

**An In-depth Look at Mental Training as Perceived by 2012 Canadian Olympic Athletes**

By

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BA, University of Victoria, 2003

A Thesis Submitted in Partial Fulfillment  
of the Requirements for the Degree of

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## **Abstract**

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This study examined four Canadian Olympic athletes' attitudes towards mental training and their implementation strategies before, during, and after the 2012 London Olympics. The athletes competed in a variety of sports including rowing, swimming and track and field. Semi-structured, in-depth interviews were conducted and written-up as in-depth narratives to provide rich insight into these athletes' perspectives and unique experiences. The narratives were analyzed individually and were then compared and contrasted across all four. All four athletes expressed a positive attitude towards the importance of mental training. However, they differed in their underlying beliefs as to whether mental training was a fundamental or supplementary component to their preparation and subsequent performance in London. Themes that emerged as influencing the development of these attitudes include prior experience and maturity of the athlete. In regards to their implementation methods, the athletes all used mental training but their approaches ranged from implementing holistically to a narrow approach. Future research should investigate the different factors that may impact an athletes' attitude towards mental training such as team versus individual sport, gender, and years of experience. Additionally, exploring what a holistic mental training plan would look like compared to a supplementary approach and whether they result in differences in athlete performance.

## Table of Contents

Supervisory Committee .....	ii
Abstract .....	iii
Table of Contents .....	iv
List of Tables .....	vi
Acknowledgements .....	vii
Chapter 1 Introduction .....	1
1.1 Purpose of the study .....	6
1.2 Operational definitions .....	7
1.3 Assumptions .....	8
Chapter 2 Review of Literature .....	9
2.1 Introduction .....	9
2.2 Significance of Sport Psychology and Mental Training .....	9
2.3 Overview of Mental Training Strategies .....	12
2.4 Attitudes Towards Mental Training .....	16
2.5 Research on Olympic Athletes .....	19
2.6 Fundamental Attribution Theory .....	26
2.7 Gaps in the Literature .....	30
2.8 Summary .....	34
Chapter 3 Methods .....	35
3.1 Participants .....	35
3.2 Research design .....	35
3.3 Data collection .....	36
3.4 Self-disclosure .....	37
3.5 Data Analysis .....	37
Chapter 4 Results .....	40
4.1 Participants' Narratives .....	42
4.1.1 Alyssa: Track and Field .....	42

4.1.2 Analysis of Alyssa’s Narrative .....	52
4.2.1 Max: Swimming .....	63
4.2.2 Analysis of Max’s Narrative.....	81
4.3.1 Tyler: Rowing.....	90
4.3.2 Analysis of Tyler’s Narrative .....	100
4.4.1 Troy: Rowing.....	104
4.4.2 Analysis of Troy’s Narrative .....	108
4.5 Cross analysis of all four interviews .....	112
Chapter 5 Discussion .....	120
Conclusion .....	137
References.....	139
Appendix A Interview Guide - Athletes .....	147
Appendix B Interview Guide – Support staff .....	149
Appendix C Reflection Notes .....	151
Appendix D Participant Invitation Form .....	154
Appendix E Participant Consent Form .....	156

## List of Tables

Table 1	Psychological factors associated with Olympic success .....	13
Table 2	Summary of Participant Information .....	41
Table 3	Summary of Participant Findings .....	127

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## Chapter 1 Introduction

Sport performance is often described as consisting of many different components such as physical, technical, tactical, and psychological (Durand-Bush & Salmela, 2002; Holliday et al., 2008). The psychological component, also known as mental training or sport psychology, has been rapidly growing over the years in its significance and use (Daniel Gould & Maynard, 2009; Guentbner, Hammermeister, Burton, & Keller, 2010). Despite this growth, there continues to be a wide range of attitudes and beliefs from coaches and athletes toward the importance and effectiveness of mental training in competitive sports.

Mental training has been previously defined in the literature as “those cognitive, emotional, and behavioural strategies athletes and teams use to arrive at an ideal performance state or condition that is related to optimal psychological states and peak performance either for competition or practice” (Gould, Flett, & Bean, 2009, p. 53). These mental strategies typically take a cognitive-behavioural approach which “theorizes that by changing people’s thinking, you can change their behaviours (Murphy, 2005, p. xii). These strategies have considerable overlap and often encompass more than one component. Some examples of these strategies include self-talk (also known as affirmations), visualization, and arousal control. The benefits these strategies may have have been well documented throughout the literature (Behncke, 2004; Tod, Hardy, & Oliver, 2011; Ungerleider & Golding, 1991; Weinberg, 2008); these include helping to increase confidence levels, developing a greater focus during competition, and assisting in the ability to deal with nerves under pressure (Durand-Bush & Salmela, 2002).

There is evidence to suggest that athletes of all levels can benefit from mental training (Daniel Gould & Maynard, 2009; Gucciardi, Gordon, & Dimmock, 2009; Hayslip, Petrie,

MacIntire, & Jones, 2010; Shoenfelt & Griffith, 2008). However, at the elite level, such as reaching the Olympics, athletes are incredibly refined in their technical skills and thus the psychological component can often be a separating factor. Athletes who compete at the Olympic level are often viewed as being at the pinnacle of amateur sport and therefore a great amount of information can be learned from this unique population. Prior research on elite athletes and the use of mental training strategies has successfully distinguished between more and less elite athletes through the administering of the Test of Performance Strategies (TOPS) (Taylor, Gould, & Rolo, 2008). This discrimination suggests that more successful athletes are more frequently employing psychological skills than less successful athletes. Although this distinguishing between athletes certainly advocates for the importance of mental training, the TOPS does not provide insight into how these athletes are employing mental skills and strategies making it difficult to translate these findings to other athletes and coaches. Understanding how and when Olympic athletes are implementing mental strategies into their training could have benefits for other athletes working towards improving their performance. Furthermore, coaches and sport psychologists could also find value in understanding when and how Olympic athletes are implementing mental strategies into their training and what specifically these athletes have found to be effective or ineffective. Although it is evident that there are significant benefits to studying Olympic athletes, research specific to Canadian Olympic athletes has been limited. Research pertaining to the Canadian sport system could have the potential to evoke change from the top down if disseminated to national governing sport bodies and high performance directors. Furthermore, there are a number of differences between the Canadian sport system and the U.S. sport system (where the majority of Olympic sport psychology research has been conducted (Gould, Dieffenbach, & Moffett, 2002; Gould & Jackson, 1992; Greenleaf, Gould, &

Dieffenbach, 2001; Taylor, et al., 2008) thus warranting research within a Canadian context. Therefore this study helps to fill a lack of research pertaining specifically to Canadian Olympic athletes and their attitudes towards mental training within their sport and how they are implementing mental training. Four athletes were interviewed in this study that competed at the London 2012 Games. The three questions the study addressed are: (1) what are the current attitudes and beliefs towards mental training as perceived by four 2012 Canadian Olympic athletes?; (2) how are these four Canadian Olympic athletes incorporating and implementing mental training techniques into their preparation and during competition?; and (3) when are these four Canadian Olympic athletes incorporating and implementing mental training techniques into their preparation and competition?

The field of mental training and sport psychology is of personal and professional interest to me because of my background as a competitive athlete and my keenness towards working in this field in the future. I have been a competitive golfer for numerous years, competing for the University of Victoria during my undergraduate degree, as well as competing on smaller amateur and professional tours throughout Canada and the U.S. Having participated in a wide range of sports throughout my life, I have been exposed to a variety of mental tools without fully realizing their impact on my athletics. It was during my last year of my undergraduate degree when I enrolled in an applied sport psychology course that my knowledge and interest in the area began to flourish. In this course I had an opportunity to design a mental training plan which I implemented during my last season as a collegiate golfer. I witnessed firsthand great improvements within that single season; with my scoring average improving by an average of four shots. I also began to see a shift in how I dealt with tournaments and pressure, and played incredibly consistent in my final tournament which the mental training plan was tailored towards.

After graduation, I continued to pursue competitive golf and became more and more intrigued by how I was preparing for tournaments mentally. I attended ‘Qualifying School’ for the Ladies Professional Golf Association (LPGA) developmental tour, which has a reputation for being one of the most pressure-packed and grueling tournaments. This experience, along with competing in many other tournaments, provided me with the opportunity to truly understand the drive, level of commitment and the mental demands necessary to compete for a living. I knew I wanted to pursue studies in the field of sport psychology, and I felt that by truly experiencing such a high level of pressure and nerves, I would be better equipped to work with athletes going through similar experiences in the future. These events have led me to the pursuit of a Master’s in Kinesiology with a focus on applied mental training. My experiences have shaped my perspective on mental training in that I believe this is an important area that can have numerous benefits for athletes. As mentioned in the *Handbook of Qualitative Research* (2005),

However, moved to share ideas case researchers might be, however clever and elaborated their writings, they will, like others, pass along to readers some of their personal meanings of events and relationships – and fail to pass along others. They know that readers, too, will add and subtract, invent and shape – reconstructing the knowledge in ways that leave it differently connected and more likely to be personally useful.

(Stake, 2005, p. 455)

I recognized throughout the study that I have a personal interest in many of the narratives being shared. My experiences and perspectives on sport psychology were used as a means of enriching the voices of the athletes included in this study and deepen the readers’ understanding about their experiences. As Stake (2005) remarks, “When the researcher’s narrative provides opportunity for

*vicarious experience*, readers extend their perceptions of happenings” (p. 454). Evoking vicarious experiences for a reader is a key component of qualitative research (Sparkes, 2002).

### **Significance of Qualitative Research and the Use of Narratives**

As a Master of Science student in Kinesiology, I worked as a research assistant for a Canada wide cardiac study. This study investigated the different lifestyle factors that people who have undergone cardiac hospitalization engage in. My role as a research assistant is to meet with participants to discuss the details of the study and go through the different surveys with them. It was through my interactions with these people that I discovered the value of qualitative research. I realized that I was learning more from talking to the participants about their lifestyle choices and experiences than what was being attained through the surveys. This led me to choose a qualitative approach, including semi-structured interviews as my primary method for investigating Olympic athletes’ experiences and to subsequently describe their interviews as in-depth narratives. This approach allowed for a comprehensive representation of the athletes’ attitudes and beliefs towards mental training, what has influenced these attitudes, and their actual mental training implementation methods.

Narratives have been used as a methodology to help us answer, “questions of meaning, social significance, and purpose” (Clandinin & Connelly, 2000, p. 120). The authors go on to discuss the “tensions” that exist between merging large amounts of field texts, and conveying it in a way that the audience or reader can understand and relate to. I took a number of steps to try and effectively incorporate the athletes’ perspectives into an organized story where readers can undergo feelings of verisimilitude. These steps are outlined in Chapter three in the data analysis section. I analyzed the individual narratives and then compared and contrasted the commonalities as well as the particularities of their stories.

It is important to describe my own context into this study as it allows for the reader to have a better understanding as to how certain narratives might be interpreted. Krane & Baird, (2005) mention this important point.

Rarely have researchers adequately explained the underlying foundation for their choice of methods and analytical strategies. This is an important omission to address, as readers must rely on this type of background to understand the author's interpretation of findings (p. 89).

Therefore it is hoped that my perspective and presence within the study will only enrich the narratives and provide a context that is helpful to future readers. On multiple occasions throughout my athletic career I employed mental strategies and found significant improvements in both my performance and ability to deal with nerve wracking situations. I strongly believe that the mental training I worked on during my last year as a collegiate golfer contributed significantly to my scoring breakthrough and first collegiate tournament win. At times however, I did experience feelings of frustration surrounding how I could incorporate more mental strategies into my training. This frustration alongside curiosity towards mental training sparked my interest to talk to other athletes about their experiences with mental training. Furthermore, the desire to learn from other athletes via in-depth interviews provides an avenue for other athletes to also learn from. Therefore my perspective has led to me utilizing a research approach that provides information that can be understood and applied by other athletes.

### **1.1 Purpose of the study**

The proposed study furthers our understanding of Canadian Olympic athletes' attitudes towards mental training and develops a better understanding as to how these athletes specifically

implement mental strategies before, during, and after the Olympics. Through the use of in-depth narratives, these detailed accounts of the individual athletes' experiences will shed light on the different factors that shape the athletes' attitudes towards mental training and their implementation approaches. The attitudes and beliefs towards mental training as perceived by four Canadian Olympic athletes will be the first area addressed. Second, the four Canadian Olympic athletes' implementation approaches will be explored.

## 1.2 Operational definitions

The following are the key terms which provide context to the study.

**Olympic Athlete:** Canadian athlete who competed at the London 2012 Olympic Games

**Integrated Support Staff:** A supporting staff member that is part of the Canadian Olympic team that is directly involved in preparation strategies of the athlete or team. (i.e. a sport psychologist, team physiologist)

**Sport psychology:** Sport psychology has been defined as the scientific study of people and their behaviors in sport and exercise contexts and the practical application of that knowledge (Gill, 2000)

**Mental training:** Intended to improve performance through the use of mental preparation strategies. This includes cognitive, emotional and behavioural strategies used to help performance (Gould & Maynard, 2009). Some examples of these strategies include imagery, arousal regulation, goal setting, and self-talk.

**Mental toughness:** Having the natural or developed psychological edge that enables you to: Generally: Cope better than your opponents with the many demands (competition, training, and lifestyle) that sport places on a performer. Specifically: Be more consistent

and better than your opponents in remaining determined, focused, confident, and in control under pressure.” (Jones, 2002, p. 209)

### **1.3 Assumptions**

I acknowledged my own perspective and have incorporated it into the study. I mention that I have a positive perspective towards mental training and my curiosity towards understanding how to incorporate it into my own sport experiences has influenced my decision to interview elite athletes in order to understand their experiences with mental training. The athletes’ perspectives may shift throughout their sport careers and different results and outcomes may influence their current perspectives. Therefore, in-depth interviews allow for a greater representation of the shifts in attitudes the athletes have experienced towards mental training and their subsequent implementation approaches.

One of the interviews was conducted via email and therefore does not have the same richness as the other three interviews.

## **Chapter 2 Review of Literature**

### **2.1 Introduction**

This chapter presents a review of the literature on mental training in sport. Specifically, the significance of the field of sport psychology and mental training will be discussed, followed by an overview of mental training strategies commonly employed by athletes. Attitudes towards mental training from athletes, non-athletes and coaches and how these attitudes have shifted over time will be examined, followed by a review of the literature specifically pertaining to mental training among Olympic athletes. Attribution theory and its use throughout the sport psychology literature will then be discussed. Finally, the constraints and gaps in the literature will be examined.

### **2.2 Significance of Sport Psychology and Mental Training**

Sport psychology has been defined as the scientific study of people and their behaviors in sport and exercise contexts and the practical application of that knowledge (Gill, 2000). The field of sport psychology is continuing to grow and advance. Johnson (2006) documented the characteristics of growth and development from the field of sport psychology over the past 25 years. His analysis shows that the 1990s started to see advancement in research with a greater breadth of research methodology being implemented such as mixed methods and case studies, along with a greater emphasis on bridging theory and practice (Johnson, 2006). This increase in a variety of research methodologies combined with the establishment of guidelines for sport psychology consultants has helped to increase the credibility of the field throughout the beginning of the 20<sup>th</sup> century. Additionally, research on Olympic level athletes and coaches has

continued to grow over the past 25 years building on seminal studies such as Mahoney & Avener, (1977) and Orlick and Partington (1986, 1987, 1988).

There is substantial research that supports the use and importance of mental training in elite level sport (Burton, Pickering, Weinberg, Yukelson, & Weigand, 2010; Gould, Dieffenbach, & Moffett, 2002a, 2002b; Orlick & Partington, 1988). Olympic level athletes are separated by milliseconds, tenths of points, or a single shot or goal. Additionally, they are incredibly refined in their technique and conditioned in their physical abilities and therefore the mental component can often be a separating factor. ‘Mental toughness’ is a term that is frequently employed when discussing athletes who consistently come out on top or have that ability to perform to their best when it counts the most (Jones, 2002). One definition that has been well-accepted throughout the literature defines mental toughness as “having the natural or developed psychological edge that enables you to: Generally, cope better than your opponents with the many demands (competition, training, and lifestyle) that sport places on a performer. Specifically, be more consistent and better than your opponents in remaining determined, focused, confident, and in control under pressure” (Jones, 2002, p. 209).

Researchers have found a difference between performance level and the frequency and variety of mental skills employed (Gould, Eklund, & Jackson, 1992a, 1992b, Gould & Jackson, 1992; Greenleaf et al., 2001; Taylor et al., 2008). Specifically, in Taylor’s (2008) study, 176 Olympians were administered the Test of Performance Strategies (TOPS). This instrument measures eight psychological skills (i.e. goal-setting, relaxation, activation, imagery, self-talk, attentional control, emotional control, and automaticity) used by elite athletes in practice and competition (Taylor et al., 2008). They found that medalists scored higher on implementation frequency of mental tools than non-medalists (Taylor et al., 2008). Gould et al., (1999) found

numerous interacting factors which resulted in teams either failing, exceeding or meeting expectations such as differences in their mental preparation, their focus and commitment, support network, and team cohesion. This study provides support for previous literature that the mental component plays an important role in separating more from less successful athletes. However, this study did not provide an in-depth examination of these particular influential factors. Specifically, as the authors noted as a weakness of the study, was the lack of depth at looking at particular sources of stress and how athletes perceived and coped with these stressors (Gould et al., 1999). The authors also found that how athletes perceived the influence of their social support group played a role in their performance. This area of how athletes perceive certain events and interactions will be discussed in more detail in the section discussing attribution theory.

Greenleaf and Gould (2001) also found strong supporting evidence that many of the differentiating factors for more successful athletes versus less successful athletes were psychological thus further demonstrating the important role that the psychological component plays among elite athletes. However, a limitation of this study as noted by the researchers was that the results did not explore in-depth how these psychological factors impacted performance. Understanding in-depth how psychological factors influence athletes' performances differently is an important area for future research in the field of sport psychology.

As this discussion of the literature has illustrated, there is a strong body of evidence suggesting that the mental component is an important separating factor among elite athletes, however, greater detail into how the athletes are utilizing mental training, as well as understanding how athletes respond to certain prior events, are important areas for future research to investigate.

## 2.3 Overview of Mental Training Strategies

Orlick and Partington (1988) paved the way for future research in the field of mental training on Canadian Olympic athletes. In their 1988 study, they identified a number of common mental training elements among successful Canadian Olympic athletes who competed in the 1984 Olympic Games. These included: quality training, setting clear daily goals, extensive and refined imagery training, simulation training, specific mental preparation for competitive demands (i.e. competition focus plans, competition evaluation, distraction control), and the learning of elements of success over time (Orlick & Partington, 1988, pp. 110-118). Researchers have continued to build off of these themes over the years and expand upon the findings (Gould et al., 1992a, 1992b, 1999, Greenleaf & Gould 2001). For example, in a recent review of the literature pertaining to Olympic athletes and their preparation and development by Gould and Maynard (2009), a number of refined and distinguishable behavioral and emotional states pertaining specifically to Olympic athletes were identified. These psychological and emotional states along with the associated cognitive and behavioral strategies that help the athletes reach these states can be found below in Table 1. The third column has been added in to show where a lack of investigation exists in the literature surrounding implementation of mental strategies.

Table 1

*Psychological factors associated with Olympic success*

Psychological/emotional state or attribute	Cognitive and behavioural strategies	Specific skill? How? When?	Personal disposition
Confidence/self-belief	Self-talk		Optimism
Concentration/attentional focus	Imagery		Goal orientation (task/ego)
Determination/motivation/commitment	Goal setting		Adaptive perfection
Optimal zone of emotions/arousal/anxiety	Competitive simulations		Competitiveness
Emotional control	Competitive plans/re-focusing plans/routines		Sport intelligence
Automaticity	Distraction preparation strategies		Trait hope
Motivation-commitment	Mistake management plan		Locus of control
Body awareness	Success management strategies		Intrinsic/extrinsic motivation orientation
Pain management	Fun-enjoyment strategies		
Self-awareness	Environmental control		

*Note.* Adapted from “Psychological Preparation for the Olympic Games,” by D. Gould and I. Maynard, 2009, *Journal of Sport Sciences*, 27, p. 1396. Copyright 2009 by Taylor and Francis. Adapted with permission

The left column (psychological and emotional traits and attributes) which have been associated with Olympic athletes have also been identified in research by Durand-Bush and Salmela, (2002); Gould, Dieffenbach, and Moffett, (2002); Greenleaf and Gould, 2001; and Taylor et al., (2008). However, without examining differences in implementation, it is difficult to evaluate the associated mental strategies (column two). For example, two separate athletes could achieve equally high scores on the Test of Performance Strategies on their use of self-talk but differ in their approach with implementing the tool. Column three represents the lack of athlete perspective towards the mental strategies employed and their effectiveness or ineffectiveness. Therefore understanding how and when these tools are being used from the view of the athlete is an important area for research.

Numerous mental training strategies have been identified throughout the literature and will now be discussed in greater detail. These include: self-talk, arousal regulation, attentional control, goal setting, imagery, competitive simulations, preparation strategies, re-focusing routines, mistake management plans, success management plans, and environmental control (Durand-Bush & Salmela, 2002; Gould & Maynard, 2009; Gould et al., 2002). These strategies can be used to help influence multiple behavioral traits. For example, self-talk can be used to help increase an athlete's confidence as well as their concentration (Gould & Maynard, 2009; Taylor et al., 2008; Tod, Hardy, & Oliver, 2011). Arousal regulation can be beneficial for pre-game preparation as well as obtaining their optimal level of emotion for a match/competition (Gould & Maynard, 2009). Attentional control is a strategy used for increasing concentration and automaticity (Bell & Hardy, 2009; Bernier, Codron, Thienot, & Fournier, 2011; Gould & Maynard, 2009; Wilson, Vine, & Wood, 2009). Goal setting is one of the most common strategies discussed throughout the literature. Goal setting has been linked to helping increase

concentration levels, develop automaticity, increasing motivation and commitment and overall performance improvement (Burton, Pickering, Weinberg, Yukelson, & Weigand, 2010; Gould & Maynard, 2009; Locke & Latham, 1985; Stoeber, Uphill, & Hotham, 2009; Weinberg, Butt, & Knight, 2010). There are multiple types and ways to set goals and different goals can impact athletes' performance, motivation and the way in which an athlete works to achieve those goals (Sebire, Standage, & Vansteenkiste, 2009; Stoeber et al., 2009). Imagery is another common and highly discussed strategy. Imagery has been linked to increasing confidence, concentration, optimal arousal levels and has been shown to be effective in the development of pre-game plans and strategies (Gould & Maynard, 2009; Jordet, 2005; Weinberg, 2008; Weinberg, Butt, Knight, Burke, and Jackson, 2003). Imagery has been found to be one of the most commonly employed mental training tools among athletes (Daniel Gould & Maynard, 2009; Orlick & Partington, 1988). Competition simulations and pre-game preparation plans have some overlap with each other, but are two effective strategies for dealing with pressure in competition, coping with stress, and regulating arousal levels (Gould & S. Jackson, 1992; Gould & Maynard, 2009; Orlick & Partington, 1988; Taylor et al., 2008).

Although there is extensive research on these specific strategies and the benefits of mental training, there is still a gap in our understanding about the actual implementation of these strategies and how effective these strategies are in promoting change. Additionally, the literature lacks research exploring the athletes' perspectives towards using mental strategies and how effective these strategies have been for them. The limited research investigating how and when mental training strategies are used and their effectiveness or ineffectiveness contributes towards the many differences in opinions and attitudes that exist towards the efficacy of mental training. Without a foundation for mental training implementation, it is difficult for research to build and

expand which would help to increase our understanding of effective implementation approaches. A strong foundation would also allow for researchers and those working in the field to test different intervention approaches on athlete performance. Research on attitudes towards the psychological component of sport over the years will now be looked at.

## **2.4 Attitudes Towards Mental Training**

There is supporting evidence that an athletes' attitude and belief towards the psychological component of their training influences their use of mental training and desire to use the services of a sport psychologist (Wrisberg, et al., 2009; Wrisberg, et al., 2010). Past research has suggested that the terms used referring to a person who delivers sport psychology services may also influence an athlete or coach's likelihood of employing that person (Zakrajsek & Zizzi, 2007; Linder et al., 1991). For example, Linder et al., (1991) conducted a study where they surveyed a large number of first year psychology students to see if the students' opinions of athletes would be different depending on if the athlete described worked with a sport psychologist, coach or a psychotherapist (thus the only variable changing was the term pertaining to the person providing psychological assistant). Linder et al., (1991) found that athletes who worked on problems with a sport psychologist or psychotherapist were rated lower on draft selection list relative to athletes who worked on the same problems with their respective coach. These findings suggest that the terms 'psychologist' and 'psychotherapist' may be perceived negatively and that it implies an athlete is not as competent as one who seeks out help from a coach.

The use of sport psychology consultants and available mental training resources has been significantly growing over the past 20 years (*Canadian Sport Psychology Association website*).

(2005). Retrieved February 10, 2013, from <http://www.en.cspa-acps.ca/about/about.html>;  
Johnson, 2006)

There are a number of studies that have shown that athletes and coaches who have been exposed to mental training and had a positive experience have more favorable attitudes towards the effectiveness of mental training (Martin, 2005; Wrisberg et al., 2009; Orlick & Partington, 1987). However, there continues to be a wide range of opinions towards sport psychology/mental training and the use of a sport psychology consultant (Martin et al., 2001; Orlick & Partington, 1987; Wrisberg et al., 2009; Wrisberg et al., 2010; Zakrajsek, Martin, & Zizzi, 2011). In a study conducted by Orlick and Partington (1987), they found mixed results among Olympic athletes' attitudes towards the benefits of working with a sport psychologist in preparation for the Olympics. Some athletes expressed doubts about the consulting services as being useful while others viewed these services as very useful tools. There has been limited follow-up research investigating the current attitudes towards mental training as perceived by Canadian Olympic athletes and coaches. This area warrants research as the area of mental training and sport psychology has been growing and there is a lot more funding and resources available to Canadian Olympic athletes. This could potentially cause a shift in attitudes towards the area of sport psychology. In a more recent study conducted in 2005, Martin found a negative stigma to still be present among some male high school and college athletes. Martin, (2005) also found that female high school and college athletes were more accepting of sport psychology consultants than males. This finding represents one of the factors that can greatly influence an individual's attitude towards mental training and sport psychology. Other influencing factors include age, gender, education, type of sport, and previous experience (Martin, 2005, Wrisberg et al., 2009). Therefore, it is difficult to generalize any overall changes in attitudes sport psychology over the

past few decades. Zakrajsek et al., (2011) looked at the attitudes towards sport psychology as perceived by American football coaches in Texas. There has been evidence to suggest that athletes that participate in sports such as football and basketball may have a higher stigma towards using sport psychology services (Martin et al., 2004; Martin, 2005). This stigma could be related to other factors such as gender differences (football is typically a male dominated sport). Zakrajsek et al.,'s (2011) findings were consistent with previous literature and found that 62% of football coaches interviewed did not intend to use sport psychology services in the next six months and only 3% had ever used sport psychology services. However, there have been some positive findings in studies looking at athletes from a variety of sports. Wrisberg et al., (2009), conducted a study looking at the attitudes and receptivity towards utilizing a mental training consultant among National Collegiate Athletic Association (NCAA) student-athletes. They found that generally NCAA Division I athletes are open to mental skills training and utilizing the services of a sport psychologist; however, consistent with the previous literature, a number of different factors (i.e. gender, previous experience) affected their receptivity towards using a sport psychology consultant. Building on Wrisberg et al.'s (2009) study, Wrisberg et al., (2010) explored the receptivity and attitudes towards mental training and sport psychology as viewed by NCAA coaches. The findings again were mixed, but generally coaches were supportive of making mental training services available to their athletes (84.5% of coaches). An interesting finding that emerged from this study was that 89% of coaches favorably supported having a sport psychology consultant at their institution if they knew that other NCAA D-I schools were employing one (Wrisberg et al., 2010). This finding may indicate that there continues to be some hesitation and stigma towards using the services of a sport psychology consultant.

Attitudes towards the efficacy of mental training and the use of a sport psychology consultant continue to vary among athletes and coaches at all different levels. It is important to understand these attitudes and beliefs in order to tailor future mental training services appropriately. Moreover, a greater understanding of the current attitudes of athletes towards the area will benefit sport psychologists trying to understand their role in sport. Thus, investigating in-depth the attitudes and beliefs that athletes have towards sport psychology, as proposed in this study, will help to contribute to the literature.

## **2.5 Research on Olympic Athletes**

There has been a great amount of research conducted involving Olympic level athletes (Beauchamp et al., 2012; Gould et al., 1992a; 1992b; 1999; Gould and Maynard, 2009; Orlick and Partington, 1988). The seminal research conducted by Orlick and Partington (1988) represents just how much information can be learned from Olympians. The numerous mental strategies that the athletes discussed provided a strong foundation for further research to build and expand upon. These strategies used included: quality training, setting clear daily goals, extensive and refined imagery training, simulation training, specific mental preparation for competitive demands (i.e. competition focus plans, competition evaluation, distraction control), and the learning of elements of success over time (Orlick & Partington, 1988, p. 110-118). For example, Ungerleider and Goulding (1991) found in their study on U.S. Olympic track and field athletes that 84.7% of the athletes surveyed practiced some form of mental training. They also found some variables which predicted the use of mental training in the athletes' preparation. These included marital status (single versus married) and competitive experience in high school and education level. They also found that athletes who competed in high school were more likely to use mental training than athletes who did not compete in high school, and athletes with higher

levels of education were more likely to implement mental training than those with a lower level of education. Men and women were equally likely to implement mental training; however, when looking at frequency, men were more likely to implement mental training seven times a week or more than females were. Athletes who competed in other sports in addition to track and field were also more likely to use mental training than athletes who only competed in track and field. Having a coach did not emerge as a predictor of mental training use.

Taylor et al., (2008) looked at the specific performance and practice strategies employed by U.S. Olympians using the Test Of Performance Strategies (TOPS). This quantitative approach allowed the researchers to determine that there was statistical significance in the employment of psychological strategies by medalists compared to non-medalists. A major limitation of the study is that it did not allow for any qualitative exploration about how athletes implemented these techniques. Furthermore, there was no investigation into how the attitudes of these athletes in the study influenced the implementation of the performance strategies. Supplementary qualitative research could provide an understanding into possible attitudes and their effect on implementation differences between athletes. Other studies have also looked at differences among more successful compared to less successful athletes (Gould & Jackson, 1992; Greenleaf & Gould, 2001). Important findings emerged from these studies such as more successful athletes having better preparation game plan strategies and greater feelings of confidence compared to less successful athletes (Gould & Jackson, 1992a, 1992b). Further contributions to the belief that elite athletes more frequently employ mental training strategies emerged from Ungerleider and Golding (1991). They found that male and female athletes who became Olympians were more likely to practice imagery and visualization prior to the Olympic games than male and female non-Olympians (Ungerleider & Golding, 1991, p. 1014). This finding emphasizes the importance

of this particular mental training tool for Olympic athletes. However, there was no detail regarding when the athletes were implementing these strategies prior to the Olympic Games. In order for sport psychologists and coaches to be able to use this information and effectively incorporate visualization into their training with athletes, it would be useful to understand more detail regarding the timing of using this particular tool.

Another area of research on Olympic athletes that has received attention is the investigation of how specific psychological states (i.e. confidence/self/belief, concentration) develop over time (Durand-Bush & Salmela, 2002; Gould, Dieffenbach, & Moffett, 2002). These studies contribute to the research on Olympic athletes and address the importance of understanding that multiple variables interact to influence the development of these mental states of athletes. The authors showed that these traits, such as high levels of confidence, developed right from the early years of being an athlete and that multiple factors such as their training environment, family, competition success and numerous others influenced the development of the traits. Durand-Bush and Salmela (2002) found that many athletes value mental preparation in their training and maintenance years, and that it did not need to be in a formal setting (i.e. one-on-one in an office). For example, many athletes mentioned that they refined their mental skills (such as self-talk and imagery) through daily activities combined with other physical training exercises. Understanding how these athletes refine their mental skills in their daily training could be of great benefit to not only sport psychologists working with elite athletes, but also for coaches working with any level of athlete. This area of research is also important in providing insight into how an athlete's attitude towards mental training is cultivated as they mature over the years.

Research on how sport psychologists are implementing mental training among Olympic athletes has been growing over the years. This research is important in order for the field of sport psychology to expand and continue to increase its credibility. Understanding what sport psychologists have experienced when working with Olympic athletes can be beneficial for not only other sport psychologists, but also for coaches, athletes and national governing sport organizations. Moreover, research in this area can assist with where funds are being allocated. In the *Journal of Sport Psychology in Action* (2012), articles specifically focused on the implementation of mental training at the Olympics among U.S. athletes and the U.S. Olympic sport psychology team. Multiple implementation themes emerged from this research that both supported and expanded upon previous research. For example, Williams and Anderson (2012) highlighted the importance of initiating mental training with their athletes at the beginning of a season opposed to later when competitions are about to start. Expanding upon this was the importance of working with athletes for the full quadrennial before the Olympics to allow for trusting relationships to develop and for the skills being learned having time to become automatic. This reinforced Weinberg and Williams (2010) findings about the detrimental effects of starting mental training too close to competition.

In another article by Portenga, Aoyagi, and Statler, (2012), the authors talked about some of the difficulties with implementing mental preparation for the U.S. track and field team which is a decentralized team comprised of a very large pool of potential qualifiers. One of the central strategies that sport performance consultants employed with the U.S. track and field team to overcome these obstacles was by structuring the collaboration and teamwork efforts among multiple sport psychologists. The consultants would consistently communicate via Skype or phone and all followed a structured consulting model which had been constantly refined over the

years. This helped to ensure that all consultants were consistent and therefore athletes would receive similar mental training strategies no matter which consultant they worked with. This model emphasized three core principles including: service, not self-service; targeting youth and not just Olympians; and educating athletes rather than an interventionist approach (Portenga et al., 2012). In addition, the authors discussed feedback from athletes and coaches regarding their model and their provided services and the strengths of this particular model. An important component of this model is the emphasis on educating athletes at all ages and stages of development and not just those who have already reached the Olympic level. However, it would be useful for an expansion on how these three core principles were achieved in order for other coaches and sport psychologists to learn from these effective methods. Furthermore, examples of educating athletes about mental tools throughout their training and how they evaluated the effectiveness of this approach could be benefit sport psychologists' learning.

An interesting area that Haberl and McCann, (2012) discussed when assessing their feedback from athletes on sport psychology consultant's effectiveness was the post-Olympics time period. Many athletes in this study felt that there was not enough support after the Olympics. Other studies have found similar findings that the post-Olympic period can be a very difficult time for many athletes (Hermansson & Hodege, 2012; Medvec et al., 1995). The post-Olympic period is different for every athlete and how they deal with it will depend on multiple factors. Understanding what the athlete has gone through as well as ensuring that they are prepared ahead of time to deal with many potential difficulties is an important area that warrants future research and applied attention.

Although there is a vast amount of research on Olympic athletes there continues to be some aspects of the literature that calls for further research. For example, the majority of studies

utilized a retrospective study design. Understandably, this is due to the caution that is taken with not wanting to interfere with the athletes and coaches' preparation strategies. However, an example of a study that was able to investigate the experiences of an athlete during the Olympics was conducted by Pensgaard and Duda (2002). They utilized a case-study approach on the Olympic experience of Norwegian soccer player. This case study provided great insight into the ups and downs an athlete would typically experience at a high level competition such as the Olympic Games. This case study also provided insight into how the athlete specifically dealt with certain issues that arose in preparation and during competition. For example, the athlete experienced some difficulty controlling focus during some of the soccer games and coping strategies were discussed that the athletes employed as provided by a member of her support network. Another interesting finding from this study was the fluctuation in self-confidence among this particular athlete during the Olympics. Through the journaling provided by the athlete, insights into how she dealt with the fluctuations in confidence were examined. When her confidence was low she would often deal with it by unleashing her thoughts and frustrations with an outside, trustworthy person. In this particular situation, the athlete would discuss her concerns and dissatisfactions with an old coach who was not at the Olympics, but was back in her hometown. The athlete was also able to help improve her mood and increase her confidence by focusing on the team as a whole, rather than her own individual performance (Pensgaard & Duda, 2002). Future research could benefit from using case studies and other qualitative methods as they provide an opportunity to investigate in a more comprehensive way the experience of athletes during an event as opposed to the more limited retrospective picture. The case study approach also allows for an expansion into understanding different events that may impact the athletes' implementation and views towards mental training.

Although there has been some research on mental training of Canadian athletes, for example, Orlick and Partington in 1988, the majority of the research on Olympic athletes continues to be conducted in the United States (Gould et al., 2002; Gould & Maynard, 2009; Greenleaf & Gould, 2001; Taylor et al., 2008). However, a recent psychological skills program study was conducted in Canada on speed skaters (Beauchamp, Harvey, & Beauchamp, 2012). This study provided an outline of a mental skills program that combined biofeedback with mental training tools. Periodization, which is the strategic planning of training stress combined with periods of relaxation to try and increase an athletes' chance of peaking at specific times during their season, was discussed in relation to psychological skills and there is growing evidence to support its effectiveness (Beauchamp et al., 2012; Guentbner et al., 2010). Beauchamp et al., (2012) broke down their program for speed skaters into six phases. The first phase was the "Orientation/Observation" phase, where data was gathered through meetings with high performance directors, coaches and one-on-one consultations with athletes. The second phase was the "Sport Analysis" phase. Here, observations were made at National trials to develop an understanding of the complexity of preparation for an elite competition. Meetings were held with integrated support team (IST) members to understand their roles in the preparation for these competitions. The third phase focused on "Individual and Team Assessment" which investigated the strengths and areas for improvement based on individual and team profiles. Phase four, the "Concept Utilization: phase focused on the outline of the intervention program. The fifth phase was labeled, "Psychological Skills Intervention Strategies" focusing on the sport psychologist in conjunction with the coaches choosing the content of the psychological skills program. In the sixth phase labeled "Implementation", the sport psychology consultant implemented the intervention. An important theme that emerged from the

implementation phase was that the effectiveness and success of mental training tools was heavily dependent upon the coaches' cooperation. There was also a phase seven which evaluated the progress of the intervention and receptivity from the athletes and coaches. Performance graphs were also monitored at the end of every season. This study provides a template for the steps necessary to develop a psychological skills intervention and also emphasizes the importance of having cooperation from all parties. Future research should build on studies such as this one to develop best practices for implementing quadrennial long mental skills training for other sports within the Canadian sport system. Understanding how to transfer these plans to other sports is important as many other factors need to be taken into consideration such as team versus individual sports, and centralized training versus decentralized sports (athletes training separately at different locations and not together as a team). The fundamental attribution theory and its role in sport will now be discussed.

## **2.6 Fundamental Attribution Theory**

Attribution theory has been acknowledged as being an important theory throughout the psychology and sport psychology literature. Attribution theory provides an explanation for the way in which people explain certain outcomes and events and how these perceptions impact their future attitudes and behavior. Understanding what athletes attribute their performance outcomes to is an important area for both future research as well as practical applications for sport psychologists.

The fundamental attribution theory has been widely discussed throughout the social psychology literature and increasingly examined over the past 20 years in the sport psychology literature. As mentioned by Si (1995), the fundamental attribution theory is based on three

assumptions. First, people engaging in competitive achievement oriented contexts will seek out causes to explain the particular outcome of the event. Second, researchers have developed overarching categories depending on the properties of the attributions being made, and third, these perceptions influence feelings and subsequent behaviors (Si, Rethorst, & Willimczik, 1995). Originally, there were three overarching attribution categories. The first category is locus of causality, which refers to whether the cause resides within or outside of the individual. This can be either internally or externally perceived. For example, if an athlete does not perform well in a particular competition, they might attribute to a lack of preparedness; thus an internal cause. Secondly, stability refers to the extent to which something may change over time. Stability is labelled as either static or dynamic. For example, if an athlete performs well at a competition and they attribute this to the other team as being weak, this would be dynamic, as the next competition the team might be stronger. The third component is controllability which refers to the extent to which someone can control the outcome of the event. An example of attributing something to having control may be if an athlete performs well and they attribute their performance to their high level of skill. In more recent years two other dimensions were added including globality and universality. Globality refers to generalizing the process of uncontrollability to all other situations one faces. For example, if an athlete experiences an uncontrollable call made by a referee, they might attribute this to a specific cause such as the particular referee. Universality refers to helplessness, and can either be perceived as being helpless specific to the individual or universal helplessness. An example of attributing helplessness would be bad weather for an entire golf tournament thus the athlete may attribute this helplessness to being universal in that all of the golfers in the tournament were subjected to these weather conditions. According to Allen, Jones, and Sheffield (2009), it is more desirable

for athletes to attribute competitive success to stable, controllable and global causes, and competitive failure to unstable, controllable and universal causes. This is based on the premise that, stable, controllable and global causes result in the athlete taking a greater personal responsibility and working harder since they feel that they have control. Rees, Ingledew, and Hardy, (2005) highlight the need for future research to continue to investigate the role that attributions play in sport psychology research. In relation to applied sport psychology and mental training, Rees et al., (2005) suggest that it would be beneficial for athletes to attribute failure to lack of effort. This is based upon the premise that if someone attributes failure to something that they can change, they are more likely to change this or increase their effort in the future. Contrary, if an athlete attributes failure to something out of their control such as lack of ability, this may decrease their motivation to continue to improve and put in effort (Rees et al., 2005). Further, Rees et al, (2005) suggest that the most important component to understand when working with athletes in sport psychology is controllability; which is the extent to which the athlete feels that they can control the outcome or future outcome. They go on to suggest that controllability is the most important factor because it may influence an athletes' motivation within their sport.

In a sport specific study conducted by Frey, Laguna, & Ravizza, (2003), the researchers administered the Test of Performance Strategies (TOPS) to athletes to first see if they are utilizing mental strategies equally in practice and competition; secondly to see if prior experiences influenced their use of these tools; and thirdly, whether a greater use of mental skills was related to higher perceptions of competitive success. The authors incorporated components of attribution theory when assessing the athletes' perception of their own performance. For example, the researchers acknowledged that oftentimes when athletes or teams of similar ability

are victorious, their success is often attributed to effort. Additionally, if an athlete loses a match but they feel that they performed very well and achieved other goals that they wanted to achieve, they may attribute their loss to an external cause and thus become less likely to be discouraged. This is a similar concept that Roberts (1980) discussed, suggesting that success and failure are psychological and based upon an individual's interpretation of the outcome. Frey and colleagues (2003) found that athletes who scored higher on the TOPS had a greater score of perceived success in competition, suggesting a relationship between the use of mental skills and objective perception of success. Furthermore, although it is not possible to infer direct causality, the higher levels of perceived success may have been due to actual victories as a result of the increased use of mental skills training. This is important because how an athlete objectively perceives their success can have an impact on their future behaviours and attitudes. In regards to mental training skills, if an athlete views their outcome as successful even if they did not win, and have put a lot of effort into their mental training, they may be more likely to continue to work on those mental skills in the future. Additionally, they are more likely to continue to have a positive attitude towards their mental training than an athlete who perceives their outcome as failure.

A second study examining the difference in perceived success compared silver medalists to bronze medalists from the 1992 Olympics (Medvec, Madey, and Gilovich, 1995). They found that silver medalists were more focused on the 'almost' winning a gold medal where the bronze medalists were more content with their performance and to have won a medal. This study further reinforces the importance of perceptions of success and how competition results are not always the only measure for achievement.

There is limited research utilizing attribution theory among elite level athletes. Moreover, there appears to be a large gap in looking at the evolution of athletes' attributions towards

competitive performances who reach the Olympic level and how these attributions along the way impact the athletes' future attitudes and behaviours. Research suggests that how athletes perceive their outcomes influences their future behaviour (Allen, 2010; Rees, Ingledew, & Hardy, 2005) thus; this is an important area for future research.

## **2.7 Gaps in the Literature**

Although many coaches and athletes are aware of the numerous benefits of mental training and the common strategies used, there continues to be a lack of understanding surrounding the implementation of mental training strategies. Exploring in-depth an athlete's perspective on mental training and understanding how they use mental training from the athlete's voice is an important area for future research. The forthcoming section will outline the gap in the literature pertaining to a lack of research investigating the specific implementation approaches of mental training of Olympic athletes.

Research on the psychological component of training and competition of elite athletes is lacking in the area of application and implementation and how athletes' attitudes impact their implementation. In Jones's (2002) study on mental toughness, he suggests for future research that mental toughness could benefit from research that would look into how these elite athletes developed their mental toughness. Qualitative methods, especially narratives, could greatly assist in providing more information on the implementation of mental strategies of Olympic athletes. There is limited research to date using narratives as a methodology when investigating elite level athletes' attitudes and mental training implementation (Gould, Bridges, Beck, & City, 1997). Much can be learned through narrative inquiry: for example, in a study by Gould et al., (1997), multiple narratives was the methodology of choice for investigating coping strategies of skiers.

This approach allowed for a great amount of detail on the unique experiences of the athletes with regards to coping with injuries. For example, the emotions that the skiers were experiencing in regards to their career ending injuries were very apparent through the inclusion of detailed narrative accounts. These emotions and perspectives were effectively conveyed to the reader and provided a deeper insight into the athletes' unique experience; much greater insight than a quantitative approach could have revealed. Research on the attitudes and implementation approaches within sport psychology could benefit from the application of this type of qualitative methodology. Gould et al., (1997) provides an example as to how qualitative methods can be useful in learning about the unique experience of the individual athlete and future research should build on this type of methodology.

The Test of Performance Strategies is a common instrument used to assess athletes' psychological skills (Taylor et al., 2008). The TOPS provides a validated tool to investigate the use of mental training tools; however, the applied area of sport psychology could greatly benefit from supplementary qualitative research on how these specific skills are implemented. It has become apparent throughout the literature that more in-depth probing into the implementation side of mental strategies employed by elite level athletes is warranted (Greenleaf & Gould 2001; Gould & Maynard, 2009). Greenleaf and Gould (2001) address that psychological probing was a weakness in their study due to constraints such as the large number of other variables they were looking at, as well as trying to be respectful of the athletes' time. Taylor et al., (2008) conducted a study on performance strategies of U.S. Olympians during preparation and competition. A study such as this one could benefit from qualitative research to complement the findings; especially when looking into the psychological factors that were *not* different between medalists and non-medalists. Having no significant difference between the frequency of strategies used

between the two groups suggests that the difference in performance could be a result of a difference in implementation procedures. Taylor et al., (2008) also brings up the question surrounding, “are the more successful athletes more psychologically ‘gifted’, or have they spent more hours training and refining these skills?” (p.31). This question warrants future attention. Furthermore, investigating whether more successful athletes have a more positive attitude towards mental training could be an important component contributing towards designing and implementing effective mental training plans. Understanding different implementation methods could be a distinguishing factor for mental training effectiveness and thus should be further explored.

Mental toughness is the key term that athletes often think of and strive to obtain when engaging in mental training. Jones (2002) looked at how elite level athletes perceive this term and developed a clear definition and the common components of mental toughness. The definition the authors came up with is, “mental toughness is having the natural or developed psychological edge that enables you to: Generally, cope better than your opponents with the many demands (competition, training, lifestyle) that sport places on a performer; and specifically, be more consistent and better than your opponents in remaining determined, focused, confident, and in control under pressure” (Jones, 2002, p. 209). Twelve components of mental toughness emerged from Jones’s (2002) study. These included: (1) having an unshakeable self-belief in your ability to achieve your competition goals; (2) bouncing back from performance set-backs as a result of increased determination to succeed; (3) having an unshakeable self-belief that you possess unique qualities and abilities that make you better than your opponents; (4) having an insatiable desire and internalized motives to succeed; (5) thriving on the pressure of competition; (6) accepting that competition anxiety is inevitable and knowing

that you can cope with it; (7) not being adversely affected by others' good and bad performances; (8) remaining fully-focused in the face of personal life distractions; (9) switching a sport focus on and off as required; (10) remaining fully-focused on the task at hand in the face of competition-specific distractions; (11) pushing back the boundaries of physical and emotional pain, while still maintaining technique and effort under distress (in training and competition); (12) regaining psychological control following unexpected, uncontrollable events (competition-specific) (Jones, 2002, p. 211). The author went on to discuss the need for future research to look at the factors that contribute towards the development of mental toughness. Durand-Bush and Salmela (2002) looked at the development of expert performers. However, their study looked at multiple factors, and although very important to the development of elite athletes, did not go into depth in looking at implementation methods of mental training techniques. The different strategies employed by athletes and coaches are likely related to the development of mental toughness and therefore warrants further research.

Research on Canadian Olympic athletes is also pertinent due to the majority of research having been conducted in the US. There has been little follow-up research in Canada to Orlick and Partington's 1988 work. Funding and sport technology has continued to grow and shift over the years and therefore current research on this area is needed. There is a large discrepancy among funding and resources between the US and Canada and this could affect attitudes and strategies used by athletes from different countries. Additionally, different models for implementation utilized by sport psychology consultants could differ between the U.S. and Canada and therefore research on U.S. athletes cannot be generalized to Canadian athletes. Canadian athletes and coaches could also benefit from a stronger link between research and application. Greenleaf and Gould's study (2001) demonstrated an example of how knowledge

can be translated into practice by the dissemination of their findings through brochures and an educational video provided to U.S. athletes preparing for the Sydney and Salt Lake City Games. A greater understanding of implementation methods used by Canadian Olympic athletes could benefit younger athletes striving towards the elite level. Additionally, this information can benefit coaches and sport psychologists working to help their athletes reach their highest possible potential.

## **2.8 Summary**

As demonstrated by the literature, the field of mental training could greatly benefit from future research taking a more thorough, in-depth look at the actual implementation methods being employed by Canadian Olympic athletes and their current attitudes towards mental training. This elite population is incredibly knowledgeable, and motivated in sport, and therefore could provide great insight into this area. The fact that Olympic athletes have reached the pinnacle of amateur athletic achievement adds a great deal of credibility to their comments and perceptions. Insight into the implementation side of mental techniques could provide many benefits to the area of applied mental training. Athletes who are striving towards reaching their athletic goals could find any information on Olympic athletes' successful as well as unsuccessful mental training techniques advantageous in their own quest for excellence.

In conclusion, this study sought to address some of the gaps pertaining to the current attitudes towards mental training as perceived by Canadian Olympic athletes. This study used in-depth narratives to explore the perspectives of four Canadian Olympic athletes who competed at the London 2012 Olympics Games and the role mental training played in their preparation, during the Games and post-Olympics.

## **Chapter 3 Methods**

### **3.1 Participants**

Four athletes were recruited from a variety of sports including swimming, rowing, and track and field. All of the teams are affiliated with the Canadian Sport Institutes and have access to a sport psychologist and mental training resources.

One member of the integrated support team (IST) was interviewed to help provide some context to each of the athletes' stories.

Participants were recruited through snowball sampling (Thomas, Nelson, & Silverman, 2010). High performance directors of each team were contacted and notified about the study. Coaches and athletes were then given a 'heads up' prior to the 2012 Games but no further contact was made until after the London 2012 Olympic Games. All participants were informed of the study and written, or in some cases email, consent was obtained. This proposal was submitted and approved by the University of Victoria Human Research Ethics Board.

### **3.2 Research design**

In order to understand the athletes' holistic experience with mental training and any critical events that have impacted their current attitudes and implementation methods, a qualitative research methodology was utilized in this study. The athletes were interviewed and their perspectives were written-up as in-depth narratives. Narratives have been used when, "We ask questions of meaning, social significance, and purpose" (Clandinin & Connelly, 2000, p. 120). The questions of meaning are pertaining to the attitudes towards mental training of Olympic athletes and their implementation approaches. Furthermore, as addressed previously,

my curiosity towards the area of mental training influenced my decision to interview athletes about their experiences with mental training. As Clandinin and Connelly (2000) mention, “Our research interests come out of our own narratives of experience and shape our narrative inquiry plotlines” (p. 121). The following research questions are influenced by my own previous sport experiences as well as they were designed to help to shed light on a purposeful area of research that has received prior limited attention. The research questions can be found in Appendix A and are as follows: (1) what are the current attitudes and beliefs towards mental training as perceived by four 2012 Canadian Olympic athletes?; (2) how are these four Canadian Olympic athletes incorporating and implementing mental training techniques into their preparation and during competition?; and (3) when are these four Canadian Olympic athletes incorporating and implementing mental training techniques into their preparation and competition?

### **3.3 Data collection**

Data was collected through one-on-one interviews approximately two to six months after the 2012 London Olympics. Two interviews were conducted in-person, two were conducted over the phone, and one through email. Although the email interview did not allow for the same in-depth probing, it did provide the athlete the freedom to write whatever he wanted. All four athletes were interviewed with the same semi-structured interview guide, and the support staff member was interviewed with a slightly modified version of the athletes’ interview guide. Please see Appendix A for the interview guide for the athletes and Appendix B for the interview guide for the support staff. The integrated support staff had a separate interview guide which mirrored the athletes’ guide to help provide context to the athletes’ stories. Although the questions were semi-structured, many of the interviews went off on different tangents if the athlete felt it was an

important area. The interviews were recorded with the program 'Audacity' which was downloaded onto the researcher's computer.

The researcher conducted all of the interviews and in order to ensure consistency, the following steps were taken: 1) the researcher conducted a pilot study to provide similar interviewing experience; 2) the researcher took a course on 'effective communication' prior to conducting the interviews; and 3) additional information was studied on qualitative methods and effective interviewing practices (Creswell, 2003)

### **3.4 Self-disclosure**

Due to my previous experiences and personal interest in the area of mental training, I have incorporated and addressed my own perspective and experiences into this study. I feel it is important to address my background to provide a context for the interpretation of the findings. As mentioned in Chapter 1, I have played competitive golf for a number of years. My experiences as a competitive golfer and exposure to sport psychology have shaped my perspectives so that I have a positive attitude towards the effectiveness of mental training. This may influence the interpretation of the narratives provided by the athletes. My past experiences as a research assistant have also influenced my current thesis by influencing my decision to use interviews as my methodology.

### **3.5 Data Analysis**

The interviews were transcribed verbatim and sent back to the participants to review and revise any of their responses. This step provided the participants with the opportunity to add any additional comments they feel they left out, or wanted excluded. Furthermore, it also allowed for

clarification on areas that were vague. This verification helped to increase the credibility of the athletes' stories. There were very little changes sent back from the participants thus further contributing to the credibility of the athletes' stories. Field notes were taken during each interview as well as a reflection was written post each interview. The field notes and reflection can be found in Appendix C. These field notes were taken into account and provided additional insight into areas that the athletes showed additional emotion such as hesitation or emphasis. The reflection provided an opportunity for the researcher to gather thoughts on the interview and note down any particular areas of interest or links. The data from the interviews were sorted and analyzed using OneNote and Microsoft Word. Each individual narrative was analyzed for individual themes, and then all four were compared and contrasted. A theme was determined if a phrase or word was continuously mentioned pertaining to one of the research questions, or if a word or phrase of significant meaning to the athlete pertaining to the research questions. Excerpts from the narratives were used to help provide support for each of the themes discussed in the results section in chapter four. The discussion examined explanations for the differences and commonalities pertaining to the three research questions. Future recommendations for research and practical applications for sport psychologists and coaches that emerged from the interpretation of the data were then developed.

The following is a list of steps taken in the data analysis process:

- 1) All of the interviews were listened to, transcribed verbatim and two copies were made; one was a hardcopy and the other a working copy to write the narrative.
- 2) I then went through highlighting key themes pertaining to my research questions. Something was determined a theme if that word or phrase repeatedly came up, or words or phrases that the athlete really emphasized.

- 3) I then went through and grouped the themes according to their relevance to the research questions and organized them into a sequential manner in the athlete's story.
- 4) The narratives were written with leaving as much of the athletes' words as possible.
- 5) Once the narratives were written, they were then re-analyzed for individual themes.
- 6) I then went through and grouped together the terms or phrases that fit within the research questions.
- 7) I cut and pasted like terms and phrases on cue cards.
- 8) When I finally found that the terms and phrases continually came up under the same overarching headings, it was determined that data saturation had been reached.
- 9) I then wrote about these findings under the theme headings and included as many excerpts from the athletes as possible.
- 10) For the cross analysis, I took all of the individual themes and grouped together similar responses that again pertained to the research questions.
- 11) I then put all of the athletes up on a chalkboard with their specific themes surrounding each athlete in a concept map.
- 12) I then grouped similar themes together and developed broad overarching themes that would encompass the individual themes.
- 13) Once it was determined that all of the athletes individual themes fit under the overarching headings pertaining to the research questions, the data analysis process was stopped.

## Chapter 4 Results

As outlined in the methods section the key focus of this study was to better understand the lived experiences and the perspectives of elite athletes preparing for a major competitive event. Four athletes preparing for the London Olympics were interviewed from rowing, swimming and track and field. What follows are these athletes responses to the three key research questions guiding this study: (1) what are the current attitudes and beliefs towards mental training as perceived by four 2012 Canadian Olympic athletes?; (2) how are these four Canadian Olympic athletes incorporating and implementing mental training techniques into their preparation and during competition?; and (3) when are these four Canadian Olympic athletes incorporating and implementing mental training techniques into their preparation and competition?

The following narratives were selected from the individual athletes' personal stories and experiences with mental training and the perceived effectiveness or ineffectiveness towards mental training. Wherever possible the voice of the athlete has been used. Names, locations and other potential identifying information have been changed to protect the anonymity of the participants. Following each narrative is a brief analysis and then a more in-depth look at the commonalities and particularities across all four narratives is provided.

### The Participants

Information on the participants can be found in Table 2. The athletes' sport, pseudonym, biological age at the time of the London Olympics, their perspective/attitude, and their

implementation approach are included in the table. The participants included one athlete from track and field, two from rowing and one swimmer. The athletes ages ranged from 25 to 31 years old. There was one female and three males.

Table 2

*Summary of Participants*

Sport	Pseudonym	Age	Athlete perspective/attitude	At imple app
Track and Field	Alyssa	31	+ Supplementary → Fundamental	Narrow
Swimming	Max	24	+ Fundamental	Na
Rowing	Tyler	26	+ Fundamental	Ho
Rowing	Troy	25	+ Supplementary	Na

Table 2 depicts the sport, pseudonym, age, perspective/attitude and implementation method of the four athletes interviewed. The attitudes fell under two categories of being either holistic or additional. An athlete was determined to have a fundamental attitude towards mental training if they believed the mental component was an area that is intertwined with everything that they are doing and is fundamental to their success as an athlete. An athlete was classified as having a supplementary attitude towards mental training if the athlete felt that mental training is an additional component that is not intertwined with all other areas of their preparation for the Olympics and during the Olympics. The two overarching approaches to implementing mental training was holistic ranging to narrow. A holistic mental training approach was one where the athlete incorporated mental training into everything that they did with their preparation for the

Olympics, during the Olympics and everyday life. A narrow approach, was one where the athlete would use individual mental tools and strategies separate from their other forms of training.

The athletes' narratives will now be presented.

## **4.1 Participants' Narratives**

### **4.1.1 Alyssa: Track and Field**

Alyssa is a female endurance runner. She has always considered herself a fairly confident athlete and therefore did not feel a need to really focus on the psychological side of her training. She considered mental training would only be used for an athlete who was dealing with confidence issues or problems. After having a setback with qualifying for a previous major event, she found herself in a bit of a slump. Although her team worked with a sport psychologist, she felt she needed to start using one who would be harder on her, and help to get her out of her slump from the setback. She was starting to have some doubts in her mind about the level of athlete she thought she was, and needed to try something new in order to gain her confidence back. She began to work one-on-one with a sport psychologist. Here is her story:

Alyssa discussed her general attitude towards sport psychology and the reason she initially started to work with a sport psychologist one-on-one.

*I think now having worked with a sport psych it is a lot more important than I gave it credit for. In past years before 2008 I didn't think much about it. I always thought I was a confident athlete, no problem I was fine. I didn't make the 2008 Olympics because I was anemic and psychologically that took a huge hit on me cuz all of a sudden I didn't think that I was the athlete that I thought I was before. Like psychologically I took a hit. And it took me about a year to get over that and be willing to take risks in training and take risks in racing and it totally affected*

*my performance for a year. So then I started to think psychological training was just as important as physical training. I think anyone can benefit from it (sport psychology), I consider myself a pretty confident, stable person. My mom is a social worker and always instilled confidence in me and always taught me to dream big and um I'd have her as a good role model in terms of never feeling sorry for myself, or suck it up tough it up, or whatever, so I've had a that. It's not like I ever thought I would need somebody and I think that there is bit of a stigma oh you need a psychologist-- but I think it's just a tool like any a coach or whatever.*

Alyssa's setback from missing qualifying for a previous Olympics' led to her slump which acted as the catalyst for making a change and starting to work one-on-one with a sport psychologist.

*So I started working with him in April 2010. And so I have a pretty rough year that year, allergies, found out I had asthma, so it was such perfect timing since I needed to overcome a lot of things, so it really helped me stay positive and confident to help me get through it. [pause] He, [Mac, the sport psychologist] had a pretty in-depth questionnaire he wanted me to fill out before our first session and then he pulled from that. I remember things that I feel confident about, I don't feel confident about, I feel have impacted my mental focus, do I work on any mental training at that time, which at that time [was] not really anything.*

Alyssa's setback was continuing to linger in her mind and was impacting her training and performance. Therefore, this became the first task to work on.

*First thing was getting over the block of 2008, and although it was 2010 I started working with him and I had started to get over that, but I still had this block of what if I don't make 2012? And he said, well what would happen, write everything down that would happen if you didn't make it so he had me write down how I would feel if I didn't qualify. And um and then we went from*

*there so now you've got to forget about 2008 and move forward so visualization is the first thing he had me working on.*

Visualization was an important tool that Mac had Alyssa use and she provided some detail about her visualization implementation.

*So visualizing very specific spots in my race on the track. Because that's a crucial time where in the past I've faltered, I've been worried about my kick -- can I close it out because [in my race you have to have a big kick in the last 100] Mac had me visualizing that about 5 times a day. So he had me focus on a point and I would think about the last 100 in slow motion and in real time and go over them in my head and imagine myself perfect form, perfect feeling, competing against other people so always that emotion comes with that thought.*

*Ya He would say 5 times a day he wanted me to get to a point where I didn't close my eyes, where I did it so I could be anywhere. [I could be] at the grocery store and be able to focus on a point and be able to imagine it. And that's when it got really hard -- when there's other distractions -- And [I would wonder] can I take a break from this? And pull back to three times a day? [And Mac would say] "when you do it I want that intensity level to be really high". So we'd work on the intensity and journal about it -- ok my intensity was good today and he had me on email -- would give me a break down of training -- so we really are going to focus on doing it during this workout -- and how did it go? How did you feel? So a lot of feedback.*

I also asked her whether she visualized "through her own eyes" or "watching herself".

*Both so that was one thing. Then we realized it was better having me do it more out of my own eyes. I found I got more of a stimulus more of an emotional reception of that. And then he also had me visualize being on the line on the start line. That's when I found I would have the most*

*doubts about my performance. I would feel great leading in I'd warm up, and oh I'm going to kill this and as it got closer to the race I'd be going oh my god these girls are the best in the world how am I going to do this. So he had me doing visualization for this and positive self-talk. Ok I'm here to win, I'm here to, very active voice stuff. I will win, or I will get a PB or I will run the time I need, I'm ready. That had a huge impact. I didn't think it would -- I thought oh I don't know if I believe it even though I'm saying it, but you start to believe it the more you say it. So that's something I say when I do public talks, once you start to say it you start to believe it. So the psychology of that, start tracking your brain. So I would say those were the two main impacts that his training had on me was the visualization and positive self-talk.*

Alyssa and Mac lived in different cities, despite this challenge they were still able to have an effective consultant-athlete relationship. Here is an example as to how they managed this:

*And he came to a couple of practices, but he never saw me race, but we email between a ton of races, the nice thing is the races are all taped. And he did a lot of remember your best workouts, remember your best race where you really felt like you were on. And he used those as positive reminders when I'm going in and having doubts so that was a lot of things we worked on as well. Just keep reminding yourself when you had that awesome workout and how fit you are. So replacing those negative doubts with positive experiences.*

Alyssa talked about the length of time in advance she was working with her sport psychologist and how often she would be implementing mental training. In her words:

*I'd talk to him before every race in May up until I started to travel, every day before I would call him and he'd say how are you doing? Is there anything you're struggling with? How's the visualization? And sometimes he'd get me to pick key words that I would pick before the race. I*

*am motivated I am fearless. So that could be a five to ten minutes conversation that we'd do before the race.*

*I would say before every race up until May. And then, between races, so almost every week. Ya and then emails and stuff, like I emailed him after Rome.*

I also asked Alyssa how long in advance she specifically was using some of the tools such as visualization and how long it took until she started to see results.

*So I would say to nail it down, I took probably a few months, but to really feel like it was automatic, that's what we wanted to become automatic, I would say 6 months to even like a whole year of racing and then it became automatic.*

Two key themes that Alyssa brought up regarding her mental training were firstly the amount of discipline and 'homework' which is necessary in order for performance to start changing and secondly the goal to become self-sufficient.

Alyssa emphasized the importance of having a diligent work ethic in order for her mental training to really become effective.

*Absolutely and that's one thing I wasn't expecting. I thought I'd go down have a couple sessions and be good to go. But it was more what I did outside of the office and outside the sessions, and then the feedback through emails this is working this isn't working more of this. Accountability, here are my key words I'm going to work on in training, and that I'm not being tough or getting tired or whatever. You have to be disciplined.*

Alyssa went on to really emphasize the importance of working towards becoming self-sufficient and not relying on her sport psychologist to hold her hand throughout the process.

*Ya that was one of the first things we talked about is getting you to a point where you don't need to talk to me that often and self-sufficient, and give you tools but I don't want you to be relying on me. And that's something that maybe other experiences with other sport psych's-- it's not something that they focus on. It's more like ok let's talk let's have sessions all the time. And it's not like I won't go back and have sessions with him. But by the end of the seasons I wasn't reliant on him so that if I'm across the world and can't get a hold of him I'm not freaking out.*

How has your use of mental training shifted over your athletic career?

*Ya, ya with my coach, we do goal setting, and analysis of goals and also analyzed the last year what went wrong or what went right so we did that and I just think of that as basic stuff as an athlete of course you set goals and want to get better every year. But it was actually more the daily things [in reference to the shift]. Like that was a once a year or every season coming in or cross country indoor and outdoor we would set goal but afterwards we wouldn't analyze them until the end of the year.*

Adapting and shifting training of any type is important for an athlete. Alyssa discussed how at times she struggled being 100% mentally focused on what she was working on. The ability for Alyssa, and her sport psychologist, to adjust the mental training helped to keep it engaging.

*-- and sometimes I'd be an 8 or a 9 and feel really in. but sometimes, I don't know if I was bored of it or what, but sometimes I'd feel more like a 6. So that's when we brought it to the track or training. So that's when we would visualize it on the track doing it. So that kind of sparked it up for me cuz it was more real and closer to training. And then I had some workouts where it just*

*clicked. I'd be in workouts wouldn't be trying wouldn't be doing anything and all of a sudden it would just kick and click in and then it started with racing and it took away my fear whether I'd be able to kick on my last 300. And just raced—*

One interesting technique that Alyssa's sport psychologist had her use was a piece of tape put on the track at the 300 m marker. She goes on to discuss this.

*So we had deadlines, ok this next week what we are going to work on the last 300 that's when I'm going to kick. So go to the track the day before put tape on the track, and then the race.*

*I'd never put a piece of tape [previously] because there's a line at 300 m and so it was easy enough to do but I would definitely go the day before and do some strides on the track, and imagine being in the race. So in previous years where I would just go to the track and do my warm-up, this time I was putting the mental aspect into it and really preparing for the next day.*

After the setback in 2008, Alyssa had been working diligently with a sport psychologist in preparation for the London 2012 Olympics. Here is her experience in qualifying that provides insight into how her mental training started to pay off.

*So I found out two nights before that I got into a major competition where I had a good shot at qualifying; it was one of the biggest races. And got there and I woke up puking my guts out and I had to get on the plane the next morning and I could not run a step until the race, I was so nauseous and so sick, and I got to the race and I threw up and I told my manager pull me out I'm so sick and I was emailing and everyone was be positive be positive, and I was like oh my gosh oh my gosh, and my manager just said get on the line and drop out if you have to just get on the line and try and try. But then once I got in the stadium I felt awful -- but I also was like I came here to qualify, and then for some reason automaticity clicked in and you know I was probably*

*two kilo's less, like I was so dehydrated like I have pictures of me on the line I was green and I got a personal best by a second-- I just don't know how it happened. I emailed Mac and was like this was all mental, physically I felt horrible. I threw up after the race right after I knew I qualified. So that was huge, huge mental. There was no way I could've done that before I had these tools. I just knew—*

Once at the Olympics, the mental training still played a large role in helping Alyssa refocus for the next race.

*Ya and my coach did say that he'd never seen me so emotionally, psychologically, and physically on in the Olympics. I've never seen you so dialed in --so that was like ya. So that was psychologically not just in racing, but also in training*

*For sure after the first round I was exhausted. And I thought oh my gosh I'm done that's it that's all I've got (laughs) so leading into the semis I thought I was going to be struggling big time and I had a lot of doubts leading in I was scared going into this race. But I just did the preparation that I always did and I did the visualizing, I reminded myself of all the training that I've done and that we'd already practiced the rounds in training even though I was sore and tired, I could barely warm up I was so sore, but once I got into it I don't know there was something for me, visualization in big stadiums I get a lot of energy and it really changes my perspective -- and so that immediately ok, and ya I PB'd [personal best] in the semi's I missed the final by a tenth of a second, and it was really close but it was actually a tactical thing I got boxed in and was in 8<sup>th</sup> and I sprinted to get sixth but I needed to get fifth. But I also didn't panic while I was in the race because I had practiced all those things but for sure the positive talk –*

Although Alyssa speaks positively about mental training, there were times when she experienced frustration as well as uncertainty towards the effectiveness of psychological training.

*I'd say I got a bit stale with the visualization and that's why we moved and changed it around, and I think that's important for a sport psych to adapt to each person because you can't have a one size fits all. And ya every sport is different.*

*It's almost scary, how it works. Because I didn't really believe him that that would work and he kept saying keep visualizing, keep visualizing and I would come back and say oh it's not really working I'm not able to focus—*

*I do remember working with a sport psych in high school brought me to one and had me doing visualization and breathing closing my eyes before a race and pretending I was somewhere else. and that actually didn't work for me because I need to be in the moment. So maybe that's something that didn't work [laughs].*

Two important areas of mental training which may contribute towards a lack of credibility are assessment and evaluation. I asked Alyssa how she evaluated her mental training; here are her thoughts pertaining to this:

*I think I evaluate it by just an emotional feel of how I was able to translate, and then the automaticity. Was a big, big thing. I think just going into races and how I felt instead of being nervous doubtful I was nervous excited. So I could just see that's how I would perceive them. I was more willing to take risk because I had a more positive and confident attitude going in. and that's easy to see. I also evaluated it by how much the need to talk to Mac. The less I felt I needed to talk to him the more confident in what we were doing I just think that it was working.*

Alyssa, in summary, brought up a key point about how mental training is just part of the job. Here are her words on how she describes her view of working with a sport psychologist and mental training.

*I think the biggest thing would just be the preparation vs. the one shot deal. It's not really – compared to other counselors or psychologists that play an office role. I think the sport psych is completely different. It's a lot of practicing and not as much consulting. I think a lot of stuff you have to do on your own, I think explaining that to athletes is important. You're going to have to do your homework. And that's how Mac always described it to me. This is part of your job. This is part of the things, training, running weight lifting rest and recovery sport psych. It's all in there.*

Alyssa also emphasized the importance of the psychological component becoming integrated in with the other areas of training; rather than a separate entity.

*Well I think they play into all of them, so I don't think they're separate. I suppose tactically, it's a bit of practice, a bit of fuel that you kind of have to have the intuition and that comes from being in those tense situations, but you have to have the confidence to be a player in your sport and watch the race unfold in front of you and that's where I felt I was a player, in the race instead of a reactor, and that's a confidence thing for me, ok I'm at the Olympics and I'm going to react, rather than this is my race plan and this is what I need to do so that was huge and that's how it plays into tactics, and into training so you have to practice it, it's not something you can just start out and do.*

She also went on to elaborate on the importance of the coach to be able to provide this type of training as they play the central role in an athletes' training.

*I do think that it could serve coaches well to get more of this type of training, or to work with a sport psych and that that would be beneficial so that they can use those tools because I would say my coach is the person who you value the most in terms of giving me good feedback, and so that connection would be like – ya.*

#### **4.1.2 Analysis of Alyssa's Narrative**

Numerous themes emerged from Alyssa's narrative. In regards to the first research question, what are the current attitudes towards the psychological component of sport, three main themes impacting Alyssa's attitude were identified. These include: (1) previous positive experience; (2) setback as a catalyst for seeking out a sport psychologist; and (3) personal choice to seek out a sport psychologist

In regards to the second and third research questions, *how* are Canadian Olympic athletes implementing mental training and *when* are Canadian Olympic athletes implementing mental training, multiple implementation themes were identified: (1) having a plan with specific objectives; (2) the evaluative component; (3) individualization; (4) self-sufficient; (5) ability to adapt; (6) timing; (7) amount of detail; and (8) integration. I will describe each of these themes in more detail later in subsequent sections of this chapter. These themes were identified if either (1) a key word or phrase continued to come up that related to the research questions; (2) a key word or phrase that the athlete really emphasized that related to the research questions.

#### **Attitude towards the psychological component**

Throughout the literature there continues to be mixed attitudes towards the psychological component of training (Linder, Brewer, Raalte, & Lange, 1991; Wrisberg et al., 2009). Attitudes can be impacted by a variety of factors including, but not limited to, gender, previous

experiences, type of sport, and available resources (Linder et al., 1991; Wrisberg et al., 2009).

Alyssa's current attitude is a positive one towards sport psychology.

*“So then I started to think psychological training was just as important as physical training.”*

The first theme that emerged that influenced her current attitude is her previous experience working with a sport psychologist. Throughout her work with her present sport psychologist, Alyssa witnessed firsthand improvements in her mental strength which has transferred over to improved performance. As a result of the benefits that she has experienced, Alyssa places a lot of value on mental training. Additionally, previous experience had an effect on her attitude towards sport psychology when she was younger. Alyssa mentioned that she had worked briefly with a sport psychologist in high school but was provided with an exercise that at the time she did not find very effective. Her prior attitude was more negative towards the effectiveness of mental training and she viewed this type of training as an area that only athletes who were struggling, or not very confident, would use.

*“It's not like I ever thought I would need somebody, and I think that there is a bit of stigma – oh you need a psychologist, but I think it's just a tool like any a coach or whatever.”*

It is evident that this attitude has shifted in part due to her having a positive experience working with a sport psychologist on mental training. Priming an athlete with a positive experience is an important component of mental training plans and athlete buy-in to sport psychology. This is often overlooked by sport psychologists who begin working with athletes without understanding their background or attitude towards the area making it difficult for full athlete compliance.

### **Setback as the reason for seeking out a sport psychologist**

The second theme that has contributed towards Alyssa's current attitude towards the psychological component is that she encountered a setback which initiated her decision to seek the services of a sport psychologist. A critical incident or event often is the impetus for an athlete to seek out help. As the literature suggests, athletes are more inclined to start working with a sport psychologist if they are experiencing problems (Wrisberg et al., 2010). This is closely intertwined with part of the stigma towards working with a sport psychologist in that an athlete may perceive that they are being viewed as weak or incompetent (Linder et al., 1991). However, as Alyssa continued to work with her sport psychologist her attitude began to shift to a more positive one and she began to realize that psychological training was just as important as other areas of her training. Shifting current attitudes towards mental training to viewing it as an incorporated component of preparation could be an important area for sport psychologists and coaches to understand. Often times when an athlete only turns to working with a sport psychologist after a setback, it may be too late. Mental toughness, or that ability to, "cope better than your opponents with the many demands (competition, training, lifestyle) that sport places on a performer: Specifically, be more consistent and better than your opponents in remaining determined, focused, confident, and in control under pressure." (Jones, 2002, p. 209), is something that athletes are constantly striving towards. There is evidence in the literature to suggest that mental strategies can help athletes improve their mental toughness and thus perhaps incorporating mental training into everyday practice could help to improve the area of mental toughness. Understanding that mental training is part of athlete preparation, just like working on endurance or technique could help to mitigate some of the stigma towards sport psychology and working with a sport psychologist.

### **Autonomy for choosing to work with a sport psychologist (SP)**

The third factor that impacted Alyssa's attitude was that she made her own decision to seek out the services of a sport psychologist. Although it was an external factor (the setback) that was the catalyst for seeking out this extra support, it ultimately was her choice to find a SP outside of the provided team consultant. The relationship between a SP and an athlete is an important one and having a similar understanding and similar goals are essential to carrying out an effective relationship (Anderson, Miles, Robinson, & Mahoney, 2004). Alyssa's choice showed that she was motivated to work on the mental components of her sport. In accordance with the literature, autonomy, or people making their own choices, has been linked to increased motivation which leads to more effective performance (Deci & Ryan, 2002). Allowing an athlete to choose if they want to work with a sport psychologist and the opportunity to find one who fits with their personality is an important area for coaches and sport psychologists to consider. Although this is difficult due to available resources, an athlete will be more likely to have a positive experience with a SP if both parties have similar goals and approaches to reaching those goals.

### **Implementation themes**

There are many different ways in which mental training can be implemented. In Alyssa's case, she felt that the mental training she did with her sport psychologist helped to improve her performance. Multiple implementation themes emerged that contributed towards the effectiveness that Alyssa saw from implementing sport psychology.

### **Having a plan with specific objectives**

Alyssa and her sport psychologist had a plan from the beginning that addressed areas that they were going to focus on. Although they did not devise a season-long plan, there were specific

objectives that they both wanted to achieve. This plan started off with an initial assessment provided to Alyssa from her sport psychologist. This assessment identified areas of weakness, as well as provided a background on any previous mental training that Alyssa had done. Additionally, since her motivation for seeking a sport psychologist was the result of a setback, this was the first area that they decided to work on. Having specific goals allowed for assessment and evaluation to see if the mental work Alyssa was putting in was paying off. For example, the setback caused a shift in her confidence and perception of herself as an athlete. These feelings of doubt made it difficult for Alyssa to race assertively and truly believe that she could be a player in races, oppose to a reactor. By increasing Alyssa's confidence, she was able to make more instinctive decisions while racing, oppose to letting other competitors dictate her moves. Understanding these initial feelings of doubt, and how they impacted her performance, provided Alyssa and her sport psychologist specific direction as to how to tailor the mental training plan. Having specific direction, and a mutual understanding of what an athlete wants to accomplish through the relationship with a sport psychologist is an important area for sport psychologists to acknowledge and address. Without an understanding of the main objectives, it may be difficult for a sport psychologist to help achieve these objectives with an athlete; leading to athlete frustration. Furthermore, a lack of clear direction may make it difficult to assess and evaluate mental training effectiveness. This leads into the next implementation theme surrounding the evaluative component of mental training.

## **Evaluation**

One of the difficulties with mental training is finding a way to evaluate its effectiveness which often contributes towards feelings of uncertainty towards the usefulness of the psychological training (Mamassis & Doganis, 2004). Alyssa responded to being able to evaluate

the mental component in a few different ways. First, two areas that she was working on were her final ‘kick’ in her race and how she felt leading into races. She evaluated the mental work she had done on these areas by how her performance became automatic.

*“But to really feel like it was automatic, that’s what we wanted to become automatic, I would say six months to even like a whole year of racing and then it became automatic.”*

*“I think I evaluate it by just an emotion feel of how I was able to translate and then the automaticity. I think just going into races and how I felt instead of being nervous doubtful I was nervous excited.”*

Increasing Alyssa’s levels of confidence and becoming more assertive during racing were other areas that Alyssa and her sport psychologist recognized as being important areas to work on. Since they had these as specific outcomes that they wanted to achieve, Alyssa was able to evaluate whether the work she had been putting in helped to improve this area.

*“I was more willing to take risks because I had a more positive and confident attitude going in and that’s easy to see.”*

The ability to evaluate effectiveness of mental training is critical because it allows for athletes and sport psychologists to understand what tools are contributing towards changes in athlete performance; whether they be positive or negative (Anderson et al., 2004). This information is important to assist practitioners in their future tailoring of mental training interventions (Anderson et al., 2004). The ability to evaluate may also assist in developing a more comprehensive understanding of *how* mental training can help to improve an athlete’s performance. This may also help to remove some of the stigma towards the area.

## **Individualization**

Previous literature investigating the effectiveness of sport psychology consultants has found that one of the central themes to their usefulness is the need to be “sport specific” and tailor mental training to the specific individual athlete (Anderson et al., 2004). Alyssa mentioned this as a key component of why she experienced positive results.

*“I think that it’s important for a sport psych to adapt to each person because you can’t have a one size fits all. And ya every sport is different.”*

Individualizing mental training is important because every athlete is unique and will have unique strengths and weaknesses. If a sport psychologist were to implement mental training tools the same way for different athletes, each athlete would be impacted in a different way. This could prove detrimental to an athlete’s performance. For example, Alyssa experienced an exercise in high school that she found at the time ineffective.

*“close my eyes before a race and pretend I was somewhere else – and that actually didn’t work for me because I need to be in the moment.”*

Hence, it is important to understand the athlete and tailor mental training to the specific athletes’ needs and personalities in order for the exercises to have any benefit.

## **Self-sufficient**

Alyssa mentioned the importance of becoming self-sufficient and not using the sport psychologist as a ‘crutch’. Being self-sufficient in this context is referring to the athlete not being reliant on anyone else and that the SP is there to help provide suggestions for an athlete. This

theme is similar to a finding that emerged from Anderson et al., (2004) on the importance of 'athlete empowerment'. Alyssa goes on to mention,

*"That was one of the first things we talked about is getting you to a point where you don't need to talk to me that often and self-sufficient, and give you tools but I don't want you to be relying on me. And that's something that maybe other experiences with other sport psych's it's not something that they focus on."*

This is important because there are many situations where a sport psychologist may not be able to travel with an athlete or get into certain places at events, and as Alyssa expressed:

*"So that if I'm across the world and can't get a hold of him I'm not freaking out."*

The notion of being self-sufficient is also important in regards to the athlete taking responsibility for their own training. Alyssa emphasized that this was one area that she did not realize the importance of when she began working with her sport psychologist.

*"That's one thing I wasn't expecting. I thought I'd go down have a couple sessions and be good to go. But it was more what I did outside of the office and outside the sessions, and then the feedback through emails this is working this isn't working more of this. Accountability, here are my key words I'm going to work on in training, and that I'm not being tough or getting tired or whatever. You have to be disciplined."*

*"It's a lot of practicing and not as much consulting, I think a lot of stuff you have to do on your own, I think explaining that to athletes is important. You're going to have to do your homework."*

Alyssa had to be disciplined and hold herself accountable for actually putting in the work that her sport psychologist gave her to do. This is critical for sport psychologists to emphasize at the beginning of a mental training plan with an athlete. If an athlete does not understand that they need to be doing their 'homework' the mental training plan may not be nearly as effective as it could be. Hence, not putting in the work could lead to not achieving the desired results, which will lead to athlete frustration and perhaps skepticism towards the benefits of mental training.

### **Adaptation**

It is important to note that Alyssa experienced feelings of doubt and frustration at times throughout her mental training. In particular, she mentioned occasionally her visualization felt 'stale'. Alyssa also talked about how she did not always believe the affirmations and positive self-talk that she was saying to herself.

*"I thought oh I don't know if I believe it even though I'm saying it, but you start to believe it the more you say it."*

It is important for sport psychologists to be able to address these issues and find ways to either reaffirm the process or adapt and overcome the arising issues. Alyssa's sport psychologist had her consistently monitoring her mental training so that when she checked in with him she was able to accurately discuss any difficulties she might've been having. Providing consistent check-ins and feedback is essential to having an effective athlete-sport psychologist relationship.

When Alyssa started to get bored of the visualization they adapted and began to incorporate it into her track practices. In her words:

*"So that's when we would visualize it on the track doing it. So that kind of sparked it up for me cuz it was more real and closer to training. And then I had some workouts where it just clicked."*

This increase in arousal and creating a more realistic, competitive environment allowed Alyssa to become more engaged in her visualization. The ability to adapt and modify mental training plans is important to prevent athletes from losing interest and end up just ‘going through the motions.’ It is important for athletes to be fully engaged and believe in what they are doing. Sport psychologists working with athletes should be aware of the need for consistent feedback and monitoring so that when necessary, they can revise and adjust tools that may not be working as well as they could for the athlete.

### **Timing**

An aspect of mental training plans that is often overlooked or neglected is the length of time necessary to create any change. Portenga et al., (2012) highlighted the importance of this area of mental training within their sport psychology consultants model for consulting with the U.S. Track and Field team. The authors emphasize the importance of using (if possible) the full quadrennial to work with athletes in order to build a trusting relationship with the sport psychologist (Portenga et al., 2012). Oftentimes sport psychologists are brought in the week before a final tournament making it difficult to create any changes. At most, this may assist in inspiring or motivating the athletes. However, similar to strength training, mental training takes consistent time and effort to create changes in athlete performance; especially under pressure (Bull, 1991). Alyssa said that she visualized five times a day for at least a year and a half prior to the Olympics. Alyssa elaborated expressing that her psychological training took six months to a year to click-in and for her performance to start to become automatic. The length of time and consistent effort necessary for change is critical for athletes, sport psychologists and coaches to understand. Sport psychologists should consider this when devising mental training plans for athletes, and should make it a priority to ensure that the athlete understands that mental training

is not a 'quick fix'. Although the importance of time has been acknowledged, it continues to be difficult to implement due to limited resources, and time being allocated to other areas of training. However, providing enough time to initiate a change in an athlete's performance is an important factor to consider when implementing mental training.

### **Detail**

Alyssa incorporated a great amount of detail into her visualization.

*"I would think about the last 300 and 100 in slow motion and in real time, and go over them in my head and imagine myself perfect form, perfect feeling, competing against other people so always that emotion comes with that thought."*

Utilizing as much detail and sensory information as possible in imagery exercises has been shown to create a more realistic simulation and can increase the amount of emotion and arousal experienced by the athlete (Behncke, 2004; Weinberg et al., 2003). Orlick and Partington (1988) found a correlation between the quality of mental imagery (i.e. the more an athlete was able to *feel* the experience) with better performance. Creating as realistic of a competitive environment as possible can help the athlete adequately prepare for their competition. This is an important component of preparation that athletes, sport psychologists and coaches need to consider when implementing imagery exercises. Furthermore, this theme relates to the need for coaches and sport psychologists to understand the individual athlete. Providing scripts or imagery exercises that are difficult for an athlete to actually visualize may prove ineffective.

## **Integration**

Alyssa emphasized the importance of sport psychology as being another element of preparation and that it should be integrated with other components of daily training.

*“Well I think they play into all of them, so I don’t think they’re separate.”*

Although mental training can be practiced separately (i.e. visualizing at home), psychological training may become more effective when incorporated in with physical training. This supports previous literature on the integration of mental skills training in with physical training for increased effectiveness as well as increasing athlete adherence (Holliday et al., 2008). Both increasing effectiveness and athlete adherence to mental training are critical components for sport psychologists to be trying to achieve. Alyssa provided an example of integrating physical and mental training together:

*“I’d never put a piece of tape, because there’s a line at 300 m and so it was easy enough to do – but I would go the day before and imagine being in the race. So in previous years where I would just go to the track and do my warm-up, this time I was putting the mental aspect into it and really preparing for the next day.”*

### **4.2.1 Max: Swimming**

Max is an Olympic swimmer who focuses on longer distances. He started his swimming career later in life (relative to most other Olympic swimmers) and excelled quickly throughout his college career. Max has been a fairly confident athlete due in part to his rapid success at college. However, he struggled at times with his confidence throughout his training for the London 2012 Olympics. Here is Max’s experience leading up to the Olympics.

Max talked about his view towards the psychological component of swimming:

*I think the psychological side of swimming particularly is huge. And when you get to a certain level in sport, I think that, it's probably more important than anything you are going to do, physically because you can only train your body so hard and do so much with your body and a lot of the stuff you have to deal with is mental. I think that for me personally as I've developed as an athlete your opinions change, your views on certain things change, it's kind of –it becomes — it's kind of broad I guess and I don't know where you are going to go with the rest of this and everything but no I mean I think that just very important to take this into account because it is something that every athlete has to do and every athlete has a different way of approaching it.*

Although Max thinks that the psychological side of swimming is important, he admitted to questioning his buy-in at times throughout his training. Max also recognized that the mental side of his training could be increased. Although the resources were available to the team, (i.e. a sport psychologist) Max expressed that more psychological training could be incorporated into the daily physical training.

*I think that for me personally I guess kind of – I don't know if I didn't buy into it (mental training) or thought or I don't need to do that – but there's – I guess there's opportunity for it – it's just not – there's not a lot done around it.*

*To be honest, it's kind of something not really something talked about, not really coached, there's not really any terminology on it I would say— just like mentality it's the way you approach kind of everything you do. I guess – I guess there's nothing really that I would call it because it isn't really -- talked about enough.*

*And there's not really a lot of coaching done on it, it's more what you need to figure out internally to get to the next level.*

*The priority is always the physical side of training but there really is not a lot of mental training that comes with it.*

*I mean the mental training comes out of the physical training but like on the side doing specific mental training like I mean I'm sure it's done – but I haven't heard of a situation where it's really been done heavily.*

Yet Max does go on to talk about the available mental training resources, suggesting that perhaps even though psychological training is available, it is not being implemented as effectively as it could be.

*Um – I don't know – I think I basically had the resource -- I had the resources to everything when I was in [Canadian city]. Like it was – it was the perfect situation. But I think sometimes it almost was too much – it was too much stuff that I was required to do and it was the level that – little bit of overkill. And I say that lightly because it's great to have everything and great to have that problem of having too much stuff but I think that a lot of the mental side of it and being mentally strong, happy and being good in your head – has to be specifically tailored to each person right. It can't be – no one person can see the same effects from doing the same things and I think that by letting people choose what they want to do and really like making it fun – I think is the secret you know if you're having a good time and having fun and you want to win like it really can't get any better than that.*

Max talked a lot about 'mental strength'. And how this can often be fostered or squandered depending on the training environment. A key theme he discussed was as you are younger,

“ignorance is bliss” – referring to the notion of not having any mental walls built up and competing fearlessly.

*I almost refer back to ignorance is bliss. When you are a younger athlete coming up and you haven't had any like walls or anything that has slowed you down you are very ignorant to really what can kind of happen and the bad side of things. And I think that – when you're younger you can do incredible things sometimes and jump over walls because you don't have those built up in your head yet. So – I guess um – I guess that's the biggest thing that I can say about psychology.*

*-- I got into swimming later. So I really had a fresh mental take on swimming when I went to college, and I wasn't very good, I wasn't that fast, but I hadn't done a lot of the work that a lot of the other people had done. So basically that's what I needed to do was put in some work. And because I was in the situation I was in and was like mentally fresh I didn't have any walls, I believed I could make the Olympics I had this belief inside myself that I could win a gold medal at the Olympics, and people thought I was crazy and maybe I was a little bit. But when you have this belief that you can do something it really doesn't matter what anyone says, and it's something that you believe inside. That's what – that's what I think makes Olympic athletes, makes high performing athletes -- makes gold medalists at the end of the day.*

Max continues to discuss his feelings towards the impact of mental training and how it can be incorporated at the elite level.

*And I think that when it comes down to it – you can't – I don't want to say can't – but it's hard to teach mental strength. Just like it's hard to make some short really skinny kid a great swimmer like it's one of those things -- one of those qualities that you either have or you don't have. And I'm not sure if like it can be taught? But – that's how I feel about that.*

*Well I think it can {be improved}. I don't know how (laughs)*

Despite his skepticism, Max does however share some of the ways he used sport psychology.

*I go back to the journaling, talking to the sport psychologist. I think that that's good and all but it's more of a – an internal thing.*

*I feel like there's not really much you can do outside of that (using a sport psychologist to work on confidence). It has to be something that you find within yourself. And re-establish that belief. I guess the biggest thing I could say that I did for preparing myself for London this year and trials and kind of the whole storm that you have to deal with leading up to it is – I was training much better than I ever have. And I used that in everything I did. When I was – I knew that going into trials that I could have a bad swim and still make the team. Because I knew I had trained for that and that was kind of a mental strength. I didn't have a good swim at trials (laughs) I swam really slow, but I ended up qualifying, because -- and even on the last fifty there was a guy at the end who started catching up to me and I knew that I could hold him off. Because I had done the training and I relied on that, so I think the biggest thing for me this year was trusting what I had done. When you go through swimming -- swimming is funny because you can train as hard as you can for a couple of weeks and you can go to a meet and swim terribly slow, swim horribly because you've been so broken down and so tired from all of the training – and it can really mess with your head. And that is one of the things that actually does come with getting older – that experience and learning how to deal with that and cope with that experience. And because I've gone through it – I've gone through the lows of taper – when you start resting a lot of the times you'll feel worse in the water and you'll feel slower, because your body is adjusting to a lower volume of training and workload -- and I kind of find that that is going to happen and I*

*know what it's going to feel like and I understand what I have to do to – kind of get myself right for the meet. And I think that's probably the biggest thing that I did leading up to it. Even when I wasn't swimming good in practice and everything like that I've actually become more mentally strong to deal with that because I've had practice dealing with it the last couple years. Knowing that I can get up on the right stage and do everything I can to swim well. Leading up into London, um when we were in training camp and that I was doing stuff off the blocks that wasn't really that good and I was – I was a little worried I swam slow at meets leading up to it too and I just I kind of tried to keep the trust in myself that I'd done the work the last couple years and that I knew how to control my body enough and –I've really like-- I've learned my body long enough to know how to handle it when I got in the race and that's kind of what gave me my mental strength for a race in London.*

Max talks about his struggles overcoming mental barriers.

*As you get older, so I moved from college and I had just been on this huge surge upwards and – really transformed myself as an athlete and became a very good swimmer in the U.S. and NCAA system and then when I moved to Canada I switched coaches and I started hitting walls. And part of this was because I came in at a time where we just got rid of suits. Basically we had full body suits that were ultimately made out of rubber, and when you dove in and swam you swam substantially faster. And as soon as they got rid of them it changed the sport a little bit – and it made it a lot more difficult to get these times – and like people would do it and have broken these record since – but you have to be faster to do it. So it was kind of a mental barrier, that was the first real mental barrier that I think a lot of people experienced at this time. And I moved to [Canadian City] I was with a new coach his philosophy on swimming was a lot different than what I grew up with and going through that transition and having that uncertainty of whether*

*this will work out or and it put a lot of doubt in my mind that I previously never had. And I think that that was probably the hardest part about any sport as you mature and get older, is you have walls built up so if I was going to try something and train really hard for a whole season, like I did when I first got there -- for my first season, I was in [Canadian City] for three years before my first Olympics' and I trained my butt off and didn't go my best time and I went like a second slower than where I had gone the year previously, and it kinda hits you in the gut because you put in so much effort and I trained better – worked harder than I ever had before and I didn't accomplish what I wanted to accomplish. So it's just a level of doubt that goes in there and then the next season you go and try again and then something goes wrong and you can take it either way right. And I think people do take it different ways but I think um -- I don't know I took it a little bit negatively --sometimes. And again creating another wall of doubt. And when you build up these walls it makes it difficult to really break them down and like surpass them on patience because you don't necessarily believe it anymore. It takes the belief away from you. And I think the belief is kind of what younger swimmers and you know – people that are again you go back to that ignorance is bliss and that's what that belief is. If you lose the belief in yourself that's when you kind of start to struggle. So through the last couple of years I learned how to deal with it a bit. And I basically trained my butt off – I don't think I never swam up to my true potential and I think a lot of it is the mental side of it. Ultimately you are building up walls and it's hard to break them down. As you get older –*

Max also expressed some of his struggles using typical 'mental training tools'. Although he experienced some success with them, he indicated that there was a lot more potential for psychological training.

*Yes I did. Again, I never did get back to the belief I had before, and I think that – I don't know – if it would've helped or not but I think it would've helped if I could have ever gotten back to that state. I think I was close last year, I started really having some good performances in meets and then it kind of slipped away for me [laughs] and it's not like I'm saying I'm disappointed with my performance, I'm very happy I swam my best time at the Olympics and everything kind of worked out. But again like -- the dream is to get a medal to get the best time, to get Canadian record, like that would be a big, big step for me, and I think it's something you know deep down you're capable of but you build these mental blocks and it gets harder and harder as you get older.*

Max did find that the sport psychologists were able to help with reframing situations, and increasing his trust in his training.

*Like look back at the hard work I've done and when you get really close to it that's the hardest thing to do I think sometimes -- is really believe that you are in the best shape of your life doing this everything well because it's sometimes – it's very time based swimming—I know what I'm going for 15's and if it's not right where it has been or the best I've ever been it kind of upsets me. Preparing for trials, trials is actually harder mentally to prepare for then the Olympics. Because – Olympics to me wasn't that bad – I think it's bad for people that are expected to win medals. I think it's pressure for them. But for someone like me coming in I wasn't really expected to win a medal it's not really that much pressure. I can just go in and swim my best race and not really have to worry about it. So – preparing for trials one of the biggest things for me was actually trying to get sleep before my races because I was so nervous. Like months before I would start thinking about it and I would not be able to sleep*

*You have to trust the fact that you've done all that work and you've worked your butt off and like it's going to come -- and I think that that's something that they helped with a lot.*

*I got some exercises to help me get sleep at night and little things like some voice recording stuff – listen to a song – get my mind off of everything. So that's probably one of the things that helped me the most – and really just sport psychologist I was working with helped me with kind of build my confidence and I dunno – just stroke my ego I guess a little bit. And I think that that does help a lot when you need it.*

Max also talked about some visualization exercises he did. It was interesting that when I asked him if he found the exercises useful he responded, “*hard to say*”, yet he elaborated to say that:

*“I think it was good because I actually ended up sort of doing exactly the time I needed to go, I got it right on almost. So that was kind of cool to just see that.”*

Max talking about the biggest benefit from sport psychology.

*It's just – I think that it could help people – it may be more effective for some people than other people. But ultimately – when it comes down to it I think the biggest benefit out of sport psychology for me was just getting inspired and getting a sense of confidence from it*

He elaborated further on the importance of developing a trusting relationship with the person in the position of providing the mental services.

*You have to really trust the person. And if you don't trust the person and you kind of don't believe what they are saying you're not going – it's not going to do anything for you.*

Max talked about his struggles to get that underlying belief back.

*No. I wasn't --and I like -- I tried. I tried everything. I tried music, I tried writing in a journal. I tried, talking to sport psychologists. Documenting my times to see that I was actually progressively getting faster. It's kind of one of those things that -- and I mean I don't speak for everyone I guess it's just my own personal experience. Once it gets in there it's really hard to get out it's almost like a cancer [laughs] that may sound terrible but -- it's just something you have to learn how to work around. And I mean I think I did a good job of working around it -- but there was nothing that I could do that ever got rid of that doubt inside of me. I learned how to weave around in my mind with some of the other things that I mentioned that I was doing like writing in a journal and talking to a sport psychologist. Little things I tried to do correctly to try and ease the doubt as much as possible.*

*I think a lot of it has to do with failure. A little bit with goal setting a little bit with expectations -- you know like -- just expecting too much out of yourself too quickly. I expected to come into [Canadian City] and kill it my first year and be an outstanding swimmer that first year just from doing all that extra work and training but really that extra work and training beat me down into a hole, and it made me a lot better in the long run but at first it was very difficult to deal with - with that amount of training. And I don't know I think that you kinda just have to learn to deal with it. And -- I don't know [laughs].*

Max discussed his pre-race routine and how it is flexible and changes throughout the season. He emphasized the goal of the pre-race routine was to help calm himself down and to help create a safe environment.

*I use to listen to music sometimes I listen to music sometimes I don't. Sometimes I like to do little stupid things like before big meets I love to look for a lucky penny. I've realized it doesn't do anything for me but it just – makes me feel a little bit safer and a little bit more confident.*

Max talked about the role that mental training played during the Olympics.

*It plays a lot. It plays a lot – and – [laughs] it plays everything to be honest. How you deal with it, it can be your preparation up to the race it can be how much sleep you get before it can be during your race whether you crash down and break or you push through and beat the person next to you because it really is all dependent on your mind.*

*I mean – it's hard to describe – because I've definitely been to that point and I've broken and I've been to that point and I've pushed forward. And I was better at doing it in college when I really believed in myself and believed I was going to go to the Olympics and believed all of this crazy stuff that I could do. It's harder when you're not there -- like for me – being in front of people in a race and feeling kind of good and coming off the last wall – is really it's just like a psychological boost that I can just crush it. Like if I'm in the same situation and I'm behind someone a little bit it can crack you. And it's hard to really say what does – what works and what doesn't because ultimately I haven't figured it out. I'm – I try and get better at it I try and push myself you know – like I don't know exactly what you have to do every time to make that work. Because your mind, something is different on your mind every race. You know and whether the doubt creeps in when you're sitting there and oh I'm hurting right now or -- your dream goes to a lot of different places when you're in that same situation and it's hard to control where it goes to unless you – I guess you're very, very good at it and practice a lot. And I mean I guess*

*I'm pretty good at it I got where I got from doing that – but it's just uh -- sometimes you can't control it.*

Before Max's race he had a lot of doubt creeping into his mind. Max was able to fall back on knowing he had put in the necessary work. He also would accept that the race was going to be physically and mentally painful. Max discussed the role that pre-acceptance played for him prior to the London Olympics:

*I really thought I was going to swim one of the worst races of my life. [laughs]*

*I was freaking out – but um -- again like I'd done the work, I came through the ready zone and I got up on the blocks and I was like oh my god this is going to be terrible – like or not while was on the blocks – I walking through the ready zone -- this I going to be terrible please break 1:50 my best time was like 1:48 – and – 1:50 would be really slow. But um didn't really have much confidence getting up on the blocks and then I was like you know it's going to hurt just do it. And dove in and actually went my best time -- so it's funny -- it's a funny sport -- it's funny like mentally the way things happen – but ya –*

*Ya and sometimes that really helps -- if you're going into some race – not that confident and you just say you know what I'm going to make this the most painful awful miserable thing I've ever done in my life, I'm committing to that beforehand, you can dive in and you can go and it won't be that bad. And you always – it always is mentally painful let's put it that way. It's not ever like -- it's fun when you win – and it doesn't feel as bad when you've won. But – no matter what it's going to hurt.*

Post Olympics is a difficult time in an athlete's life. Max emphasized the importance of this area and eagerly discussed some of the problems and solutions for athletes dealing with the post-Olympics time period.

*Um like coming back from the Olympics is one of the hardest things I've ever had to do. And I can say this and I know that I'm not alone when I say this because I've talked to other people and everyone I've talked to that was a first time Olympian with me -- pretty much feels the same way. Like it takes the gas out of you -- and I'm right now trying to decide what to do with swimming and whether I keep doing it or not because -- ultimately -- your goal is to win a gold medal at the Olympics -- that's what everyone wants to do. If they're in their sport they want to win a gold medal at the Olympics. And -- you know at some point you either realize you can or can't do that or give up potential for a gold medal or maybe not and because it's -- as you get older you can put yourself into a specific category and it comes back again to the ignorance is bliss thing when you're young. So if you can see where you are and where you're going to be and how good you can be maybe you're at your peak maybe you're not you've got a good idea of where you are. Um when you see that and you actually end up accomplishing your goal which for me was to make the Olympics -- like I wanted to be in the final -- um -- like ultimately being in the final if I came fourth place which would've been just completely outstanding like almost impossible for me to do -- if I did that -- it really doesn't do much more than me coming in 17<sup>th</sup> place at the Olympics. Like its good and everything but it's not a medal. And that's the way a lot of people look at it. And -- so getting to that point -- making the Olympics which has been the dream since you're a kid -- um it's really hard. It's hard to come back and realize that you've accomplished your goal and you don't know what the hell to do with your life after that. Because you've spent so much time devoted to that. And for me personally like I look at it and I see you*

*know like the chance of me ever winning a medal at the Olympics – and it's pretty minute. Like the chances of me ever winning a medal at the Olympics is very -- very small. Especially in my event because it is one of the more competitive event. And I've sized myself up and I know where I stand in the sport and when you can see that and you know that and you have a better understanding of things like that it's just really difficult -- really difficult and – ya I mean from everyone I've talked to -- hear a lot of the same thing and you see a lot of the commitment waiver in an Olympic athlete after the Olympics because you spent so much of your life dedicating to this one moment in time and then it's gone.*

Although Max had a few suggestions as to how athletes can deal with the post-Olympic period, he expressed that this transition period in an athlete's life is an area that could use some more attention.

*I'm dealing with it better. I think getting a job for me was a great, great move. I needed to try something else.*

*And – ya I mean – I think that's kind of -- that's an area that needs to be elaborated upon by I guess the [Canadian Olympic Committee] COC's and just – people don't really understand what it's like to go through that until you actually go through it. And people – like I've spoken to numerous Olympic athletes who have gone before I did and I kind of looked at them like they were crazy -- like how could you be depressed after the Olympics it's like the greatest thing that's ever happened to you in your life – that's what you've been working for -- but it just kind of leaves you a little bit lost --*

Max also discussed the importance of doing something else or having a hobby while you are participating in sport.

*Ya you know – I'm trying to think here. I think one of the biggest things is finding something you could do during your actual sport. I think one of the biggest mistakes I made the last couple years is I wasn't in school, I just swam and it's hard it's really hard. It's really hard to do anything else outside of that because you are training so hard but – you need to have some way to release outside of your sport so you're not so close to it and if you get too close to something – and it consumes your life it makes it really difficult to deal with that mentally. So getting something – getting a hobby anything that you can do on a regular basis outside of the sport that you're doing – is extremely, extremely valuable.*

*It kind of goes back to the fact that swimming is where I got a lot of my self-worth and when it wasn't going well or something goes wrong or you don't have that to fall back on – you don't know where to get self-worth from and it makes you depressed. So that's the biggest piece of advice I guess – [laughs]*

Max provided some future directions for sport psychologists and possible areas for them to focus their attention towards; these included the importance of happy athletes, as well as creating an enjoyable training environment.

*I think there probably is a way to do it and I think in the future of sport to make people really good at sports – better than what they are right now I think it's the most important area to get into. Because – when you're not happy doing something or you are happy doing something you're going to get two completely different results out of yourself. So if I'm doing a set and I'm swimming ok or I'm happy about doing it I guarantee I can get a lot more out of my body and a much better result than I would if I was in more of a sour mood or upset or tired – it just – [laughs] -- I keep losing my train of thought! It's just important to have that side of sport and it's*

*definitely not --- it's really it's – I mean maybe on the surface it's been tapped into but I really don't think it's been delved into enough. I think in the future that's where you're going to make people a lot better. You know keeping people happy and having them enjoy what they are doing – they will ultimately always perform better.*

*And that just shows you the power of the mental side of it is what you can actually get out of yourself when you're committed, prepared, happy and you know – in the right frame of mind.*

Max shared his thoughts on how coaches might be able to foster a more positive training environment.

*I mean it kind of has a lot to do with the personality of the coach to be honest some people are better at it some people aren't. I mean that's part of meshing with having the right coach for the right athlete – I think some people like a little bit more of a firm like go do it kind of coach – and some people like more the laid back coach and I – the coach to teach them how to do that is hard it's more of like a lifestyle personality [laughs] umm – I'm not really sure – I think just being positive and being understanding of athletes you know – I think a lot of the times when you are in a situation like that the amount of work and the just kind of the dedication that the athlete has goes a little bit unnoticed and it's a little bit taken for granted by I think a lot of coaches and I think it's because of um – just the situation you're around tons of athletes where everyone has such a great work ethic and is trying to do something amazing and I think that you can get lost in that a little bit – and you don't have -- I don't know you don't have the – encouragement just from doing the basic things once in a while. So – if a coach is going to be like -- work ethic is expected but it needs to also be acknowledged once in a while. That's a big starting point for coaches.*

*Oh ya absolutely. But I mean – it all depends on the person right – it depends on the situation because it's more about putting the person in the perfect situation for them to be happy and flourish. Because the situation really makes the athlete I guess. And I go back to where – when I was in college and I'm just thinking back on my career and different things that made it difficult and different things that made it easier, and I was like I became the best swimmer at the University of Denver for my team, and I loved that. I loved being the best around and I think that in itself was what made me a little bit mentally stronger because I knew that I could beat people and it gave me a lot of confidence and then when I came to [Canadian City] and I may be training with people a lot better and swimming a lot faster but I'm also not the best in my group. You know I've got some top swimmers that I am training with who have won medals at the Olympics and you kind of lose yourself in that little bit. And I think that's – that's kind of a difficult side of it and I think -- personally I look at the US and why the US system is so successful and they have so many numbers of kids and they have a huge base of swim teams just around the country that have basically one kid gets the focus and I think that's why I – you see little clubs and different people succeeding in situations where you wouldn't expect because they have built up this confidence and there's no one there to say that they can't do something – not that anyone ever says that you can't do something but it begins to look like that sometimes especially when you're training against really fast people and you lose and you get beaten down in practice by other people beside you all of the time it – it deals a mental blow (laughs)*

*I think just being in the right situation is – is key.*

*Over time people will find their roles and it depends – if you're winning all of the time you're going to take that in and you're going to want to be that -- and you're going to want to kind of become almost invincible in your group because -- you know that they can't beat you and so that*

*develops superior mental strength that will give that one person in that group great strength. And then there's someone who's going to be beaten all the time – that's going to beat them down and then they aren't going to think that they can win anymore and you know it goes that way across the board and I think – you have to rely on the athletes desire to be there and like what they want to get out of it to push them in that situation but basically what I'm getting at is my belief is that in all groups there's always going to be a hierarchy of every group like whatever it is wherever you are in the world if you're in an office or a pool like wherever you are there is always a hierarchy of groups and I think that sometimes you have great athletes in groups together and one person will shine brighter than the other and it brings the other one down a little bit and I think that happens – I think that's the nature of it but ya I guess that's – that's kind of my philosophy on it and I think that sometimes you'll have a kid coming up and they will get into the spotlight and shine for a little bit and they – there's always a spotlight I feel like and I feel like there should be giving that—and that's the way of the world and that's the way performance works the way everything works and people different points in their career will fight for that in their group and you either kind of get it or not and it's just like being defeated or trying to continue to pursue that or you know like leaving and that's just the way it goes I kind of feel [laughs] if that makes any sense.*

*I think it's kind of an issue that I'm very interested in because I don't think it's – I don't think it's worked enough and I think that most of the problems that come out of swimmers like not succeeding or athletes not succeeding is like just when they get into a situation where they don't feel important. And I don't think it's anyone's fault I just think it's the nature of when you have groups of – groups of people I think it's going to happen. There's always going to be – people will fall into their roles when they are in a group. And – what I mean by that is there will be*

*someone will be the standout performer, someone who is more a jokester that will be – different kind of roles that people fall into and every group is pretty much the same. So by having more group opportunities and having more areas where people can spread out and people can be specifically focused on I think that you end up with a happier athlete. And I don't know if that makes you better but I know that will make you a happier athlete.*

#### **4.2.2 Analysis of Max's Narrative**

Numerous factors have contributed towards the shaping of Max's current attitude and implementation of mental training. Three themes emerged pertaining to the first research question of "what are the current attitudes?". They are: 1) prior experience; 2) reason for working with a sport psychologist; and 3) maturation of an athlete. Max's experiences and reasons for working with a sport psychologist will be discussed as to how they have shaped his current attitude. The implementation themes that emerged included: 1) individualization; 2) the training environment; and 3) how the tools are being implemented. I will discuss these after I examine Max's attitudes.

#### **Max's current attitude towards the psychological component**

Max's attitude towards the psychological component is a positive one.

*"I think the psychological side of swimming particularly is huge."*

However, it became evident throughout his interview that he was conflicted with the extent to which someone could improve this area. He mentioned that he feels it is something that needs to be continuously worked at, yet he also mentioned that he was unsure as to what extent one could improve their mental toughness. This conflicted belief towards the area could have been

influenced by a number of different factors. The first one that will be examined is prior experience.

### **Prior experience**

Although Max acknowledges that this area is of importance to him, he goes back and forth on how much he works on it and whether it is beneficial. It was evident that there was a great deal of confliction for Max surrounding sport psychology. Prior experience has been mentioned throughout the literature as impacting future attitudes towards the psychological component (Wrisberg et al., 2009). Max has had some experience working with the team's sport psychologist, but feels that there is the potential for more to be done.

*“To be honest, it's kind of something not really something talked about, not really coached.”*

So although Max talked about having an abundance of resources, his confliction between feeling that the area is not really coached suggests that it is not being implemented to meet his needs. Max acknowledged that confidence is an important component in order to swim up to his potential. The tools that Max was exposed to were in addition to his daily physical training. For example, he worked on a visualization exercise with a sport psychologist. Max mentioned he only did this a couple times, despite finding some improvement with this tool. He also mentioned that he did some journaling. Both of these tools are examples of mental training being implemented as an additional component to daily physical training. Max's conflicted attitude could be influenced by his prior exposure to these tools as not being incorporated into all facets of his training despite the realization of their importance. Thus, he is uncertain as to the extent the mental component can be improved due to the way in which mental training had been implemented with him.

### **Reason for working with a sport psychologist**

Max was keen to immerse himself in anything that would help with his performance. However, he sometimes felt that there was too much that was imposed upon the athletes. Feeling pressure to engage in certain areas of training could impact an athlete's attitude and motivation to work on that particular area.

*“But I think sometimes it almost was too much – it was too much stuff that I was required to do and it was the level that – a little bit of overkill.”*

The ability for an athlete to choose a training approach that fits for them and not as a result of group or coach influences could be an important factor to consider for improving athlete performance. Max's conflict between wanting to really work on the psychological component and his actual work put in with the team's sport psychologist may have been influenced by his feeling pressure to work with the team's psychologist. Although he felt fortunate to have this resource available, he didn't actively seek out the sport psychologist's services. Coaches and sport psychologists should be aware of the importance of the athlete taking some responsibility for their training. Informing athletes of the benefits of the services and then allowing them to decide if they would like to use them may help with individual motivation. Full compliance and motivation to participate and engage in the mental training services is imperative for optimizing effectiveness.

### **Maturation**

Reaching a certain biological age and subsequent physical mental maturity can influence one's attitude towards mental training. The development and growth that an athlete has made in order to reach the Olympic level may influence their attitude differently than a younger less

experienced athlete. Olympic level athletes have incredibly refined physical and technical skills, and thus may view the mental component as a separating factor. In support of previous literature, Taylor et al., (2008) found that there was a difference in the utilization of mental training tools between medalists and non-medalists suggesting that medalists more frequently employ these tools. Since athletes competing at the Olympics are all incredibly conditioned, it is possible that the difference could be due to mental preparation. Max acknowledged that you have to already have a certain level of skill and training as the foundation and then the psychological component can be that extra defining factor.

*“And when you get to a certain level in sport, I think that it’s probably more important that anything you are going to do physically because you can only train your body so hard and do so much with your body and a lot of the stuff you have to deal with is mental.”*

Max’s maturity and realization that the mental component can help to be that separating factor has positively influenced his attitude towards the importance of the area. Therefore it is possible that the confliction and uncertainty of his attitude may be related to the prior exposure and experiences with mental training.

## **Implementation themes**

### **Individualization**

Individualization is an important component contributing towards the effectiveness of mental training plans (Anderson et al., 2004; Gould & Maynard, 2009; Orlick & Partington, 1988; Taylor et al., 2008). Max addressed this as lacking in his exposure to mental training.

*“—But I think that a lot of the mental side of it and being mentally strong, happy and being good in your head – has to be specifically tailored to each person right. It can’t be – no one person can see the same effects from doing the same thing and I think that by letting people choose what they want to do and really like making it fun—.”*

Athletes respond differently to training of any type due to their experience, skill level, different styles of learning and a variety of other factors; therefore individualization is an important component for sport psychologists and coaches to understand and implement. It is also important to note that Max did mention that he worked with a sport psychologist one-on-one. Therefore individualization is not necessarily accomplished just from individual meetings. The specific tasks and tools provided to the athlete need to be tailored to that athlete’s needs and goals. In accordance with the need for mental training to be individualized is the notion that the athlete needs to have their own specific objectives and expectations. Understanding at the beginning of a season or Olympic quadrennial what the objectives and expectations of each individual athlete is, is important to develop an effective mental training plan. Portenga et al., (2012) emphasize the importance of educating their athletes about mental training and collaborating with the athletes so that both parties are on the same page.

### **Training environment**

Consistent with previous literature, enjoyment and an emphasis on creating a ‘fun’ training environment can play a role on athlete motivation and performance (Vernacchia, McGuire, Reardon, & Templin, 2000). Max emphasized the importance of this area.

*“—And really like making it fun – I think is the secret you know if you’re having a good time and having fun and you want to win like it really can’t get any better than that.”*

It is important for coaches to understand how to create an environment that is motivating and enjoyable. In relation to individualization, coaches will need to determine what the best type of environment is for the individual athlete. This relationship between the coach and the athlete is a crucial one and is a reason why some athletes respond better to some coaches more than others. Gould et al., (2002) also found that having a positive environment with lots of opportunities and support was a key component contributing towards the development of Olympic champions. Characteristics of this type of environment include having individualized programs, individual attention, meeting individual needs, and understanding the athlete as a person. It was also identified that within this positive environment the teammates helped to foster development among each other. These themes are in accordance with concerns that Max expressed and felt were important. Thus it is important for coaches and sport psychologists to be aware of these needs and the importance of creating such an environment. Another important component of having an enjoyable environment is that it can help to develop a sense of confidence in the athletes. Confidence is an important factor of mental strength that can have an impact on performance (Daniel Gould et al., 2002; Vernacchia et al., 2000). Max talked a lot about how ‘ignorance is bliss’, in that as a younger athlete he was full of confidence and hadn’t ‘built up any walls of doubt’.

*“And I think when you are younger you can do incredible things sometimes and jump over walls because you don’t have those built up in your head yet.”*

He discussed this in relation to the two separate training environments. His college environment helped instill confidence in him as he saw consistent improvements in practice. However, he mentioned that in his current training environment he felt at times that it was beating him down. Confidence can be impacted greatly by results. William and Krane (2001)

found that high levels of self-confidence are associated with peak performance. In spite of this finding, it is difficult to tell if these athletes are confident because of how they have performed, and whether or not they would be this confident if they hadn't performed at their peak. As Max mentioned, as his results fell below his expectations, this directly impacted his confidence.

However, he continued to compare this level of confidence to his college swimming days where he saw positive results fairly quickly. This made it difficult for him to remain a confident athlete despite being in a more challenging and competitive environment. An athlete's training environment is a very important component contributing towards their improvement and performance (Daniel Gould et al., 2002). The group dynamics within the training environment can play a major role in impacting an athlete. Max discussed how athletes will typically fall into certain roles within a group setting and that this can impact their confidence. Gould et al., (2002) identified having teammates that help each other learn and provide encouragement is a common component among Olympic champions. Teammates play a major role as they are the people that you are training with everyday. Max also discussed how sometimes it is difficult to change your role. He felt that this might be an area that coaches could focus on to make sure a supportive, encouraging environment is fostered.

*"And I think that most of the problems that come out of swimmers like not succeeding or athletes not succeeding is like just when they get into a situation where they don't feel important. And I don't think it's anyone's fault I just think it's the nature of when you have groups of people."*

*"People will fall into their roles when they are in a group."*

He felt that this area could contribute to an athlete's enjoyment thus helping their performance.

*"So by having more group opportunities and having more areas where people can spread out*

*and people can be specifically focused on I think that you end up with a happier athlete. And I don't know if that makes you better but I know that will make you a happier athlete."*

Additionally, Gould et al., (2002), identified that effective environments of Olympic champions were ones that helped to foster and nurture psychological characteristics. These characteristics contributed towards an athletes' confidence, focus and emotional resiliency. Thus coaches should strive to find ways to create an enjoyable environment that helps to build an athlete's confidence.

### **How the tools are being implemented.**

Max used some common tools that have been found to contribute towards athletic performance such as journaling, visualization, voice recordings, and talking with a sport psychologist (Durand-Bush & Salmela, 2002; Orlick & Partington, 1988; Taylor et al., 2008; Vernacchia et al., 2000). He had some success with these tools.

*"I go back to the journaling, talking to the sport psychologist. I think that that's good and all but it's more of an internal thing."*

Max talked about how he used visualization in his training. Max incorporated a lot of detail and some kinesthetic movement into his visualization. Incorporating additional senses has been shown to increase visualization effectiveness (Weinberg, 2008). Consistent practice has also been linked to more effective visualization (Orlick & Partington, 1988; Weinberg, 2008). However, Max mentioned only doing this a couple of times thus having some uncertainty towards its effectiveness. The tools that Max discussed being exposed to provided from the sport psychologist were additional components to his training. This method of implementation is in conflict to his emphasis of incorporating mental training into his daily physical training. This

may have contributed towards his limited use of these particular tools. He may have found a greater perceived benefit if they became strategies that he employed during his everyday physical practices. Furthermore, incorporating them in with other areas of his training would have increased the exposure and potentially result in greater improvement as he would've been working on his mental training more frequently.

Mental training effectiveness is a difficult area to evaluate. This is one of the questions posed to each athlete to try and gain an understanding into how they evaluate their mental training. In Max's case, he was hesitant when talking about the benefits of visualization. He mentioned that he ended up achieving a positive result of a visualization exercise, yet he did not continue to employ this tool. Without being able to assess certain objectives and benchmarks it is difficult to be motivated to continue to work on something. Perhaps outlining the intent and goal of doing a specific exercise would allow for the athlete to decide whether it was effective or not. Additionally, addressing at the beginning meeting between an athlete and sport psychologist how they are going to evaluate the mental work that they do could assist with the perceived effectiveness of the area as well as revising anything that does not appear to be working along the way. Determining causality between performance and mental training is a difficult task and has often been a critique of sport psychology research. For example, Morgan (1997) criticized sport psychology interventions saying that, "most of the interventions in applied sport psychology are based upon unverified hypotheses and unsubstantiated pedagogical principles, rather than on scientific evidence" (p. 5). Mental training interventions that have been implemented in the literature often use the athlete's assessment of feelings and perceptions rather than directly on performance to evaluate the intervention's effectiveness (Guentbner et al., 2010; G. L. Martin, 1997).

### 4.3.1 Tyler: Rowing

Tyler is a national team rower who competed in his first Olympics in London. He has a strong belief towards the importance of psychology for rowing and he works very hard at this area. He does seem to have some different attitudes towards the various terms used in relation to the psychological component. Tyler also experienced a major setback in his preparation for the 2012 Olympics when he suffered from a severe back injury that sidelined him for four months. He ended up recovering, gained his spot back on the team, and was able to compete in London.

Tyler began talking about his attitude and thoughts towards mental training.

*I definitely have a positive association with like preparing yourself mentally well – I don't know if I feel as positively about – towards sport psychology – yes? [pause] for me what I try and do is take things really [easy] try not to think too much about what's going to happen – think about each -- being in the moment or what's going –*

*I'd say it's [the psychological component] almost the most important thing – because -- you see there's so many examples of really physically gifted people that fail – like you have to have everything – I think that mentally ya I think it's the most important thing.*

Tyler talked about the different associations with the different terminology in relation to the psychological component:

*Um – sport psychology – sport psychology means to me a sport psychologist. And when I think of sport psychology I think of – I think of like a sport psychologist – I guess when I think of the mental aspect of competing I think of a whole bunch of other things. But really I guess when I think of sport psychology I should think of as mentally preparing for a race.*

*I really, really like – I like the sport psychologist we have – for me it's more kind of around stuff that helped me out, compared to given to me by – Um I don't know I just don't really find it particularly – I haven't really found a sport psychologist – particularly -- um—helpful to me. Spend a lot of time talking to them but they haven't really given me anything where I've been like so oh wow something that I could really use. I feel like I've learned more from coaches for example, in terms of the [preparation] and stuff like that I find – for me more helpful you know for mentally prepared and –*

*I would say it [the mental component] has become increasingly – I've become increasingly interested in – as I've gotten more and more – like I definitely – other sports in my life -- like my very first race in college when I was like a freshman and that race was pretty meaningless compared to what I'm doing now and I had way more nervous for that then I was for the Olympic final – so – cuz I definitely as I've gotten older and older I've refined now I guess I totally believe I really, really firmly believe in the importance of like – I don't know if it's sport psychology – I believe in having the right psychology but – I'm having a little trouble explaining this --*

*I believe it's really important for me to pay attention to the mental side of preparing for a race and the mental side of training. Like I think that that's really, really important. But in terms of meeting with a sport psychologist um – I've found that to be less helpful --*

Tyler discussed how he believed that the mental side of his training was indeed very important for rowing. I asked him to provide details into what he did that he considered mental training.

*I'll give you one example of something that I found particularly useful. Kind of like changed my life this year --*

*The Buddhist guy that I was talking about – he basically the thing that he impressed upon me the most was it's very important to be positive, and he told me this story of this guy how I'm trying to think of his name right now, he wrote a book "One man's search for meaning" Victor Frankel – he was in the concentration camps and he decided that his last like last act was to be as positive and as happy as he could and like they were not going to break his spirits -- and everyone started liking him and he ended up surviving the holocaust. And I had really severe back injury this year and I took off 4 months of rowing, like they trained someone to replace my spot. I barely made it back and I went through a period where I was feeling kind of sorry for myself. And it really helped put it in perspective. And I was like wow I really – really on the grand scheme of things I have nothing to complain about and since then I've probably read like 10-15 books on Buddhism this year – And I think that has informed my perspective more than anything else. And other books—the brain changes itself – which ya I don't know – I found it to be tremendously helpful for myself as well – like train my brain to respond to situations – because every time I respond to a situation one why or one way that informs my brain how it's going to respond the next time. I also read another book "why zebras don't get ulcers -- fantastic, fantastic book. Like actually – because like if you're stressed out you're just producing a ton of cortisol and if you're trying to recover from an injury like I did and I was – you're not doing yourself any favors stressing out about things.*

He further elaborated on other areas of mental training.

*I do -- do – I do yoga –And I also meditate – and I have a few books that talk about meditating and other things just breathing for the most part – where I'm at – sit there and breathe and try not to think about things. Mm – [pause] I would say I do it quite a bit ya – and I mean I generally try and make it in a larger sense everything I do with the breathing – like when I first*

*started racing and get to the starting line I would always be thinking about what would happen at the end of the race and what the other teams were thinking about and what could go wrong and now my mind is pretty blank – and if I am thinking about something it's one or two key points that I need to be doing I don't think about any of the consequences or anything – so all you're thinking about is that moment --not thinking about what's going to happen*

*Once I sort of realized how beneficial that it [being in the moment] was. I try and do more and more and more – and I mean you can practice – cuz we raced every day and just practiced doing it all the time. Practice doing it even while you're doing it all the time – like you can practice doing it while you're brushing your teeth or something – while you brush your teeth you brush your teeth or you don't – I don't know – maybe brushing your teeth is a bad example because it's pretty mindless but basically it's about trying to be mindful.*

Tyler discussed his view on the difference between the importance of the mental component of training and 'sport psychology' when he discussed how his approach has changed.

*Ya totally and maybe it's totally ridiculous – none of the – none of the books that I've read that changed my approach towards rowing in that sense were about any kind of sports book -- It was all about generally like life – like how to like – approach your life -- change your approach – rowing and the way I approach rowing is also the way I try and approach life. The same sense of not being -- I think I have a tendency like a lot of people of my generation to be a lot more like really like in our heads and not in the present moment we are always thinking about doing something in the future or you're not like in the moment –*

In addition to breathing and visualization, Tyler also implemented positive self-talk, or in his words, affirmations.

*I'd probably just do – literally more of – I'd probably do what I did just to a greater degree. More visualization and more – I don't know – giving myself more affirmations next time. —well that's something I've been reading a little bit more about recently. Telling myself what was going to happen. Like saying – this is what – I don't know – this sounds really weird but just telling myself I'm really good kind of thing – that's what I mean by a positive affirmation and that sounds really egotistical to do or something -- Ya it's pumping yourself up a bit – I think you need to be to have a little bit of – a lot of narcissism in sport at a high level – lot of I don't know – maybe that sounds really terrible – you need to think you're better than other people –*

Tyler's injury played a large role in when and how he was implementing mental training. He was out for four months which is a huge amount of time in the competitive sport world. Here he talks about when he was implementing mental training, and how his psychological training increased overtime.

He first discusses his use of breathing and yoga exercises.

*Hm I want to say – kind of I guess November of this year maybe. Like I've been doing yoga for a long time and so I think I really started getting into it when in November I guess.*

*Mm – no it was pretty – you know what I was kind of doing it before the world championships last year, so probably actually more like a year and a half I guess. Well I guess I started progressively more and more getting into it – so last year's world championships last year 2011 when I really started, when I really started to get a little bit more into it.*

Tyler was unsure as to what initiated his focus on breathing and towards preparing psychologically.

*I don't actually know I somehow had this idea that like – no I don't actually know why I started doing that --*

*I think it was probably from doing yoga because they talk a lot about that stuff in yoga. You know just focus on your breathing and you know don't think about other stuff. And then I think I really started to get more and more into it. Especially when I got hurt because I had a lot of time. I was hurt for like four months this year. Like November to March. I was out. Um so – devoured a bunch of books then – um and that's kind of I would say I got a lot more into it during that period – formed the way I came back --*

Tyler went on to discuss the role of yoga in his recovery:

*I would say – [pause] I would say yes – I mean it's definitely -- it definitely helped me keep my sanity I think – I think that like -- cuz it was pretty stressful situation because I was having my – I didn't come back to rowing until my coach said ok if you don't come back today then you're done you have no chance at making the Olympic team and the day I did come back my back hurt so much and I took so many Advil and da da da -- he wasn't being a jerk about it he was being like you're hurt but – they trained a guy to take my position in the boat. Because like I was the one who qualified -- they trained a person to replace me basically -- because I've been hurt – when I first got hurt – they're like ok you're hurt fine get better – and then it kept dragging on like four months is an eternity of time in the sports world -- I mean 3 days is a huge – but four months is like unheard of, and for like two months there all I was doing was walking, I was just walking and so ya that was like the one thing I could focus on was— oh! someone told me something um – I think a sport psychologist told me this afterwards but I had already heard it from somebody so it wasn't very relevant to me -- but it was a good thing to tell me – my*

*physiologist was like you should practice rowing in your head – and my sport psychologist told me that too but like a month and a half later or whatever after I had already heard it. And that was a really good thing. Everything she said was really good I had just heard it all. Ya – like she said good things I guess – so maybe I should -- I can see them being useful but for me it wasn't useful because I didn't learn anything new – and maybe she did her job and maybe – [pause]*

Tyler went on to further discuss the role visualization played in his preparation for the Olympics:

*Oh ya definitely -- it's another thing that has sort of been slowly evolving -- I can't really pinpoint when I started but have been doing more and more but I definitely started doing more and more of it to the point where now I do it, like before the Olympics I have every single stroke I've replayed it over and over in my head and how I want it go --*

*Mm – I guess I do it sometimes in practice but before races I try not to do it too soon before bed because I kind of get too excited. And I don't want to get in that frame of mind of being like – where like you know – like calm – and then turn into attack mode – and turn my body – and get into that sort of thing -- I don't want to get – so I usually try and do it earlier in the day. I guess I should be able to visualize without turning on – my -- you know but it seems like it happens.*

*Ya I haven't really decided whether it's good or bad – to have -- you know – when I'm visualizing but I do think visualizing is good and actually – on the starting line sometimes I visualize the first three strokes just like ok – this is what I'm going to do—because that's only like – ya --*

*I started doing it a few days before in advance, definitely like I think before the Olympics I did it like a few weeks in advance – I started --*

*Mm – [pause] no. I don't think so – months in advance – cuz usually – if you're thinking – if I'm thinking months in advance – no – no.*

I asked Tyler to talk about the role mental training played after the Olympics. He spoke positively towards the steps that the sport organization took in order to prepare athletes for the post-Olympic period; which can often be a tough time.

*We got a lot of handouts like you know – ya post-Olympic period is a very tough period here are the numbers of stuff you could do – there definitely is a post-Olympic funk and stuff like that and I've heard so many stories of guys like getting depressed after the Olympics like I've heard a lot about that – and I guess just hearing about that stuff is really good – for me – because like -- it's good to know that that's how some people feel – I personally have not being depressed after I still I feel really awesome about it – and it was honestly a really positive experience*

*I think they did ya I think in meetings there was always – through Sport Canada there's tons of opportunities for like – you can learn languages and I think – like immediately afterwards there's like a transition fund you can get -- a \$5000 transition fund, they'll pay for your school if you want to do that – there's all kinds of amazing things that they do – that are really helpful. Ya they'll pay for five years of school. Ya – it's pretty good because ya – it's one thing that is pretty helpful for some people – like you are putting your life on hold – like some guys actually – I think only in the last five to ten years some guys have only been able to make a little bit of money at it and not sort of – you know – but still most guys would earn more working in the corporate world.*

An important area that Tyler continued to bring up was surrounding the importance of having a trusting relationship with a person whom provides support. Tyler mentioned this with regards to multiple people that had a positive impact on him psychologically.

*Um – [pause] I don't know [pause] it might just be – the people – like the caliber of the person doing it or stuff like that – like this guy – I felt like -- I really kind of instantly looked up to this guy -- so ok wow this guy is really like legit and all the stuff he said really kind of made sense. There's been times in the past where I've seen athletes just get a handout that.*

Tyler talked about the impact of positive relationships with the integrated support team.

*Actually a lot of my best conversations – Sean [pseudonym] was one of the most helpful people I'd have to say. Like he gave me a lot of pep talks during the year and he was really good about being like positive about like -- ya he was fantastic.*

*Ya ya – and I think it's pretty rare, because he's one of those kind of people that's also really smart. Really smart people are not usually that people smart, but I think he's pretty good. Um – ya he was really helpful there were quite a few times where ya – ya he was really good. But oh anyways – what was I talking about – oh ya -- he sends us out an email in the post-Olympic period take some time about thinking about what just happened and write it all down and what you're feeling and yada yada– and I thought that was a really phenomenal thing to do.*

This relationship can greatly affect how an athlete may perceive advice or input from a sport psychologist. The sport psychologist is often appointed to a team and therefore not sought out solely by the athlete. The more positive and impactful relationship, in this particular case, were those chosen by Tyler.

*Ya, I just didn't really connect with him as an individual – I didn't really connect with him – you know as a whole – like -- someone telling you how mentally to do something it's like – for me it's really kind of a personal – it's a personal thing and has to come from somebody that I really respect a lot or from something I've kind of learned myself. Like I've – I think I've learned more – I've definitely – I've paid a lot of attention to what other really successful Olympians do to prepare then I would from a sport psychologist.*

I asked Tyler if he felt he was able to evaluate the mental work he did in preparation. He said he was able to evaluate by feeling content with his performance.

*Because at the end of it I didn't feel like oh man I wish I could go back and do that again – cuz there's something I would've done differently. I didn't feel like oh my head wasn't in the game. Like I remember the entire race --*

In conclusion, I asked Tyler where he felt mental training stood in relation to other components of training.

*I think that everything is connected, like I don't know every physical effort you bring should have a mental component to it – does that make any sense? Ya connected -- you shouldn't ever come to practice like without ya you gotta --*

I also asked Tyler if he felt the mentality of an athlete can be improved upon.

*Ya absolutely. Ya totally I think it's something that everyone should work on. It's like a muscle basically. Totally —I totally think that you – you know the concept of neuroplasticity – like how you can change your -- I think you can actually change your brain -- change your personality –*

### 4.3.2 Analysis of Tyler's Narrative

Numerous themes emerged from Tyler's narrative. Examining the first research question, what are the current attitudes towards the psychological component, the emerging themes were: 1) terminology; and 2) athlete maturation. In regards to how Tyler implemented mental training, it was apparent that his attitude fit with his implementation methods. The two main areas that Tyler emphasized in regards to his implementation were: 1) incorporating mental strategies into all areas of his training; and 2) the importance of a surrounding support network and how this can influence his mental training.

#### Overall attitude towards the psychological component

##### Terminology

Tyler had mixed attitudes towards the psychological component depending on how he defined the term. He thinks that the psychological component is very important in rowing when it is referring to a broad view of being mentally strong. However, when the term 'sport psychology' came up he felt it was less important.

*"I'd say it's [the psychological component] is almost the most important thing – because – you see there's so many examples of really physically gifted people that fail – like you have to have everything."*

*"I don't know if I feel as positively about – towards sport psychology – [pause], for me what I try and do is take things really easy, try not to think too much about what's going to happen – being in the moment."*

Previous literature has shown that depending on a particular term that a person uses in regards to sport psychology can influence their attitude (Linder et al., 1991). Tyler's comments suggest that this gap between the importance of sport psychology and the ability to improve the psychological area through specific mental training tools continues to exist even at the elite level. Sport psychologists therefore have the challenging task of trying to increase athlete buy-in to mental training and the possible benefits of working with a sport psychologist. Moreover, since Tyler's views towards the psychological component as being fundamental to his training, his belief of the importance of this area is therefore very strong. An area for applied sport psychology to consider is how to create this belief that the psychological component is as fundamentally important as any technical or physical training.

### **Maturation of an athlete**

Tyler's attitude towards the 'overall mental aspect' has continued to grow throughout his athletic career as he matures as an athlete. This supports pre-existing literature that more elite athletes more frequently employ psychological skills (Gould et al., 2002). Tyler talks about how through continuing to try to improve his performance he is keen to work on any area that could potentially influence his performance. Thus, as he has progressed as an athlete so too has the amount of work he puts in on the psychological side of his sport. Tyler also acknowledged that he has seen many physically gifted athletes, but without mental strength, were unable to perform to their potential. This realization may be difficult to come to as a younger, more immature athlete. Younger athletes going through athlete development models are constantly being reinforced about the importance of physical training and there is not nearly the same emphasis on mental training (Balyi, 1999).

## **Implementation**

### **Influence of a holistic attitude**

Tyler feels strongly about the importance of the psychological component and views it as a fundamental component of his training. He emphasized that the way he approaches the psychological side of rowing is also the way he would approach the psychological side in life.

*“the way I approach rowing is also the way I try and approach life.”*

This is an interesting theme as many of the basic mental training tools are transferable to other areas and disciplines. Therefore, perhaps some of his hesitation towards the effectiveness of the term ‘sport psychology’ is because it has been implemented in a way in which he did not feel it was transferable to other areas of his life. Although there is previous literature on how mental training tools can be utilized in other areas of life and vice versa, this theme has scarcely emerged as an important factor when working with a sport psychologist in previous research on Olympic athletes. Athletes and coaches who may have some resistance towards the area could benefit from being exposed to mental training from a more holistic context rather than a sport specific ‘interventionalist’ approach. For example, incorporating mental training tools into physical and tactical training so that it is not separate may be more beneficial for some athletes.

In accordance with the importance of incorporating mental training into everything facet of Tyler’s life, is the notion of staying positive. Tyler had a major injury during the Olympic year. This was a huge setback and he had to draw on a lot of mental strength to get through the injury and not become discouraged. Focusing on being positive helped him get through his injury and keep hope that he could make it back on the team.

*“I mean it’s [being mindful and staying positive] definitely helped me keep my sanity.”*

Tyler consistently uses affirmations.

*“telling myself what was going to happen, like saying this is what—I don’t know – this sounds really weird but just telling myself I’m really good kind of thing– that’s what I mean by a positive affirmation and that sounds really egotistical to do or something – ya it’s pumping yourself up a bit.”*

There is evidence in the pre-existing literature on the benefits of using positive self-talk (Hardy, Hall, & Hardy, 2004; Taylor et al., 2008). Self-talk has been shown to help increase levels of confidence and sport psychologists should continue to focus on how this tool can be implemented among athletes. This particular athlete would consistently tell himself how good he is which would help to pump himself up. Tyler’s impression of this tool is that it is ‘controlling his thoughts’ and that it was ‘training his brain to respond {a certain way} to situations. Again, using a tool that is typically referred to as a basic, supplementary ‘mental training’ tool in a holistic way that can be applied to other areas of his life.

Another example of a mental training component that he incorporated into all areas of his life was the concept of being in the moment. There has been research investigating what contributes to helping athletes be ‘more in the moment’ as this is an important area contributing towards performance (Jackson, Thomas, Marsh, & Smethurst, 2010). Tyler talked about the importance of this and how meditation, and yoga have helped with his focus. He talked a lot about being ‘mindful’. Tyler incorporated being mindful into every activity in his life. He brought forward the example of being mindful even when he was just brushing his teeth. This is another example of the importance of matching an athletes’ belief towards the psychological component with how the psychological component is implemented.

## **Role of the surrounding support team**

The relationship between a support person and an athlete can be a very powerful and influential one. For many athletes this support person may be the coach, friend, family member, or another member of the integrated support team. This trusted relationship is crucial for buying into what a person is saying. Tyler discusses the importance of this trust in relation to mental training,

*“someone telling you how mentally to do something it’s like – for me it’s a really kind of personal – it’s a personal thing and has to come from somebody that I really respect a lot or from something I’ve kind of learned myself.”*

Athletes who currently are, or have been at a similar level have a high level of credibility when talking to other athletes. This experience and the notion of “having been in a similar position” can provide a sense of confidence to another athlete in what that person might be saying. Tyler talks about this.

*“I’ve paid a lot of attention to what other really successful Olympians do to prepare.”*

Gould (2002) also found that credibility is an important component influencing the psychological development of athletes. Sport psychologists who do not have a sport specific background in which athletes could relate to may need to work extra hard in this area to develop a trusting relationship with their athletes.

### **4.4.1 Troy: Rowing**

Troy is a rower who competed in his first Olympic Games. He is also fairly new to the national team. As he continues to train with the national team his, his attitude towards the

importance of mental training has started to become more positive. He talks about his shift in attitude towards the area, and how it has helped him in major competitions.

I asked Troy about his attitude towards the psychological component of sport.

*In my opinion, the psychological aspect of my sport is extremely important. It can make the difference between being a good national team athlete and being a world champion. I feel that it is important that every team work with their own psychologist. Although it is important for them to be involved with the team and individuals, it is not their job to completely hold our hands. It is important for them to be there when needed and to give advice and help.*

Troy goes on to talk about how his use of sport psychology and mental training has shifted over his athletic career.

*Sport psychology has been pretty important for me during the last 2 years of my rowing career. I didn't use it during my university career mainly because we never had the resources. I didn't really take it too seriously my first year I was with the national team because I was pretty young and possibly an immature athlete. I never realized what it actually took to be at the top level. During the last 2 years though I have come to realize how important it is to work with the psychologist and to realize the importance of this. I found out that there are a lot of things you can do that make a positive impact on your career, such as taking daily notes and keeping them in a journal to help with your training.*

*I find mental training to be a lot more effective to me right now than I did when I first started rowing. I feel that it helps me more during the middle of the year when we are doing lots of long workouts and hard training sessions. It has really helped me focus more on changing things that need to be changed and staying more focused on the racing prep. I look back at some of my*

*competitions when mental training was not in the picture and it doesn't even compare to those that were.*

Tory discussed an example of how a mental training technique helped him in preparation for a major event.

*Mental training has had an important aspect leading up to major events. For example I was training in Europe with about 2 weeks to go until the world championships and I was starting to question whether or not I was ready or if I would be able to be in contention to medal. It is very tough to not let things like this get in the way of preparing so fortunately I had my "journal" or notebook with me that I kept during the long hard winter months of training. I was able to look at the things that I had done with the team and all of the things that I had fixed and worked on and it really gave me the confidence that I had done enough and that I was in fact ready. I didn't look at it more than once but the one time I did was enough. We didn't have a psychologist with us at the time but it was because of what they had laid out for us during the year was why I was able to feel ready. And we ended up winning a bronze medal.*

Although Troy mentions that mental training has not played a major role for him post competition, he acknowledges that it could have some significance and that it is an area he would like to start incorporating.

*Mental training has not really played an important role for me personally for post competition. It has been more of a focus for me pre and during competition. For some older athletes who are retiring after an Olympics, post mental training would definitely play a larger role as they have the task of moving on with their life after sport. For myself though as a young athlete I have always just been focused on getting right back into training after a few weeks off and getting*

*back into shape. For the future though I am going to make it a goal of mine to evaluate the entire year and competition and focus on new goals and the upcoming year ahead.*

Troy shared an example of when he felt mental training might've been able to help himself and his teammates to achieve a higher result.

*I participated in the 2011 Pan American Games in Mexico and this was one of my first big races competing under Canada. I was racing in 2 different events and we were there for about 2 weeks. I had a pretty good summer of training leading up to the games and I was pretty confident that we could do well, but I was still not 100 percent. We didn't bring a psychologist with us and we didn't use one for the lead up to the games so I really never had any one to talk to about some of my concerns. It is tough racing in events where you have no idea how you are going to do as this was the case because we had a new crew with some pretty young guys...me being one of them. I was pretty nervous when competition time came around and I feel that I could of raced a little better if I was more confident. I feel that if our entire team had worked more in-depth with a psychologist that it would of helped us a little more. We did win 2 silver medals, but I know that we had the ability to win at least one gold medal and more mental training could have played a bigger role.*

In conclusion, Troy does acknowledges that mental training is important, but that the physical and technical aspects are more integral components to being a successful rower due to the high physical demands.

*For our sport the most important part preparing for a large competition is the physical and technical aspects. Although mental training is very important, our sport comes down to who is going to be the strongest and the most efficient boat movers. You can't completely rely on mental*

*training to help you win, you have to do the important hard training and work a lot on your technique as a team. The mental training is there to back those two things up so that when it is time to race and compete, you can have that mental strength as support and a base for your physical and technical prep. Like I said before though mental training can make the difference between being a champion and just an athlete.*

#### **4.4.2 Analysis of Troy's Narrative**

Troy acknowledges that the psychological component is an important area to him. The central theme that emerged that appeared to influence Troy's attitude was his prior exposure to mental training. In regards to his implementation, the themes that emerged include: 1) narrow implementation; 2) individualization; and 3) being self-sufficient.

#### **Attitude towards the psychological component of sport**

##### **Prior Exposure**

*"The psychological aspect of my sport is extremely important. It can make the difference between being a good national team athlete and being a world champion."*

Troy has a positive attitude towards the importance of the psychological component. He mentions that the psychological component has become more important to him as he has increased his time working with a sport psychologist.

*"During the last two years though I have come to realize how important it is to work with the psychologist and to realize the importance of this."*

This supports previous literature that athletes who have positive experiences working with a sport psychologist are more inclined to have future positive attitudes towards utilizing a sport psychologist and the perceived benefits of mental training (Wrisberg, Simpson, Loberg, Withycombe, & Reed, 2009). However, although Troy feels that this area is important, it is evident that the psychological side is not a core part of his daily training and focus. Thus, his previous experience with mental training appears to have been fairly brief and thought of as an ‘add-on’ to the other training that he was doing. Priming athletes during their developmental stage is important for sport development models and coaches to consider. Exposing athletes to the benefits of mental training and how it can be incorporated daily can help to mitigate some of the stigma towards the area as the athlete matures. However, due to the lack of sport psychology priming during Troy’s earlier years, it took him awhile to ‘buy-in’ to mental training and to appreciate the benefits of working with the team’s sport psychologist. Although Troy attended a top level rowing university, the school did not have the resources for a sport psychologist and therefore he did not start using one until he became a member of the Canadian national team. He went on to say that even once he was on the national team he did not take the area very seriously. The catalyst for Troy beginning to work with a sport psychologist came from the availability of one being present for the team, and being exposed to an environment where all of the other athletes were utilizing the team sport psychologist. A lack of resources has come up in previous literature as a barrier to utilizing a sport psychologist (Gentner, Fisher, & Wrisberg, 2004; Stambulova, Wrisberg, & Ryba, 2006; Wrisberg et al., 2009; C. Wrisberg et al., 2010). At the competitive college level, it is interesting that there is not necessarily access to a sport psychologist. However, once Troy became a member of the national team he began to realize that in order to get any advantage possible it would be in his best interest to utilize any resources

available. This initiated Troy's use of the sport psychology consultant's services and Troy's buy-in towards the area began to increase. Thus, the increase in exposure at the national team level has helped to create a stronger belief in the importance of the psychological component.

### **Implementation**

Although Troy feels that the psychological component of sport is important, he talks strongly about the role that the physical and technical sides play in rowing.

*“For our sport the most important part preparing for a large competition is the physical and technical aspects. Although mental training is very important, our sport comes down to who is going to be the strongest and the most efficient boat movers. You can't completely rely on mental training to help you win, you have to do the important hard training and work a lot on your technique as a team.”*

This excerpt depicts Troy's beliefs that the psychological component is supplementary to the other areas of training that he works on. Troy's exposure to mental training appeared to be done in a way that supports his attitude that it is not a fundamental component of his training. Troy discusses some of the mental tools he used such as journaling.

*“I found out that there are a lot of things you can do that make a positive impact on your career, such as taking daily notes and keeping them in a journal to help with your training.”*

Troy was able to draw on these notes when he felt feelings of doubt before competitions,

*“It is very tough to not let things like this [doubt] get in the way of preparing so fortunately I had my journal or notebook with me that I kept during the long hard winter months of training. I was able to look at the things that I had done with the team and all of the things that I had fixed and*

*worked on and it really gave me the confidence that I had done enough and that I was in fact ready.”*

Having a visual record of the amount of training that Troy had put in gave him the confidence to trust that he had put in the work and was in fact ready. Journaling is a tool that has been discussed throughout the performance literature and has been used by athletes in a variety of ways. Gould and Greenleaf (2001) interviewed an athlete who used journaling to write reflections after each practice and affirmations for the future. This particular athlete used the journal as a tool to remain focused on specific process and outcome goals. Journaling is a very individual tool but can provide numerous benefits. Having an athlete understand why they are engaging in journaling and making sure that they are motivated to do so (oppose to being coerced by a sport psychologist or coach) is an important component for the effectiveness of this tool. On the other hand, journaling is a supplementary strategy that is not necessarily incorporated into everyday training. This strategy further reinforces the belief that the psychological component is an additional part to Troy’s rowing. Perhaps greater exposure to strategies that could be incorporated into Troy’s daily training may help to improve his belief that the psychological component is more fundamental to his success as a rower.

### **Individualization**

Troy recognized an important aspect of mental training services provided by the sport psychologist in that the services need to be individualized and tailored to the specific sport.

*“I feel that it is important that every team work with their own psychologist.”*

This supports previous literature on the perceived effectiveness of a sport psychology consultant (S. B. Martin, 2005; Sharp & Hodge, 2011a, 2011b). Troy highlights the importance of a sport

psychologist being specific to each team. This has come up in previous literature, but is not frequently implemented due to available resources. Perhaps having sport specific psychologists for each team could provide greater benefit due to having an increase in credibility and knowledge of the particular sport. Moreover, individualization of mental training does not only refer to working with an athlete one on one, but working towards meeting the needs of that particular athlete. The attitude towards this area of an athlete will play an influencing role on how motivated they are to work on the psychological side and thus sport psychologists should make an effort to understand the individual athletes underlying belief towards the area.

### **Self-sufficient**

Although Troy talked about the importance of having a sport psychologist present during lead-up and at competitions, he also highlighted the importance of being a self-sufficient athlete.

*“It is not their job to completely hold our hands. It is important for them to be there when needed and to give advice and help.”*

This theme pertaining to the need for an athlete to be self-sufficient is an important component that an effective sport psychologist should be aware. Anderson et al., (2004) discussed the theme of ‘athlete empowerment’ in their study assessing sport psychology consultant’s effectiveness. Sport psychologists are faced with the challenging task of encouraging an athlete to become self-sufficient while still being present and providing support when necessary. Working with an athlete over a long period can help to develop the skills necessary to feel empowered and self-reliant.

## **4.5 Cross analysis of all four interviews**

The purpose of this study was to understand what the current attitudes are towards mental training as perceived by Canadian Olympic athletes and to understand how and when these athletes are implementing mental training.

The cross analysis for these interviews will be framed by two overarching themes guided by the research questions: 1) attitudes towards mental training; and 2) implementation methods used for mental training. Throughout the study it became apparent that these two themes have a reciprocal determinism relationship as the attitude of the athlete may impact their implementation methods and how they implement mental training may impact their attitude. The attitudes towards mental training among these four athletes fall along a continuum ranging from mental training being a foundational, fundamental component to the athlete's training to one where it is viewed as a supplementary component. Mental training as being fundamental refers to the athlete believing that it is something closely intertwined with everything that they do. This contrasts a supplementary belief, where the athlete views mental training as a separate, additional component to other training areas. The implementation methods of the four athletes ranged from employing sport psychology with a broad, holistic approach to implementing mental training in a narrow fashion. A holistic implementation refers to the incorporation of mental skills in with all areas of training and preparation. For example, an athlete may be at the gym working on explosive moves while visualizing using that exploding move in the start of a race. Narrow implementation refers to using specific tools separate from other forms of training such as physical or tactical. For example, an athlete again may use visualization as a tool, but this time they are visualizing taking themselves to a quite calm place perhaps when they are experiencing feelings of anxiety. This is an example of using this tool separate from other areas of their training.

Factors such as prior experience and maturation of an athlete play a large role in shaping the current attitudes of these athletes. Prior experiences refers to the influence that exposure to competition and pressure situations has had on the athlete's current attitudes as well as prior experience working with a sport psychologist. Maturation refers to the mentality of the athlete and their cognitive development; thus biological age may play a large role in the athlete's maturity level.

### **Attitudes**

Throughout Troy's interview it became evident that his attitude towards mental training was that although it is important, it is supplementary to the physical and tactical training that one must do in order to succeed within their sport. He discussed that the psychological component has become increasingly more important as he has developed as an athlete. This was his first year on the national team and the first time that he was on a team that had an appointed sport psychologist. Troy admitted that even during his initial work with the sport psychologist that his maturity as an athlete potentially played a role in his lack of acknowledgement towards the importance of this area of training.

*"I didn't really take it too seriously my first year I was with the national team because I was pretty young and possibly an immature athlete. I never realized what it actually took to be at the top level." (Troy, rower)*

The mental training that Troy implemented with the team's sport psychologist was done so with a narrow approach. Troy talked about specific tools that supplemented his training such as journaling after workouts and practices during the season.

*“I found out that there are a lot of things you can do that make a positive impact on your career, such as taking daily notes and keeping them in a journal to help with your training.” (Troy, rower)*

His attitude towards mental training and his implementation methods coincide with each other further reinforcing that the psychological component is a supplementary part of his training. His attitude has become more positive towards this area of training the more he has utilized the services of the team’s sport psychologist. However, this area has not become a foundational/fundamental component of his training. Troy mentioned that the psychological component can be that separating factor from being *“a champion and just being an athlete”* (Troy, rower), and it is possible that as his physical and tactical skills continue to develop that the mental component may become more integral within his training. An athlete’s maturation may influence their attitude in a number of ways. For example, an older athlete may be able to grasp psychological concepts at a greater depth than a younger athlete. Additionally, a more mature athlete may be more open to trying new things in order to improve their performance. Prior experience may also play a role in shaping an athlete’s current attitude in that a more experienced athlete has had more opportunities to gain insight into their tendencies under pressure and other situations that mental training could potentially help benefit.

On the other end of the spectrum from Troy is Tyler. Tyler is also a rower and it became apparent that Tyler’s belief towards mental training is that it is part of his foundation. For example,

*“I try and do more and more and more – and I mean you can practice – cuz we raced every day and just practiced doing it all the time. Practice doing it even while you’re doing it all the time –*

*like you can practice doing it [being mindful]while you're brushing your teeth or something."*  
 (Tyler, rower)

This excerpt depicts the emphasis Tyler places on his psychology; in this particular example being mindful. He works at creating a mindset that is conducive to being an elite rower with all areas of his life. It became something that he wouldn't think about as an afterthought or an additional component to his training but something that became habitual and fundamental to his success as a rower. Tyler, therefore, takes a holistic approach when implementing mental training. It is an area that is intertwined with every facet of his life. This further reinforced his attitude towards the importance of the area. He questioned at times the benefit of working with a sport psychologist because he felt that many of the tools suggested were things that he was already aware of. Since Tyler's attitude is a foundational one, if the tools suggested to him took a narrow approach he may find these ineffective as they are incongruent to his underlying belief towards the area. The differences in the underlying belief and attitude towards mental training may suggest why one athlete found the tools provided by a sport psychologist to be useful and another found them ineffective.

*"I think that everything is connected, like I don't know every physical effort you bring should have a mental component to it"* (Tyler, rower)

Max seemed to have a conflicted attitude towards mental training and the degree to which an athlete can improve this area. Max talked about the importance of the area, and how a lot of an athlete's mental strength needs to come from within. He mentioned multiple times the concept of 'ignorance is bliss', referring to his younger years where he felt very confident in his sport and was not easily deterred by results or other potentially negative influences. However, this belief

in the importance of mental training and the degree to which it can be improved upon fluctuated throughout the interview and he mentioned at times that he wasn't sure if he fully bought into mental training.

*I think that for me personally I guess I kind of – I don't know if I didn't buy into it [mental training] or thought or I don't need to do that – but there's – I guess there's opportunity for it – it's just not – there's not a lot done around it. (Max, swimmer)*

He also felt at times that there was not a lot of exposure to mental training, yet at other times he acknowledged that the team had all of the resources and that sometimes it seemed like too much. The majority of the mental training that Max engaged in was with specific tools which were used in addition to his physical and tactical training. This approach was inconsistent with Max's core belief towards the area that it would be most beneficial as a foundational component to his training.

*“I go back to the journaling, talking to the sport psychologist. I think that that's good and all but it's more of an internal thing.” (Max, swimmer)*

He talked about the need for more to be done within his daily practices and with regards to the training environment, yet he was unsure as to how this could be implemented. The uncertainty he expressed towards the area continued to grow as he felt he was not getting the desired results from his mental training. Implementing mental training in an incongruent method to one's underlying belief, as in the example of Max, may contribute to an uncertain attitude towards the benefits of this type of training. Max is a bit older relative to the majority of other Olympic swimmers, and therefore his mature age may contribute towards his belief that mental training

should be fundamental to his sport and life. However, without positive mental training experiences, this belief may continue to waiver.

Alyssa represents an athlete who has moved from having the attitude towards mental training as being supplementary to all other areas of preparation and competition to now believing mental training is fundamental. Alyssa talked about how when she was younger she felt it was something that only athletes with problems should work on. She previously implemented mental training with a narrow approach using specific tools not in combination with other areas of training. Here is an example of a tool being implemented as an additional component.

*“I do remember working with a sport psych in high school-- brought me to one and had me doing visualization and breathing closing my eyes before a race and pretending I was somewhere else. And that actually didn't work for me because I need to be in the moment.”*

*(Alyssa, Track and Field)*

In accordance with her view that only athletes who had problems would work with a sport psychologist, she sought out the services of a sport psychologist after experiencing a major setback in competition. After working with a personal sport psychologist for a couple of years, her attitude towards the area and way of implementing mental training began to shift.

*“But it was actually more the daily things [in reference to the shift]” (Alyssa, Track and Field)*

Her sport psychologist implemented mental training in combination with other areas of Alyssa's training. She consistently worked on her mentality and self-confidence, and it started to grow into a habitual, fundamental component of her training and within her life. Additionally, she

began to experience breakthroughs during her training and competition that she began to attribute towards the mental training.

*“I think just going into races and how I felt instead of being nervous doubtful I was nervous excited. So I could just see that’s how I would perceive them. I was more willing to take risk because I had a more positive and confident attitude going in -- and that’s easy to see.” (Alyssa, Track and Field)*

The combination of the consistent work on mental training with her sport psychologist, combined with attributing improvements to this area, began to shape and evolve her attitude towards the psychological component as being a fundamental part of her racing. Alyssa is the oldest in age of all four of the athletes, and her maturation in both her age and of her physical abilities could contribute towards the shift in her attitude towards the efficacy of mental training. In combination with her maturation, her prior experiences racing, experiencing setbacks, and putting in a great deal of work into the mental component may all have played a factor in the evolution of her attitude into a foundational belief of the importance of mental training.

The athletes all agreed that the psychological component is an important part contributing towards being successful in their sport. However, whether their underlying belief towards the area was foundational oppose to supplementary played a large role in how they implemented mental training. Moreover, implementing mental training with an approach incongruent to the athlete’s underlying belief towards the area resulted in uncertainty towards the effectiveness of mental training. Coaches and sport psychologists should make an effort to understand an athlete’s approach towards mental training in order to effectively implement mental strategies.

## Chapter 5 Discussion

The forthcoming section will be framed by the three research questions: (1) what are the current attitudes and beliefs towards mental training as perceived by four 2012 Canadian Olympic athletes?; (2) how are these four Canadian Olympic athletes incorporating and implementing mental training techniques into their preparation and during competition?; and (3) when are these four Canadian Olympic athletes incorporating and implementing mental training techniques into their preparation and competition? This section will examine the current study's findings concerning the aforementioned three research questions and link these findings to the existing literature as well as suggest possible avenues for future research. After discussing the themes that emerged in regards to the separate research questions, future practical applications for sport psychologists, coaches and athletes and the field of sport psychology will then be considered. Finally, the study's strengths and limitations will be acknowledged and the section will conclude with a reflection on my own shift in perspective towards sport psychology and mental training.

Prior experience and maturation of the athlete are two themes that help guide the investigation into the first research question; which asks how particular attitudes and beliefs towards mental training developed among these four athletes. The athletes' underlying beliefs will then be explored in more depth. These beliefs ranged along a spectrum from functioning as a fundamental part of an athlete's training to acting as a supplementary component. An athlete's belief towards the efficacy of mental training is closely linked with his/her implementation approach and this connection will thus help to guide the discussion pertaining to the second and third research questions investigating implementation. Similar to the diversity found among the

athletes' underlying beliefs, their implementation methods ranged along a continuum from a holistic approach to a narrow approach.

### **Attitudes and underlying beliefs towards the psychological component**

All of the athletes interviewed expressed a positive attitude towards the importance of the psychological component for their sport. They felt that it was an important contributing factor for all athletes in order to achieve the highest possible level in their sport. However, the athletes differed in their underlying belief in the effectiveness of mental training and the extent to which it could help them improve as athletes. These beliefs ranged from mental training being fundamental to the athlete to mental training being a supplementary part to the athlete's training. An example of an athlete who believed mental training is fundamental to succeeding in his sport is reflected by the statement:

*"I think that everything is connected, like I don't know -- every physical effort you bring should have a mental component to it." (Tyler, rower)*

On the other end of the spectrum, an athlete who has a more supplementary belief towards the mental training explains:

*"For our sport the most important part preparing for a large competition is the physical and technical aspects. Although mental training is very important, our sport comes down to who is going to be the strongest and the most efficient boat movers. You can't completely rely on mental training to help you win, you have to do the important hard training and work a lot on your technique as a team". (Troy, rower)*

These two excerpts suggest that although both athletes recognize that mental training is indeed important; their underlying beliefs influence their day-to-day approach for improving this area and the extent to which they utilize psychological training.

### **Factors influencing the development of attitudes and beliefs: Prior experience and maturation**

The ways in which particular attitudes and beliefs about mental training developed among these athletes could be understood according to two overarching themes. The first theme is prior experience and the second is the athlete's maturation. Prior experience refers to both the athletes' experiences competing in their sports and their past engagement with a sport psychology consultant and mental training. Maturation refers to the athletes' biological development both physically and mentally. The development of their technique comes from physical maturation as well as experience practicing and competing. For example, Alyssa, a track and field athlete, has always had a positive attitude towards the mental component. However, her previous underlying belief was that using mental training strategies and working with a sport psychology consultant was only for athletes who were in need of help and experiencing major problems. One of her earliest experiences using a mental training tool was provided by a sport psychologist who suggested she try using visualization a specific way which, at the time, she found ineffective. As Alyssa continued to train and compete as an athlete, her tactical and physical training continued to improve. She experienced a setback and sought additional training to help her recovery. She already was incredibly physically fit and refined in her running technique and thus she was open to trying something else to help recover from her setback. A setback is often a catalyst for seeking out additional help (Zakrajsek & Zizzi, 2007). However, these setbacks provide a window of opportunity for sport psychologists and other professionals

working in the field to change this outlook on mental training. Alyssa began working with a sport psychologist who implemented mental strategies into all areas of her training. Alyssa's experiences and her incorporation of mental training into her physical regimen caused a shift in her belief and allowed her to realize that mental training is a fundamental factor contributing to her success as an athlete.

*“So then I started to think psychological training was just as important as physical training.” (Alyssa, track and field)*

*“Well I think they play into all of them, so I don't think they're separate.” (Alyssa, track and field)*

Alyssa is an older athlete and therefore has reached a certain physical and mental maturity level. Reaching this peak physical stage, there is only so much work that Alyssa could do to train and improve her physical condition. Moreover, the mental maturity that often accompanies age may have allowed her to be more open to new ideas that she might have dismissed as a younger athlete. In support of previous literature Martin, (2005) found that younger athletes (high school) had a greater stigma towards sport psychology than older (college) athletes. It is difficult to draw a direct conclusion as to whether age, experience, skill level or other factors cause the difference in an athlete's attitude. It would be productive for future research to investigate the difference in attitudes towards sport psychology when looking at a combination of variables including age, skill level and years of experience. Moreover, combining qualitative methods with quantitative methods could help to shed light on why younger athletes have a stronger stigma to the area. Significantly, how athletes define or perceive sport psychology could also influence their attitudes. This notion is reflected in previous

literature (Linder et al., 1991) and should constitute a variable considered in future research on this area. Perhaps older or more skilled athletes have been exposed to the benefits of sport psychology and mental training, and, as a result, remain more open to this kind of training. Another possibility is that older athletes' development of mental maturity has caused them to be increasingly willing to accept an area of sport performance that is not as widely accepted at the current moment. Thirdly, elite athletes are all incredibly refined in their physical and technical skills and thus the mental component can be a factor that would help separate them. Awareness and understanding of these variables remains extremely important, particularly for coaches and sport psychologists who have the ability to influence athletes' attitudes about this area through exposure to the possible benefits of sport psychology.

Contrary to Alyssa, Troy is a much younger athlete with less competitive experience. Furthermore, he feels that his physical training can continue to be improved upon and that this should be his area of focus. It seems likely that when an athlete feels physically and tactically prepared for a competition and yet still does not perform to the best of his/her abilities, the athlete may look for additional methods (such as mental training strategies) to improve future performances. A disappointing performance is another example of a setback, and as similar to Alyssa's story, acts as a catalyst for seeking out additional help such as services from a sport psychologist. If Troy continues to view physical and tactical training as the most important factors contributing towards his performance, the mental component may continue to be viewed as a supplementary part of his training. Furthermore, his prior exposure to mental training has been in the form of individual tools in addition to his physical training, thus increasing his belief that mental training a supplementary component of his training. Perhaps greater exposure to

strategies that could be incorporated into Troy's daily training may help to strengthen his belief that the psychological component is fundamental to his success as a rower.

The mental training as a fundamental versus a supplementary part of training for sport has received limited attention in the literature. Previous literature on sport psychology and mental training has heavily investigated the use of specific mental tools (Daniel Gould & Maynard, 2009; Taylor et al., 2008; Ungerleider & Golding, 1991). For example, the Test of Performance Strategies is one of the most common instruments used to assess the amount of mental training an athlete implements in their practice and competition. This instrument is broken up to assess the use of sixteen psychological skills (eight practice tools and eight competition tools). Although the developers Thomas et al., (1999) recognize that there is often considerable overlap between the use of different tools, this instrument does not investigate the implementation of sport psychology from a holistic standpoint. How these underlying beliefs influence implementation will now be examined.

The belief that mental training is a fundamental versus supplementary aspect of an athlete's success may fluctuate over time. Moreover, different events in an athlete's career may influence the developments of these beliefs. Although qualitative interviews with athletes allow for in-depth probing that examines how the attitudes develop, future research could benefit from longitudinal studies looking at how the attitudes towards sport psychology shift over time and what events might cause these shifts. There is evidence in prior research to indicate that positive experiences working with a sport psychology consultant may influence more positive future attitudes (Wrisberg et al., 2009). However, these findings come from cross-sectional research and thus have the potential to change throughout an athlete's career.

## **Implementation**

Referring back to the table by Gould and Maynard (2009) on factors associated with Olympic success, the four athletes' stories help to fill the gap on Canadian Olympic athletes' perspectives and experiences with implementing mental training. Table 2 incorporates the findings from the athletes' stories and outlines the catalyst for using a SP, the development of the athletes' attitudes towards mental training, their implementation approach, their specific use of strategies (how and when) and the different attributions the athletes made. The fourth row in Table 2, "Specific strategies, (how, when?)" helps to fill the third column in Gould and Maynard's (2009) table pertaining to implementation of mental strategies.

Table 3

*Summary of Participant Findings*

<b>Participant</b>	<b>Alyssa Track &amp; Field</b>	<b>Max Swimming</b>	<b>Tyler Rowing</b>	<b>Troy Rowing</b>
<b>Catalyst for using a sport psychologist (SP)</b>	-Missed qualifying for a high level competition	-Change in training environment, from college to national level	-Back injury	-SP was provided to national team (service was made available)
<b>Development of attitude and beliefs towards mental training</b>	-Working with a SP developed strong belief in area -Worked towards becoming self-sufficient	-Conflicted beliefs	-Foundational to all areas of his life	-Supplementary, views mental training only as an 'add on'
<b>Implementation approaches</b>	-Into all areas of training and preparation for competitions -Becoming automatic	-Narrow -Tools separate from other areas of training and life	-Holistic implementation - Incorporated into all areas of daily life	-Narrow, used a few tools separate from other daily training
<b>Specific strategies (how, when?)</b>	-Self-talk, affirmations daily, three years leading up to Olympics -Imagery, daily, up to five times a day (anywhere- at practice, home, grocery store) -Specific goals, daily process goals -Imagining race tactics, game plan, prior to race, night before, weeks leading up to specific	-Journaling after practices -Visualization separate from practices (in office setting) -Only done a few times throughout season -Felt missing something in daily practices	-Emphasis on being mindful -Breathing exercises, finding optimal arousal level for competing -Imagery, visualizing rowing again, back feeling free of pain, imagining practices, all details of practices in six months lead up (while injured) -Specific images of start line and race tactics two	-Journaling (only did a few times)

	competitions -Used every day in practices		weeks prior to Games	
<b>Attributions</b>	-Improvements attributed to internal, controllable causes (effort working with SP) -Performances below expectations attributed to external and uncontrollable causes (i.e. getting boxed in, in a race)	-Even when Max experienced small successes with mental training (i.e. visualization exercise) attributed to external causes	-Improvements and success attributed to internal, controllable causes (i.e. internal high pain threshold, diligent imagery and mindfulness training) -Missing final at Olympic attributed to external, uncontrollable cause	-Attribute performance to controllable cause (physical conditioning, or lack of physical conditioning)

### **Fundamental Attribution Theory**

Fundamental attribution theory is a theory that helps provide interesting insight into the findings with regards to attitudes, and implementation of mental training from the four athletes interviewed in this study. Thus this theory will be used to discuss some of the findings and propose possible avenues for future research. Different events have shaped the current attitudes' and implementation approaches of the athletes. Attribution theory is defined by three major psychological components including; (1) locus of causality; (2) stability; and (3) controllability. Research has suggested that attributing success to an internal locus of causality and failure to an external causes will increase feelings of self-esteem and self-efficacy (Rees et al., 2005). Max seemed uncertain as to how much mental training strategies would help to improve his mental toughness. When he did make improvements he was hesitant to attribute that to his mental

training work; even if he implied that it was directly related to a specific mental training tool (i.e. using a visualization exercise to achieve a certain stroke rate, and then achieving that desired stroke rate). Whereas when Alyssa made improvements on areas that she worked on with mental training (i.e. developing an automatic kick in her races) she attributed that directly to her individual mental training work that she had done. Additionally, she also mentioned when one race did not go her way; she attributed this to an external cause (i.e. she got boxed in; thus an uncontrollable, external attribution). These attributions according to attribution theory may have helped to preserve her self-confidence and self-efficacy; thus leading to her positive attitude and perception of the effectiveness of her mental training. Controllability also plays a role in influencing an athlete's confidence and self-efficacy. If an athlete feels that they did not have control over a situation, this may lower their self-perception. Max, at times seemed uncertain as to whether or not he could control the area of mental toughness and break down some of the walls of doubt he built up. This began to impact his confidence as an athlete. Tyler, did not perceive working with a sport psychologist as particularly helpful, however he did feel that the psychological component is extremely important to his success as an athlete. He also felt that a lot of the mental work (i.e. being mindful) helped to improve his confidence and focus.

The habits athletes form in attributing certain outcomes could have either negative or positive impacts over time. It takes time and multiple experiences for these attitudes to develop. Alyssa, for example, had some hesitation in the beginning. Gradually, as she began working more with her sport psychologist and began seeing results, her attitude towards the importance and effectiveness of this type of training began to increase. She then encountered an event that she greatly attributed the success to her mental training and this exponentially increased her attitude towards the importance of the area. These experiences suggest that the development of

athletes' attitudes is a complex and dynamic process. On the other hand, Tyler had multiple events that have impacted his attitude in a slightly negative way. For example, he expressed feelings of pressure to seeing a sport psychologist. Once he did meet with a sport psychologist he felt that many of the tools mentioned were things that he had already heard or were not helpful. This slowly cultivated an attitude with some doubt as to whether or not working with a sport psychologist would be effective. In relation to the previous discussion on Tyler having a fundamental belief towards the area, implementing individual tools was incongruent to this belief. Max worked with a sport psychologist and certainly put in a lot of work in trying some different mental training tools. However, he did not evaluate that many of the things he did were effective. He continued to compare his current mental strength and performance to previous years when he was competing at college. These comparisons may have potentially impacted an objective assessment of his mental training. Even when he achieved personal best times in his swimming, his attitude towards mental training effectiveness remained uncertain.

Future interventions could learn from the impact multiple life events can have on gradually shaping a person's attitude. Mammassis et al., (2004) used a similar approach in their intervention with junior tennis players. They had multiple check-ins with both the coach and athletes throughout the season to make sure everyone was on the same page with the work they were doing. Furthermore, there were certain assessment measures to monitor any changes in performance or cognitions before and during tournaments.

The athletes interviewed in this study varied in their attributions towards their performance in the current London Olympics. It is interesting that two athletes achieved personal bests in the semi-finals, and although neither advanced to the final, they attributed their performance outcomes very differently. Alyssa attributed her personal best to the diligent mental

and physical training (internal, controllable) she had been doing, and although she did not advance to the final in her race, she attributed this to an external factor; tactics (getting boxed in). In accordance with previous literature, attributing a performance without the ideal outcome to an external cause can help to preserve an athletes' self-confidence and will increase their motivation to work on this controllable factor for next time. Contrary, Max also performed a personal best in the semi-finals and unfortunately just missed qualifying for the finals. However, he seemed uncertain as to whether this was due to his physical capabilities, thus suggesting an internal, uncontrollable attribution. Understanding how athletes attribute success and failure throughout their athletic career is important for understanding the development of their current attitude towards the area. Additionally, these attributions are an important area for future research to investigate at the Olympic level. Since a large part of the role of a sport psychologist is to help athletes deal with results and adapt accordingly, understanding the attributions these elite athletes make is critical for implementing mental training. Research in this area could benefit from longitudinal studies looking at how athletes attribute certain outcomes of events and how these may influence their development of their attitudes towards sport psychology.

### **Implementation approach**

Fundamental versus supplementary beliefs towards mental training and its effectiveness will now be discussed in relation to implementation. The athletes' implementation methods ranged from taking a holistic approach to a narrow approach. A fundamental belief aligns with a holistic implementation approach where the psychological component becomes incorporated into all facets of an athlete's training and life. Similarly, perceiving mental training as being supplementary to physical training coincides with taking a narrow approach and utilizing tools separately from other areas of training. A fundamental, holistic implementation approach

incorporates concepts such as being mindful of the task at hand and staying in the moment. The importance of “being in the moment” has been acknowledged throughout the sport psychology literature but has received limited attention in terms of explanations that describe how an athlete may implement this particular mental strategy. Tyler provided an example of how he worked on staying in the moment when he explained that he tries to pay attention to everything that he does, even an action as mundane as brushing his teeth. His approach is a holistic one and, as such, incorporating psychology into all areas of his life fits with his underlying belief that psychology is fundamental to his success. Contrary to Tyler, Troy approaches sport psychology as supplementary therefore implements mental training in a narrow fashion. For example, he noted that he would use journaling occasionally after practices and once reviewed his journal before a competition. Although he acknowledged that this was a helpful tactic, reviewing the journal was incorporated only in addition to other areas of his training. Troy also explained that he did not review the journal again, suggesting that mental training is not an area that he works on daily and in conjunction with other areas of his training. As noted, this implementation method fits with his underlying belief that mental training is supplementary to other areas of his training.

Max, another athlete, was conflicted when discussing the psychological component in his sport. He mentioned that he felt that psychological training was very important, yet he remained uncertain about the extent to which the mental component could be improved upon. His underlying belief is that mental training should be a fundamental component of his training; however, his experience implementing mental training followed a narrow method. This contradiction created some conflict in Max’s mind towards the efficacy of mental training. He emphasized the importance of training environments incorporating the psychological component yet he expressed uncertainty as to how this could be achieved. The disagreement evident here

between an athlete's underlying belief versus the implementation method, is an interesting area that warrants future research. Understanding how an athlete views sport psychology and its effectiveness could be an important component that impacts the effectiveness and success of mental training interventions. This could be implemented through initial quantitative and qualitative measures. An in-depth qualitative interview with an athlete could provide sport psychologists with insight into the athlete's beliefs and attitudes towards the area and prior experiences with mental training. Furthermore, talking about mental training and a subsequent plan could allow for sport psychologists and athletes to match up the mental training approach with the athlete's attitude and belief towards the area. Moreover, exposing younger athletes to mental training from a holistic standpoint could help mitigate the stigma that often accompanies the psychological component. Since there is a great deal of supporting evidence that an athlete's confidence and "mental toughness" are related to success (Durand-Bush & Salmela, 2002; Jones, 2002; Ungerleider & Golding, 1991), it remains important to find ways to improve these areas through psychological training. Future research should investigate the effects of implementing mental training from a holistic approach versus a narrow, individual tool approach.

The path to becoming an Olympic athlete is a long one and can have many ups and downs. How athletes attribute different outcomes can influence their future attitudes and behaviors. Attribution theory has received some attention throughout the sport psychology literature, however, future research on Olympic athletes could benefit from the inclusion of this theory. Since a large part of mental training is to help athletes deal with outcomes and adapt accordingly, understanding the attributions elite athletes make is critical for sport psychologists to understand. Research in this area could benefit from longitudinal studies looking at how

athletes attribute certain outcomes of events and how these may influence the development of their attitudes towards sport psychology.

### **Future practical applications**

The field of sport psychology could benefit from the investigation into the effectiveness of implementing sport psychology from a holistic standpoint. Implementing holistically would involve incorporating all of the basic mental tools (i.e. self-talk, visualization) into the physical training environment, as well as the athletes everyday life. This would emphasize a mindful approach, i.e. if an athlete is at a gym, rather than just lifting a weight and “zoning out”, they would be lifting the weight while engaging all of the muscles that they would use if competing in their sport.. As previously mentioned, the majority of mental training interventions utilize specific tools. There has been a great deal of support that ‘individualizing’ mental training is a key component to the success of psychological training (Anderson et al., 2004; Orlick & Partington, 1988). This need for mental training to be individualized could be related to the different implementation approaches. Specific mental training tools may be perceived as generic or as a ‘template’ for multiple athletes to use. However, athletes may benefit from implementing mental training holistically as this approach allows for an athlete to work on their psychology in accordance with all areas of their training; thus allowing for the mental training to be tailored to the specific athlete. Additionally, research incorporating physiological markers with mental tools could help to provide greater credibility to the field as physiological measures allow for quantifiable results. For example, a study looking at positive versus negative reinforcement while monitoring heart rate and perspiration would allow insight into how an athlete responds to the different types of feedback.

Practical implications for sport psychologists and coaches include understanding the athlete's attitude and prior experience with psychological training. As noted, an athlete's attitude towards psychological training can impact which implementation approach may be the most effective for the particular athlete. Therefore taking the time to assess and understand the athlete's background is an important component for sport psychologists and coaches to consider. Two of the athletes in this study emphasized the difficulty of dealing with the Post-Olympic downtime period. Although this area was outside of the scope of this study, future research investigating athletes' perspectives of the post-Olympic time period is warranted.

### **Strengths and limitations of the study**

Two key strengths of the current study include the in-depth inclusion of the athletes' narratives and the elite level of the athletes interviewed. The use of narratives provides insight into the athletes' experiences and provides a vicarious experience for readers. Additionally, utilizing narratives offers a methodology that has received limited attention among research examining Olympic athletes. Furthermore, Olympic athletes are of extremely high calibre and thus are often difficult to include in studies due to their demanding schedules. Thus the inclusion of these four elite athletes and their perspectives is a strength.

A limitation of this study was that it was unable to investigate the attitudes prior to the Olympics and across the Olympic quadrennial leading up to them. It would be interesting to track the athletes' attitudes across a longer time period. A second limitation was that although it was initially intended to interview coaches and a sport psychologist for additional perspectives and context, this was not feasible.

As has been noted in previous literature as a limitation of attribution research is that the researcher often imposes the attributions upon the athlete and these may be inaccurate. Although this is addressed as a possibility, sending the athletes transcripts back to confirm accuracy and incorporating the athletes' direct quotes have been used to help mitigate this potential for bias.

### **My perspective**

It has been interesting to see how my own perspective towards sport psychology and mental training has shifted throughout this study. While growing up playing sports I had been indirectly exposed to mental training strategies and developed a strong belief in their effectiveness. I did however at times experience feelings of frustration as to how I could incorporate these strategies into my training to further increase my mental toughness. After listening to the athletes' stories and organizing the findings, I realized that the majority of my mental training implementation was with a narrow approach. I strongly believe that this area is fundamental to succeeding as an athlete, and this conflict between my belief and implementation approach contributed towards my feelings of frustration. Furthermore, the insight into the athletes' stories and experiences has allowed me to realize how important it would be to get to know an athlete before working with them in a consultation role. As I work towards my goal of becoming a professional in the field of sport psychology consulting, I feel employing similar methods such as in-depth interviews, and generating a narrative of the athlete's background would provide a beneficial initial step to help develop an effective mental training plan with an athlete.

## Conclusion

This study investigated the attitudes towards the mental training as perceived by four Olympic athletes who represented Canada at the London 2012 Olympic Games. Additionally, the implementation approaches utilized by these four Canadian Olympic athletes were examined and the relationship between the athletes' attitudes and how they implemented mental training was discussed. This study contributes to the existing body of literature on Olympic athletes and helps to expand our understanding of how these four elite athletes, who all have the resources necessary to implement mental training, perceive the area and are implementing the mental strategies into their preparation and competition. There has been limited research on the mental training among Canadian Olympic athletes and thus the current study furthers our understanding of mental training within a Canadian context. Four athletes were interviewed in-depth using a semi-structured question guide. These interviews were written up as detailed narrative accounts that weaved through the experiences and unique stories of each athlete. The athletes all acknowledged that the psychological component is important, however, they varied in the degree to which they believed mental training could help them improve as athletes. The variations in the athletes' beliefs towards the effectiveness of the area ranged from a fundamental belief to being a supplementary component to the athletes' training. Despite all of the athletes having access to a team sport psychologist, their implementation methods varied. These approaches ranged from implementing mental training holistically, within all areas of the athlete's life, to implementing the mental training from a narrow standpoint. Future research could benefit from investigating the effectiveness of implementing mental training with a holistic approach versus a narrow

approach on athlete performance. Longitudinal studies are needed in order to evaluate whether actual change in an athlete's performance is occurring. Practical implications for applied work in the field of sport psychology could benefit from sport psychologists and coaches taking more time to understand the individual athlete's attitudes towards mental training and their prior experiences with mental training. This information can help tailor mental training appropriately to the individual athlete's needs.

Researchers should continue to investigate mental training among athletes of all levels so that the field of sport psychology continues to expand and increase in its credibility. Psychological training has the potential to not only help athletes reach their potential in sport, but can also help to provide tools to deal with the ups and downs that accompany the journey to becoming an elite athlete.

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## Appendix A Interview Guide - Athletes



University  
of Victoria

School of Exercise Science,  
Physical & Health Education

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### “An In-depth Look at Mental Training as Perceived By 2012 Canadian Olympic Athletes”

#### Interview Guide- Athletes

Welcome and thank you for agreeing to participate!

Remember from our introduction and the consent form you signed that your participation is voluntary and you may choose to answer only the questions you wish to. You may also exit the study at any time and request that your data not be used. We will honour all such requests. Thank you again for your participation. It is very much appreciated and will help us find out more about your impressions of mental training and the ways in which you may use it in your coaching. There are no right or wrong answers, it is your perspective that is most helpful and what we are looking for!

Any questions before we begin?

As I mentioned earlier I will be recording is that ok?

#### **TURN RECORDER ON!**

As you well know there are lots of components that contribute towards athlete development; i.e. physical, tactical, technical etc. The focus of this study will be on the psychological element. What do you call that? How do you refer to it?

What are your first impressions when one mentions (using the choice of terminology the participant originally used) ?

Do you use (using the choice of terminology the participant originally used) in any part of your training? What do you do? Probe for specifics, timing etc.  
List elements/tools as a probe. (goal setting, arousal regulation, imagery)

When do you typically use (terminology and tool the participant used) in your training?  
At a competition such as the Olympics?

General: How effective/important is this as a tool to you as an athlete?

Has your use of (using the participant's terminology) changed throughout your training years? How (probe for specific actions or behaviors)

Why do you think this is? Again probe for specific events, experiences or outcomes that they use to support their assertions.

Recap: So to finish can I recap your feelings about (use their language again)?

That concludes the questions I planned to ask, again thank you!

Is there something I could have asked that would help me better understand the role of (use the participant's terminology) in your coaching?

Thank you so much for participating. I will send you a copy of this transcript within the next (fill in time frame). Confirm how they would like to receive it. Ask how they would like to receive a summary of the study hard copy or email.

Turn off recorder and thank them again!!

## Appendix B Interview Guide – Support staff



University  
of Victoria

School of Exercise Science,  
Physical & Health Education

### “An In-depth Look At Mental Training As Perceived By 2012 Canadian Olympic Athletes

#### Interview guide – Support Staff

Welcome and thank you for agreeing to participate!

Remember from our introduction and the consent form you signed that your participation is voluntary and you may choose to answer only the questions you wish to. You may also exit the study at any time and request that your data not be used. We will honour all such requests. Thank you again for your participation. It is very much appreciated and will help us find out more about your impression of this psychological aspect of training and the ways in which you may use it in your coaching. There are no right or wrong answers, it is your perspective that is most helpful and what we are looking for!

Any questions before we begin?

As I mentioned earlier I will be recording is that ok?

#### **TURN RECORDER ON!**

1. As you well know there are lots of components to athlete development, i.e. physical, tactical, technical etc. This particular study will be looking at the psychological. What do you think about this area? What are your first impressions?
2. I understand that you work in the \_\_\_\_ (physiology/psychology) side of preparation for the athletes; do you integrate mental training/sport psyche into your preparation? I.e. is it used in combination? Are the two intertwined? (probe for specific examples)
3. A lot of coaches and sport psychologists talk about once you are at the competition the foundation is set so now let it happen... were there ever any times during the Olympics where you were put in a situation and you provided mental training help? (i.e. adverse situations, overwhelming nerves) probe for examples: (what, when, how) Or where you felt mental training help was needed but you didn't feel equipped to do so?

4. What role did sport psych play following the athletes' performance at the Olympics? Ie. post-Olympic Stress, debriefing and setting goals for the next quadrennial/ training period?
5. What impact of mental training did you see for the athletes? (did you see mental training where it helped, or lack of mental training, or mental training where it didn't help)
6. Just to wrap up here, thinking back on the experience and preparation how would you compare the impact of mental training components compared to the other areas such as physical, tactical? Is it as important?

That concludes the questions I planned to ask, again thank you!

Is there something I could have asked that would help me better understand the role of (use the participant's terminology) in your coaching?

Thank you so much for participating. I will send you a copy of this transcript within the next (fill in time frame). Confirm how they would like to receive it. Ask how they would like to receive a summary of the study hard copy or email.

**Turn off recorder and thank them again!!**

## Appendix C Reflection Notes

### Reflection Notes

#### November 15<sup>th</sup> - Interview — track and field

- Interesting that she hasn't always thought of sport psychology as being useful. Acknowledged stigma. Talked about a lot of great implementation tools. Visualization. How it takes a while to start to use. Makes me think about when I used this too for golf. She too would get stale. Interesting what about taking visualization to the golf course?

-Trigger with tape on the track. Similar to triggers in golf routine? Bringing the focus back to task at hand. Differences in length of focus. Track race much shorter than a round of golf. But golf requires intermittent focus.

-Worked one on one with a sport psychologist (\*\*look up after)

Saw huge improvements, but really emphasized the amount of time it took to start to click in.

Her breakthrough and experience qualifying for the Olympics was a pretty neat story.

Individual athlete. Really talked about amazing turn around with working with a sport psychologist. Breakthrough season.

Lots of tools. Visualization, self-talk. Brought this to the track. Identifying triggers. Tape on track wen to do the kick. No longer fearful. Just trusted the process. It became automatic. That's how she knew the mental training side had kicked in is because it became automatic.

### Reflection Notes

#### November 20th

I have also been exploring mental training implementation at the Paralympic level; an area that has been neglected. This group cohesion and the processes that occur in this team environment seem to increase the level of motivation and sense of identity among the athletes.

- On the Olympic side, the attitudes towards sport psychology and mental training greatly vary. There appears to be more resistance among team athletes oppose to individual sport athletes. This perhaps is in the way that sport psychology tools have been delivered. Whereas in an individual sport, there is a

great deal of one-on-one support from the psychologist and the athlete often seeks out this person. On the team side, often the sport psychologist is not connecting with the athlete at the same level..

### **December 12<sup>th</sup>:**

#### **Interview with rower**

Talked about sport psychology as sounding like sport psychologist. Thinks mental component is important but not necessarily sport psychologist or at least not for him. Found helpful with the Buddhist again it's a person he connected with that wasn't in that role of extrinsic motivation or doing it for the money. Just a person who was knowledgeable and built up a sense of trust. Perhaps help to keep on course. Again mentor? \* should look up research on mentoring in sport.

Used a lot of different tools. Visualization, affirmations, self-talk. Basic tools that a sport psychologist would employ, yet it took a certain person to say it. Learned before sport psychologist mentioned therefore didn't attribute that knowledge to a sport psychologist.

Yoga. Breathing. Staying in the present. Calm. Mental training done through physical training and yoga.

Research on yoga and mental training in sport?

### **December 16th**

#### **Reflection on interview with swimmer:**

Interview today with swimmer. Right away I have labelled him the swimmer. And this was one of the themes that came out of this interview. His identity with being a swimmer has made it difficult to adapt post Olympics. This area warrants future research for Olympic athletes making the transition back into life. This is a time where there is a great deal of stress and almost sense of loss.

What did he say about actual implementation, few tools used.

Talk about visualization but he didn't do a lot.

Talked about journaling after practices the positives and positive workouts to try and reinforce and increase confidence. Not sure if this worked.

Evaluate? Wasn't sure.

Found it helpful to have someone to talk to. Lead to the area of sport mentorship? The sport psychologist when viewed as a person to try

The problem here is that the sport psychologist is viewed as so many different things. To help implement mental training is what I think of it as. To others, they view it as a person to seek when having mental problems. Tho some then think this should be a clinical psychologist. Others see it as a person that the HPD's employ for their teams so they are people who are paid a lot and not necessarily that useful. Tough to connect with. And then there is this idea of mental toughness and mentality. Overwhelming response that it is important, but not sure how to work on it. Different for everyone need to individualize. Connect at a deeper level. Some things work for some athletes, some things work for others. Different weaknesses. What about just mental training in general? If it is so important how can you just work on mental training like you would physical training? Maybe doesn't need to be separated. Maybe it is fully intertwined with the physical training. Maybe that physical training and pushing is how you get mentally stronger and then continuing to reaffirm that. Swimmer talked about going back to his training trusting his training and a process.

**Reflection on email with rower: (email)**

-limited probing as emailed

- mentioned important, but definitely feels that physical and tactical are more important

Interesting that such a difference between this interview and other rower. Why might this be? Not necessarily coach influence or environment? Perhaps just way growing up.

## Appendix D Participant Invitation Form



University  
of Victoria

School of Exercise Science,  
Physical & Health Education

### *Participant Invitation Form*

#### **“An In-depth Look At Mental Training as Perceived By 2012 Canadian Olympic Athletes”**

You are invited to participate in a study entitled “An In-depth Look at Mental Training as Perceived by 2012 Canadian Olympic Athletes” that is being conducted by Alison Quinlan and Dr. John Meldrum.

Alison Quinlan is a master’s student in the School of Exercise Science Physical and Health Education at the University of Victoria and will be working as the lead investigator on this project. You may contact her by email at [alisonq@uvic.ca](mailto:alisonq@uvic.ca), or by phone at (██████████). Dr. Meldrum is an Assistant Professor in the School of Exercise Science Physical and Health Education at the University of Victoria and you may contact him if you have further questions by email at [jmeldrum@uvic.ca](mailto:jmeldrum@uvic.ca) or by phone at ██████████.

#### **Purpose and Objectives**

The purpose of this research project is to develop an understanding of elite level athletes’ and coaches’ attitudes and beliefs towards mental training and to explore the surrounding implementation methods and techniques of elite athletes in both their preparation for events as well as during competition.

#### **Importance of this Research**

Research of this type is important because it provides coaches, athletes and sport psychologists with valuable information that will help advance the growth of the field. In order for mental training to successfully be implemented the goals and attitudes of coaches and athletes towards this area need to be understood. Through the exploration and understanding of elite level performers’ mental training strategies, other athletes and coaches of all levels can greatly benefit from this information.

#### **Participants Selection**

You are being asked to participate in this study because you either competed at the London 2012 Olympic or Paralympic Games, coached a competing athlete or team at the London 2012 Olympic or Paralympic Games or were involved in a supporting role during the Olympic or Paralympic Games (i.e. sport psychologist, physiologist).

#### **What is Involved**

If you agree to voluntarily participate in this research, your participation will include an individual interview and reviewing your transcribed comments following that interview. The revision will allow for you to delete anything you wish, or add any comments. This will be done in the form of a verbatim transcription emailed back to you after the interview.

Depending on your location and availability, Skype, or telephone interview options will also be made available.

Audio-tapes/and-written notes, observations/computer recording, will be taken. A transcription will be made and shared with you.

**Inconvenience**

Participation in this study may cause some inconvenience to you, including your time of 45 minutes to one hour for an interview, and approximately 10 minutes to review the transcript of that interview.

**Risks**

There are no known or anticipated risks to you by participating in this research.

**Benefits**

The participant may learn from the study some techniques, tools or strategies that may help their preparation and/or coaching methods. Although exploratory in nature, findings that move towards a better understanding of how to effectively implement mental training programs in a sport environment can lead to healthier and more effective environment for both coach and athlete and may further the knowledge in the field of mental training. Participants will also be provided with an overview of the findings which includes the general attitudes of other Olympic and Paralympic athletes and their respective coaches towards mental training and the variety of mental training techniques used to prepare and cope with Olympic/Paralympic competition.

**Voluntary Participation**

Your participation in this research must be completely voluntary. If you do decide to participate, you may withdraw at any time without any consequences or any explanation. If you do withdraw from the study your data will not be used in any way and will be destroyed.

**Anonymity**

Given the nature of this study, face to face discussions and anonymity is not possible. However, your identity will not be revealed and will be protected beyond the research team.

**Confidentiality**

Your confidentiality and the confidentiality of the data will be protected by the use of pseudonyms and changed location or other identifiers in all written work.

**Dissemination of Results**

It is anticipated that the results of this study will possibly be shared through the following ways: academic papers, presentations, and in more general forms through a speaker's bureau, or presenting to others that are in similar situations as yourself.

**Disposal of Data**

Data from this study will be disposed of in 5 years by the erasing of any electronic or digital material and the confidential shredding of paper material.

**Contacts**

Please contact the lead researcher on this project Alison Quinlan [alisonq@uvic.ca](mailto:alisonq@uvic.ca) or at [REDACTED], or Dr. John Meldrum [jmeldrum@uvic.ca](mailto:jmeldrum@uvic.ca) or at [REDACTED] if you have any questions

In addition, you may verify the ethical approval of this study, or raise any concerns you might have, by contacting the Human Research Ethics Office at the University of Victoria (250-472-4545 or [ethics@uvic.ca](mailto:ethics@uvic.ca)).

## Appendix E Participant Consent Form



University  
of Victoria

School of Exercise Science,  
Physical & Health Education

### *Participant Consent Form*

#### **“An In-depth Look At Mental Training as Perceived By 2012 Canadian Olympic Athletes”**

You are invited to participate in a study entitled “An In-depth Look at Mental Training as Perceived by 2012 Canadian Olympic Athletes” that is being conducted by Alison Quinlan and Dr. John Meldrum.

Alison Quinlan is a master’s student in the School of Exercise Science Physical and Health Education at the University of Victoria and will be working as the lead investigator on this project. You may contact her by email at [alisonq@uvic.ca](mailto:alisonq@uvic.ca), or by phone at [REDACTED]. Dr. Meldrum is an Assistant Professor in the School of Exercise Science Physical and Health Education at the University of Victoria and you may contact him if you have further questions by email at [jmeldrum@uvic.ca](mailto:jmeldrum@uvic.ca) or by phone at [REDACTED].

#### **Purpose and Objectives**

The purpose of this research project is to develop an understanding of elite level athletes and coaches’ attitudes and beliefs towards the psychological aspect of training and to explore mental training implementation methods and techniques of elite athletes in both their preparation for events as well as during competition.

#### **Importance of this Research**

Research of this type is important because it provides coaches, athletes and sport psychologists with valuable information that will help advance the growth of the field. In order for mental training to successfully be implemented the goals and attitudes of coaches and athletes towards this area need to be understood. Through the exploration and understanding of elite level performers’ mental training strategies, other athletes and coaches of all levels can greatly benefit from this information.

#### **Participants Selection**

You are being asked to participate in this study because you either competed at the London 2012 Olympic Games, coached a competing athlete or team at the London 2012 Olympic Games or were involved in a supporting role during the Olympic Games (i.e. sport psychologist, physiologist).

#### **What is Involved**

If you agree to voluntarily participate in this research, your participation will include an individual interview and reviewing your transcribed comments following that interview. The revision will allow for you to delete anything you wish, or add any comments. This will be done in the form of a verbatim transcription emailed back to you after the interview.

Depending on your location and availability, Skype, or telephone interview options will also be made available.

Audio-tapes/and-written notes, observations/computer recording will be taken. A transcription will be made and shared with you.

**Inconvenience**

Participation in this study may cause some inconvenience to you, including your time of 45 minutes to one hour for an interview, and approximately 10 minutes to review the transcript of that interview.

**Risks**

There are no known or anticipated risks to you by participating in this research.

**Benefits**

The participant may learn from the study some techniques, tools or strategies that may help their preparation and/or coaching methods. Although exploratory in nature, findings that move towards a better understanding of how to effectively implement mental training programs in a sport environment can lead to healthier and more effective environments for both coach and athlete and may further the knowledge in the field of sport psychology. Participants will also be provided with an overview of the findings which includes the general attitudes of other Olympic/ Paralympic athletes and their respective coaches towards mental training and the variety of mental training techniques used to prepare and cope with Olympic/Paralympic competition.

**Voluntary Participation**

Your participation in this research must be completely voluntary. If you do decide to participate, you may withdraw at any time without any consequences or any explanation. If you do withdraw from the study your data will not be used in any way and will be destroyed.

**Anonymity**

Given the nature of this study, face to face discussions and anonymity is not possible. However, your identity will not be revealed and will be protected beyond the research team.

**Confidentiality**

Your confidentiality and the confidentiality of the data will be protected by the use of pseudonyms and changed location or other identifiers in all written work.

**Dissemination of Results**

It is anticipated that the results of this study will possibly be shared through the following ways: academic papers, presentations, and in more general forms through a speaker's bureau, or presenting to others that are in similar situations as yourself.

**Disposal of Data**

Data from this study will be disposed of in 5 years by the erasing of any electronic or digital material and the confidential shredding of paper material.

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In addition, you may verify the ethical approval of this study, or raise any concerns you might have, by contacting the Human Research Ethics Office at the University of Victoria (250-472-4545 or [ethics@uvic.ca](mailto:ethics@uvic.ca)).

Your signature below indicates that you understand the above conditions of participation in this study, that you have had the opportunity to have your questions answered by the researchers, and that you agree to participate in this research project.

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*Name of Participant*

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*Signature*

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*Date*

***A copy of this consent will be left with you, and a copy will be taken by the researcher.***