type differences have upon an athletes' sources of confidence?'* This study analyses the sport-type differences but a greater population sample, tied in with comparing competitive level and gender differences will further increase the research and knowledge base for sports practitioners to use in the future.

## **Chapter 6**

### **Conclusion**

## **Concluding Thoughts**

This study looked into investigating the effects that the type of sport had on the importance placed on the sources of sport-confidence. Using the SSCQ that was developed by Vealey et al. (1998), the present study found no significant differences between the sources that team-sport athletes and individual-sport athletes give towards their confidence in performing in their sport. Although no significant differences were found between the sport-types, important findings were developed from the results that supported the previous research. The most significant result in the present study found that physical self-presentation was found to be more important to individual-sport athletes compared to team-sport athletes, with previous research not having considered sport-type and the sources of confidence in any great detail. This may provide future research with a starting point that can be further developed and researched. Furthermore, mastery was the only other source that was viewed with any greater importance to individual-sport performers. The other seven sources used within the SSCQ were all very similar in the results between sport-types, with physical self-presentation and situational favourableness being viewed by both sport-types as being of very low importance towards sport-confidence levels. These results would suggest that for sports practitioners, there would be no need to create specific intervention designs for team-sport players and for individual-sport players. Instead a general intervention design could be used for both sport-types, due to the results showing no significant differences between the sources that both sport-types deem important towards their successful performances.

The data from the current study has provided research into sport-types, which has had very little research conducted in this specific area. Therefore, it has provided a starting point to which further research will be able to examine the sources of sport-confidence using sport-type and other variables such as gender and competitive level to compare any significant differences that these variables may have on the sources of confidence athletes use towards their successful performances, and this may be able to help sports practitioners when developing interventions and strategies for athlete's within the sport-confidence area of sport psychology.

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# **Appendix A**

## **Participant Information Sheet**

**Project Title:** Sources of sport-confidence identified by a range of athletes towards their success performing in individual sports or team sports and the possible differences between them.

This document provides a run through of:

- 1) the background and aim of the research,
- 2) my role as the researcher,
- 3) your role as a participant,
- 4) benefits of taking part,
- 5) how data will be collected, and
- 6) how the data / research will be used.

The purpose of this document is to assist you in making an *informed* decision about whether you wish to be included in the project, and to promote transparency in the research process.

### **1) Background and aims of the research**

Confidence in sport has been argued to play a significant role in athletes' successes. Many athletes define their self-confidence as crucial to winning. Vealey (2001) stated that self-confidence has consistently been identified as an important influence on athletic performance. Research hasn't been conducted into trying to identify the causal explanations behind the different sources of sport-confidence that are identified by the athletes and the importance that they place on these sources which could have a crucial effect on their performance and their coaches. Based on the overview, there's a need to conduct research into the explanations behind the differing sources that are identified by the athletes in individual sports and those competing in team sports and how the sources identified vary based on the sport and level of performance.

### **2) My role as the researcher:**

The project involves myself (Jacques Bernard) the researcher, giving out a questionnaire to you, for you to complete in Cardiff Metropolitan University. Once this is conducted I will calculate your score of sport-confidence and as to which sources of sport-confidence you deem important to your success.

### **3) Your role as a participant:**

Your role is to complete the questionnaire as honestly as possible. The questionnaire includes questions about how important you deem certain sources of confidence to be to your successful performances in your sport. The completion of the questionnaire is not compulsory if you feel uncomfortable with it, however your results would be void.

### **4) Benefits of taking part:**

The information we obtain from this study will allow better insight into the sources of sport-confidence that yourself and other athletes give towards successful performances. From this we will aim to understand more about what sources of

confidence are important to different athletes based on the type and level of sport they are performing in. We will be happy to share this information to any of the participants of this study.

**5) How data will be collected:**

As alluded to above, data will be collected from the questionnaire that will be provided to you. If any scores particularly stand out then you may be asked to take part in a semi structured interview so that we can gauge the reasons for particular sources of sport-confidence being important to you.

**6) How the data / research will be used:**

In agreeing to become a *voluntary* participant, you will be allowing me to use your responses to the questionnaires and include them within a larger data set that includes the data of other participants. Your personal data will be anonymous and will not be reported alone, but within the total sample of participants.

**Your rights**

Your right as a *voluntary* participant is that you are free to enter or withdraw from the study at any time. This simply means that you are in full control of the part you play in informing the research, and what *anonymous* information is used in its final reporting.

**Protection to privacy**

Concerted efforts will be made to hide your identity in any written transcripts, notes, and associated documentation that inform the research and its findings. Furthermore, any personal information about you will remain *confidential* according to the guidelines of the Data Protection Act (1998).

**Contact**

If you require any further details, or have any outstanding queries, feel free to contact me on the details printed below.

Mr. Jacques Bernard

Cardiff School of Sport  
Cardiff Metropolitan University  
CF236XD, United Kingdom  
Email: st10001372@outlook.uwic.ac.

# **Appendix B**

## **Informed consent form**

# CARDIFF METROPOLITAN

## INFORMED CONSENT FORM

CSS Reference No:

Title of Project: Sources of sport-confidence identified by a range of athletes towards their success performing in individual sports or team sports and the possible differences between them.

Name of Researcher: Jacques Bernard

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Participant to complete this section: Please initial each box.

1. I confirm that I have read and understand the information sheet dated ..... for this evaluation study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.

2. I understand that my participation is voluntary and that it is possible to stop taking part at any time, without giving a reason.

3. I also understand that if this happens, our relationships with the Cardiff Metropolitan University, or our legal rights will not be affected

4. I understand that information from the study may be used for reporting purposes, but I will not be identified.

5. I agree to take part in this study on the sources of sport-confidence.

Name of Participant:

Signature of Participant:

Date:

Name of person taking consent: *Jacques Bernard*

Date:

Signature of person taking consent: *J. Bernard*

\* When completed, one copy for participant and one copy for researcher's files.

# **Appendix C**

## **Sources of Sport-Confidence Questionnaire (SSCQ)**

## Athlete Self-Rating Scale (SSCQ)

Think back to times when you felt **very confident** when participating in your sport. **What things made you feel confident?** What things helped you believe in your abilities and gave you confidence that you would be successful?

Listed below are some sources that may help athletes feel confident in sport situations. For each statement, circle the number which indicates **HOW IMPORTANT THAT SOURCE IS TO YOUR GENERAL FEELINGS OF CONFIDENCE WITHIN YOUR SPORT**. Please respond to every question even though they may seem repetitive. There are no right or wrong answers because every athlete is different. Please be honest - your answers will be kept completely confidential.

### I generally gain self-confidence in my sport when I...

	not at all	not very	slightly	of average	very	extremely	of highest
	important	important	important	importance	important	important	importance
1. get positive feedback from my teammates and/or friends.....	1	2	3	4	5	6	7
2. win.....	1	2	3	4	5	6	7
3. keep my focus on the task.....	1	2	3	4	5	6	7
4. psych myself up.....	1	2	3	4	5	6	7
5. master a new skill in my sport.....	1	2	3	4	5	6	7
6. get breaks from officials or referees.....	1	2	3	4	5	6	7
7. perform in an environment (gym, pool, stadium, etc.) that I like and in which I feel comfortable.....	1	2	3	4	5	6	7
8. feel good about my weight.....	1	2	3	4	5	6	7
9. believe in my coach's abilities.....	1	2	3	4	5	6	7
10. know I have support from others that are important to me.....	1	2	3	4	5	6	7
11. demonstrate that I am better than others.....	1	2	3	4	5	6	7
12. see successful performances by other athletes.....	1	2	3	4	5	6	7
13. know that I am mentally prepared for the situation.....	1	2	3	4	5	6	7
14. follow certain rituals (e.g., wearing a lucky shirt, eating certain food, etc).....	1	2	3	4	5	6	7
15. improve my performance on a skill							

in my sport.....	1	2	3	4	5	6	7
16.see the breaks are going my way.....	1	2	3	4	5	6	7
17.feel I look good.....	1	2	3	4	5	6	7
18.know my coach will make good decisions....	1	2	3	4	5	6	7
19.am told that others believe in me and my abilities.....	1	2	3	4	5	6	7
20.show my ability by winning or placing.....	1	2	3	4	5	6	7
21.watch another athlete I admire perform successfully.....	1	2	3	4	5	6	7
22.stay focused on my goals.....	1	2	3	4	5	6	7
23.improve my skills.....	1	2	3	4	5	6	7
24.feel comfortable in the environment (gym, pool, stadium, etc.) in which I'm performing.....	1	2	3	4	5	6	7
25.feel that everything is "going right" for me in that situation.....	1	2	3	4	5	6	7
26.feel my body looks good.....	1	2	3	4	5	6	7
27.know my coach is a good leader.....	1	2	3	4	5	6	7
28.am encouraged by coaches and/or family.....	1	2	3	4	5	6	7
29.know I can outperform opponents.....	1	2	3	4	5	6	7
30.watch a teammate perform well.....	1	2	3	4	5	6	7
31.prepare myself physically and mentally for a situation.....	1	2	3	4	5	6	7
32.increase the number of skills I can perform..	1	2	3	4	5	6	7
33.like the environment where I am performing	1	2	3	4	5	6	7
34.have trust in my coach's decisions.....	1	2	3	4	5	6	7
35. get positive feedback from coaches and/or family.....	1	2	3	4	5	6	7
36.prove I am better than my opponents.....	1	2	3	4	5	6	7
37.see a friend perform successfully.....	1	2	3	4	5	6	7
38.believe in my ability to give maximum							

effort to succeed.....	1	2	3	4	5	6	7
39.receive support and encouragement from others.....	1	2	3	4	5	6	7
40.show I'm one of the best in my sport.....	1	2	3	4	5	6	7
41.watch teammates who are at my level perform well.....	1	2	3	4	5	6	7
42. develop new skills and improve.....	1	2	3	4	5	6	7
43. feel my coach provides effective leadership....	1	2	3	4	5	6	7

# Appendix D

## Reliability Statistics

*Appendix D: Final Cronbach alpha values for the subscales of the SSCQ*

### Reliability Statistics

Cronbach's Alpha	N of Items
.717	9

### Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Mastery	179.3333	566.792	.432	.687
Demofability	174.1667	567.915	.178	.750
Mentalphysprep	175.1481	548.883	.457	.681
Physicalselfpres	192.9630	567.999	.461	.683
Support	172.0926	539.142	.572	.664
Vicariousexp	185.6111	534.808	.411	.689
Environmentalcomfort	186.7778	605.044	.258	.713
Situationalfav	193.3519	570.044	.591	.673
Leadership	181.4444	505.384	.419	.690