

**DOES ENHANCING RELATEDNESS AMONGST VARSITY-LEVEL
ATHLETES IMPROVE TEAM PERFORMANCE?**

by

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ABSTRACT

This research uses Deci & Ryan's (2017) Self-Determination Theory to examine if enhancing relatedness amongst varsity-level athletes improves team performance. This study incorporates a quasi-experimental design, and uses a convenience sample of varsity-level athletes ($n=16$) at a Canadian university. Four interventions, two psycho-education and two relatedness building, were administered across eight weeks. Participant relatedness was assessed by semi-structured qualitative questionnaires using a repeated measures approach. Thematic analysis revealed that enhancing relatedness skills of the participants contributed to improvements in interpersonal communication, team collaboration, and perceived connection amongst team members. Enhanced self-awareness and heightened awareness of others' mental states seemed particularly crucial to enhancing relatedness amongst participants. Data suggests that relatedness may have positively impacted on-court team performance, however more research is required to determine the nature of the relationship between relatedness and on-court performance.

DEDICATION

I humbly dedicate this Master's Thesis to my Mom and Dad, and my three siblings, Dylan, Dawson and Schyler. Thank you for accepting me unconditionally, for always demonstrating that I matter, and continuously providing me with a sense of belonging.

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Chapter I: Introduction

Background of Study

For centuries individual athletes and athletic teams have strived to gain a competitive edge over their opponents. Today, high-performance athletes are working harder than ever to enhance their performance and perfect their craft. Amateur, varsity, and professional athletes spend countless hours in the weight room and days on the practice surface preparing to compete. Coaches, like their athletes, are also working longer and harder than ever to try to prepare their teams to achieve excellence.

High performance athletes know competing at an elite-level requires much more than proper nutrition (Tarnopolsky, 2008), adequate exercise (Andersen & Aagaard, 2010), and solid sleep hygiene (Copenhaver & Diamond, 2017). Psychological factors also play a vital role in athletic performance (Jackson & Csikszentmihalyi, 1999).

Self-Determination Theory (SDT) (Deci & Ryan, 1985, 2000, 2004, 2007; Ryan & Deci, 2017) has been applied in various fields of industry, education and sport to investigate the role of competence, autonomy, and relatedness in individual and team performance (Bourbousson & Fortes-Bourbousson, 2017). According to SDT, optimal human growth and functioning is dependent on meeting individuals' three core psychological needs (Deci & Ryan, 1985, 2000, 2004, 2007; Ryan & Deci, 2017). These needs are competence, autonomy and relatedness (Kesthidar & Behzadnia, 2017). Competence is defined as having the necessary skills, knowledge, and confidence to make sense of, and manage one's environment (Stripada, Bowersox, Ganoczy, Valenstein & Pfeiffer, 2016). Autonomy describes an individual's need to make his or her own life decisions (Ryan & Deci, 2017). Finally, relatedness refers to humans' need to feel a sense of connectedness and belonging to other humans (Stripada et al., 2016).

Despite the substantial amount of literature that Deci and Ryan (1985, 2000, 2004, 2007; Ryan & Deci, 2017) have produced and helped inspire, Sheldon, Zhaoyang and Williams (2013) argue that SDT research in sport team performance is limited. This is in part because

SDT research is focused on investigating and predicting subjective states, while sports performance research outcomes tend to be more objective (i.e. calculating wins and losses) (Sheldon et al., 2013).

This study directly responds to this gap in the literature by examining if improving relatedness amongst varsity-level athletes improves team performance. The role of relatedness amongst varsity-level team members is explored through the lens of SDT (Deci & Ryan, 1985, 2000, 2004, 2007; Ryan & Deci, 2017).

Research Question

Does enhancing relatedness amongst varsity-level athletes improve team performance?

Research Objectives

1. To enhance relatedness amongst participants through four different researcher-administered interventions.
2. To examine the impact of enhanced relatedness on team performance on the court.

Key Terms

Self-determination theory. SDT is a theory of motivation, personality, and development (Ryan & Deci, 2013, 2017). It is concerned with supporting our intrinsic tendencies to behave in effective and healthy ways (Ryan & Deci, 2017). Within the SDT framework, every human is considered an active organism, that innately seeks to increase their human potential, to develop psychologically through gaining new perspectives, and through the satisfaction of their three core psychological needs of competence, autonomy, and relatedness (Dupont, Carlier, Gerard, & Delens, 2009, Ryan & Deci, 2017).

Relatedness. Ryan and Deci (2017) define relatedness as a need for a sense of closeness in relationships with others. People feel relatedness when they feel cared for by others, and when they feel socially connected (Ryan & Deci, 2017). Stripada et al. (2016) add that relatedness is the need to feel connectedness to others and a sense of belongingness.

Team cohesion. Carron, Widmeyer and Brawley (2002) defines team cohesion as a dynamic process where a group of people stick together and remain united in the pursuit of a common goal or common objectives.

Team Resilience. Team resilience is, “a dynamic, psychosocial process which protects a group of individuals from the potential negative effect of stressors they collectively encounter (Morgan, Fletcher & Sarkar, 2017, p. 552). Morgan et al. (2017) add to this definition of team resilience stating that, “resilience is the process whereby team members use their individual and collective resources to positively adapt when experiencing adversity” (p. 552).

Team performance. Team performance can be understood as how successful a team is, or how well a team performs (Collins, 2017). Team performance can be measured both objectively (i.e. wins and losses) and subjectively (i.e. perceptions of performance). In this study, team performance is measured subjectively using participants’ individual perceptions.

Psycho-education. Collins Dictionary (2017) defines education as the act or process of obtaining knowledge. In this context, the knowledge gained by participants during the interventions will be grounded in psychological theory. Participants in this study received psycho-education on Siegel’s (1999) and Ogden, Minton, and Pain’s (2006) models of emotional integration and Deci and Ryan’s SDT (2017).

Adventure-Based Experiential Training. Adventure-Based Experiential Training (ABET) is a method of hands-on learning where learners/participants are encouraged to have fun, collaborate and work together. A goal of ABET is for participants to build a positive image of themselves, and a positive image of their fellow team members (Allain, 1997). ABET is designed to improve communication skills, develop respect amongst members, and challenge the learners both physically and mentally (Allain, 1997).

Self-Awareness. Self-awareness is defined by Goleman (1995) as, “knowing one’s internal states, preference, resources and intuitions”. Goleman (1995) emphasizes that self-awareness means the ability to monitor our inner world, our thoughts and emotions as they arise.

Intrinsic Motivation. Intrinsic motivation is evident when people are free to follow their interests, and it represents the prototype of autonomous motivation. When guided by intrinsic motivation people engage in activities that are challenging, exciting, and deeply inherently satisfying (Ryan & Deci, 2017; Vallerand, 1997).

Ego Involvement. Ego involvement describes when people feel pressure to perform in ways that would be valued by the members of a group to which they would like to belong (Ryan & Deci, 2017). It can also be described as a striving based on threats to esteem by others or the self (e. g. a person's ego is on the line because they are being evaluated by others or by themselves).

Chapter II: Literature Review

This literature review includes an examination of SDT psychological needs, (Ryan & Deci, 2017), ABET, emotional integration (Siegel, 1999; Ogden et al., 2006), and self-awareness (Abbate, Boca & Gendolla, 2016). The application of SDT in athletic settings is also explored. Although not part of the SDT framework, it is important to discuss team cohesion (Carron, Widmeyer & Brawley, 1985), and collective efficacy as they are closely related to SDT's relatedness construct.

This literature review used the University of New Brunswick electronic library databases. Specifically, the Business Source Premier, Academic Search Premier, ERIC, SPORTDiscuss, PsycINFO, PsycARTICLES, and Human Kinetic Publishers, Inc. databases.

Team Cohesion

In various fields of industry, organizations, and sports, several approaches have emphasized the need of investigating togetherness within teams (Bourbousson & Fortes-Bourbousson, 2017; Stevens & Bloom, 2003). Teams enable individuals to experience togetherness through the phenomena of social support, social facilitation, and coping support (Bourbousson & Fortes-Bourbousson, 2017). Teams may also facilitate the exchange of information, knowledge, feelings and emotions amongst individuals (Bourbosson & Fortes-Bourbousson, 2017). Rodriguez-Sanchez, Deyloo, Rico, Salanova, and Anseel (2017) argue that cooperation is more likely when team members have strong feelings of belonging, and feelings of attachment to other members of the team. Teams with cooperative norms also tend to experience a sense of heightened motivation amongst members and perform better (Rodriquez-Sanchez et al., 2017).

The construct of togetherness has also been described in the literature as team cohesion (Carron et al., 2002). Team cohesion has been defined as, "the dynamic process which is

reflected in the tendency for a group to stick together and remain united in the pursuit of its instrumental objectives and/or for the satisfaction of member affective needs” (Carron et al., 2002). Similarly, Koslowski and Ilgen (2006) refer to team cohesion as the extent to which team members are committed to their team, and how well the team is integrated as it pursues its goals. Clearly, team cohesion can play an important role in the function of a team (Carron et al., 2002).

The positive effects of team cohesion on team performance may be partly explained by how team players engage in creative and innovative activities (Hulsheger, Anderson, & Salgado, 2009; Rodriguez-Sanchez et al., 2017). Such activities motivate team members to interact with each other and facilitate the exchange of ideas within a supportive and nonthreatening atmosphere (Rodriguez-Sanchez et al., 2017).

Collective Efficacy

Ed Catmull (2008), the president of Pixar Animation Studios, stated that success is not a matter of luck, but a combination of practices for managing talent and creating collective efficacy (CE). Originally, CE was conceptualized as a concept within social environments that could influence adolescent behavior (Heid, Pruchno, Cartwright, & Wilson-Genderson, 2017). CE referred to the ability of members of a community to control the behavior of individuals and groups within the community (Sampson, Raudenbush & Earls, 1997; Chern Lim, 2014). CE is a validated level of social capital that has been applied to help understand the impact of neighbourhoods on community functioning (Heid et al., 2017).

Collective efficacy and sport performance. Collective efficacy has also been described as an extension of the self-efficacy construct proposed by Bandura (Bandura, 1977; Fletcher, Wilkinson, Bladon & Gargiulo, 2017). In sports performance, CE has been defined as, “a group’s shared belief in its conjoint capabilities to organize and execute the courses of action required to produce given levels of attainments” (Bandura, 1997, p. 477). Thus, when

individuals work together in a collective effort to meet goals, these interactions can lead to a feeling of both collective and individual confidence (Fletcher et al., 2017).

Heid et al. (2017) write that CE is made up of two dimensions, the first being social control, and the second being social cohesion. Social control consists of a group or teams' ability to align actions with values, while social cohesion describes the level of trust and connectedness among the members of the group or team (Heid et al., 2017). In order for a team to perform successfully, there must be a common belief among members that together they can overcome problems and obstacles through persistent effort and motivation (Fletcher et al., 2017). Bandura (1997) theorized that CE is influenced through teammates similar actions and experiences; but actually it emerges from the shared confidence that together the team can attain a certain goal, or successfully complete a certain task. Bandura (1997) writes that the strength of any social unit, whether it is a team, family, or work unit, is their ability to work together to achieve a common goal/outcome. Their ability to do this is influenced in part by their CE.

Self-Determination Theory

Self-Determination Theory (SDT) is an empirically based theory of motivation, personality, and development fully oriented towards resilience (Deci & Ryan, 1985, 2000, 2004, 2007; Ryan & Deci, 2017). The theory examines how biological, social, and cultural conditions can enhance or undermine human capacity for psychological growth, engagement, and wellness (Ryan & Deci, 2017). SDT investigates some of the basic features and mechanisms underlying social behavior, its development, and its pathology (Ryan & Deci, 2017). Within the SDT framework, every human is considered an active organism who innately seeks to increase their human potential, to develop psychologically through gaining new perspectives, and through the satisfaction of their three core psychological needs (Dupont, Carlier, Gerard & Delens, 2009).

Ryan and Deci (2017) write that SDT assumes that humans have evolved to be inherently curious, active, and deeply social beings. Humans achieve optimal growth and functioning through meeting three core psychological needs (Deci & Ryan, 1985, 2000, 2004, 2007; Ryan & Deci 2013, 2017). These needs are competence, autonomy, and relatedness. SDT research demonstrates that in social contexts that support human competence, autonomy, and relatedness, people are more curious, increasingly creative, more productive and extra compassionate (Ryan & Deci, 2017).

When individuals exist in need-thwarting environments that impede one's ability to act autonomously, feel related to others, and feel competent in daily tasks they are more likely to become self-focused, defensive and amotivated (Ryan & Deci, 2017). When individuals fail to meet these basic psychological needs they tend to experience fragmentation and defensiveness rather than integration. Ryan and Deci (2017) argue that emotional dysregulation and maladaptive behavioural functioning is frequently influenced by the thwarting of these fundamental human needs.

The Psychological Needs. Understanding the concept of needs can be difficult, but a comparison to the scientific field of biology may help provide clarity. The notion of needs is common in the field of biology, a field that is focused on the organisms' physical structure, its survival and reproduction. For example, we know that all organisms need water to survive, which is why species can only survive in environments where hydration is possible. However, if someone were to argue that a species can survive without water, we could easily test this proposition by withholding water from the species and examining the outcome on the species' function and health (Ryan & Deci, 2017).

Thus, the concept of needs rests on two ideas, the first being that the deprivation of certain nutrients or resources results in impaired growth and serious harms, and secondly that providing certain resources or nutrients reliably facilitates the thriving of the organism (Ryan & Deci,

2017). The concept of needs is not the same as wants, preferences, or desires. If something is a want, its achievement may or may not help the organism thrive. People may not want what they need, or need what they want. Ryan and Deci (2017) write that social controls, seductive reward contingencies, and cultural influences can all influence neglect or frustration of basic needs.

SDT conceptualizes human needs at the psychological level. Competence, autonomy, and relatedness are essential psychological nutrients that are *essential* for human integrity, well-being and growth, interest, development and wellness across the lifespan and cultural contexts (Ryan & Deci, 2017). The deprivation of any or all of them will lead to observable deficiencies in human growth, integrity and wellness (Ryan & Deci, 2017). The three basic needs are strongly linked with vitality, whereas the frustration of needs predicts motivational depletion (Ryan & Deci, 2008). When the fulfillment of people's needs is hindered, they tend to react negatively, through manifestations of greed, power-seeking behavior, addiction, aggression, and psychopathology (Ryan & Deci, 2013, Ryan & Deci, 2017). Thus, wherever need satisfactions are neglected or blocked, a failure to thrive, and defensive and compensatory behaviours increase (Ryan & Deci, 2017).

Autonomy. Autonomy is the first of the three basic needs (both physical and psychological), and means 'self-governing' or regulation of thy self (Ryan & Deci, 2017). Autonomy should not be mistaken for independence or willpower. Autonomy is both a phenomenological and functional issue. As Deci and Ryan (2017) write, "autonomy concerns the extent to which people experience their behaviour as volitional or as fully-self-endorsed, rather than being compelled or seduced by forces external to the self" (phenomological) (p. 97). Autonomy is a functional issue because when people act with full volition they bring into action the whole of their resources, interests, and capacities (Ryan & Deci, 2017). SDT highlights that autonomy is working in accordance with one's needs, rather than opposing them. When humans

act with autonomy, there is a sense of whole-heartedness and authenticity. Behaviours are self-endorsed, and congruent with one's interest and values.

Competence. Competence is the second core psychological need. In SDT, competence is defined as the human need to feel effective and to experience the mastery of tasks (Ryan & Deci, 2017). It is essential for people to be able to operate effectively within the important contexts of their life by “experiencing opportunities and supports for the exercise, expansion and expression of one's capacities and talents” (Ryan & Deci, 2017 p. 86). Competence can be experienced in social situations, or leisure pursuits. For example, it can be experienced by people when they are riding a bicycle or by others when they are advancing through levels on their favourite video game. It can be experienced by doctors successfully completing cardiac surgery on a patient, and by a new transport driver successfully delivering their first load of merchandise (Ryan & Deci, 2017). Unfortunately, competence can also be easily mitigated. For instance, it diminishes when humans experience challenges that are too difficult, when negative feedback is severe, and even when people engage in significant negative self-talk (Ryan & Deci, 2017).

As a psychological need, competence is experientially significant to a human's sense of self. When people feel effective, it is nourishing to their sense of self, whereas when people feel ineffective it can threaten their sense of agency and negatively impact their ability to take action (Ryan & Deci, 2017). Individuals must feel ownership of the activities at which they succeed in order to experience competence. Research has demonstrated that even when people perform well on a task, if they do not feel a sense of self-initiation, their sense of competence will not reliably increase (Nix, Ryan, Manly & Deci, 1999). Ryan and Moller (2016) add that competent activity that is controlled, does not have the important positive effects that arise when a person feels effective at an activity that was initiated autonomously.

Relatedness. The third human need outlined by SDT, and the focus of this study, is relatedness. There is almost absolute agreement amongst social scientists that there is no fully functioning without human relationships (Ryan & Deci, 2017). Harry Harlow was one of the first social scientists to bring the concept of relatedness to light in his studies with primates. Harlow demonstrated that the deprivation of social contact yielded a failure of the animals to thrive, evident by global deficits in social and motivational development (Harlow & Zimmerman, 1959; Ryan & Deci, 2017).

It is not only the achievement of tangible goods or physical supplies that tailors people toward others. In fact, a primary goal of human behaviour is the feeling of belonging and feeling significant to others (Ryan & Deci, 2017). In simple terms, relatedness means to feel socially connected or to, “experience others as responsive and sensitive and being able to be responsive and sensitive to them” (Ryan & Deci, 2017, p. 86). Individuals feel relatedness when they feel cared for by others (Ryan & Deci, 2013). However, feeling cared for by others is not all that relatedness encompasses; it is also about belonging and feeling *important* among others (Ryan & Deci, 2013). Therefore, by feeling connected and close to other humans, and by being a significant member of a social group(s), people can experience relatedness. Contribution to a group is an important component of feeling related, and can be achieved by being integral to social organizations beyond oneself (Ryan & Deci, 2013).

SDT states that the motives behind a great deal of human behaviour can be linked to the need for relatedness to others. For example, the ways we dress and bathe, and the preoccupations we have with public image, status, and achievement all stem from our need for relatedness (Ryan & Deci, 2017). SDT differentiates between the behaviours intended to achieve relatedness and those that actually satisfy relatedness. Humans may behave in a way that they believe others will like in order to feel connected to them, however, unless they feel acknowledged and affirmed, their relatedness need will not be fulfilled (Ryan & Deci, 2017).

Simply, people may spend their entire lives motivated by the need for relatedness, and put a life's work into looking attractive or gaining financial income, and they may still have their need for relatedness go unfulfilled if they do not gain the perception that others care for them unconditionally, rather than conditionally, and that they are accepted for who they truly are (Ryan & Deci, 2013).

Despite the importance of relationships to people, our everyday social structure does not allow for the fulfilment of relatedness in every social interaction with others. Non-relatedness satisfying relationships tend to be extrinsically motivated, for example, an interaction with a parking attendant prior to gaining access to an underground parking garage (Ryan & Deci, 2017). Friendships and romantic relationships tend to be autonomously driven (subject to cultural limits) and thus they require intrinsic motivation to be initiated and maintained. One only has to examine their personal relationships to conclude that relationships are highly variable in levels of quality and longevity. Some relationships are open, transparent and trusting, while others can be more superficial and shallow (Ryan & Deci, 2017). Some relationships last a long time, while others may run their course quite rapidly. It is clear that we cannot live well in the absence of relatedness (Ryan & Deci, 2017).

Multiple needs and the absence of a needs hierarchy. SDT describes how people cannot psychologically thrive by satisfying one need alone, any more than a plant can survive with water but no sunlight (Ryan & Deci, 2017). Ryan and Deci (2017) write that social environments that allow people to experience competence, but fail to offer people the opportunity to experience relatedness will result in an impoverished human condition. Even worse, is when one psychological need is pitted against the other, creating conflict. An example of this is when parents require a child to relinquish autonomy to gain relatedness (if parent intrusively controls the child through contingent love) (Ryan & Deci, 2017).

As SDT emphasizes that the three basic psychological needs exist across the human lifespan, it is distinct from other types of needs theories, namely those that specify a hierarchy of needs. Consider that in Maslow's theory, there are basic psychological needs, but in his view they do not surface until physical needs are well taken care of (Maslow, 1971; Ryan and Deci, 2017). While in SDT, if the fulfillment of any of the three basic psychological needs is blocked in any period of one's life, significant functional and experiential costs within that domain are expected. Therefore, competence, autonomy, and relatedness, although very different by definition, tend to be highly interrelated at any point in human development (Ryan & Deci, 2017).

Self-Determination Theory and Human Motivation.

At its core, motivation concerns what moves people to action, or what gives direction to and energizes human behaviour (Ryan & Deci, 2017). Traditionally, motivation has been theorized to be a unitary concept, however, SDT differs from other psychological theories as it emphasizes the different types and sources of motivation. SDT proposes a continuum of motivation, ranging from intrinsic motivation (high autonomy) to extrinsic motivation and amotivation (low autonomy) (Kesthtidar & Behzadnia, 2017). Intrinsic motivation is defined as, "spontaneous activity that is sustained by the satisfactions inherent in the activity itself, and is contrasted with activity that is functionally dependent for its occurrence or persistence on separable rewards or reinforcements" (Ryan & Deci, 2017, p. 137,).

Many tasks that humans perform daily tend to be extrinsically motivated. Ryan and Deci (2000) suggest that some forms of motivation are entirely volitional, whereas others can be entirely external. For example, students in the classroom can perform extrinsically motivated actions with resentment and disinterest, or contrarily, with an acceptance and an attitude of willingness, even if they are not necessarily intrinsically motivated to perform the action. When people are not experiencing physical need deprivation, they tend to seek out challenges, and

novel experiences and environments (Deci & Moller, 2005). This is evident in humans, who when in their healthiest states are curious, active and playful beings (Ryan & Deci, 2017).

Self-Determination Theory and Sport

Self-determination theory and sport motivation. SDT has been studied, and applied in a variety of athletic and physical education contexts in an attempt to increase understanding of athletic experience and sports performance (Banack et al., 2017). Sport is sometimes intrinsically motivated, supported by the inherent psychological satisfactions and vitality that they yield (Ryan & Deci, 2007).

Of course, not all physical activities done for leisure are intrinsically motivated. A common example of this is the discrepancy between going to the gym and participating in sport. The motivational dynamics of sports and an individual's experience in sports varies, affecting the quality of the experience, an athlete's long-term persistence in the sport, and even their performance level. Research has focused on the application of SDT to examine individual's motivation to begin to participate, or continue to participate in sports (Keshtidar & Behzadnia, 2017), and youth sport engagement (Fenton, Duda & Barrett, 2016). SDT has demonstrated that intrinsic motives for participating in sport include motives such as fun, challenge seeking, and learning (Gould, Feltz & Weiss, 1985). Raedeke (1997) found that teenage athletes who were intrinsically motivated reported lower burnout levels than those that were more extrinsically motivated. This suggests that intrinsic motivation may act as a buffer to burnout and help people participate in sports longer (Raedke, 1997). Participation in sport can undoubtedly be extrinsically motivated (Ryan & Deci, 2017). The more organized and competitive a sport is, the more likely there will be a shift along the continuum in an athletes' motivation level, from intrinsically driven towards more extrinsically driven (Ryan & Deci, 2017). Organized and competitive sport tends to bring with it dynamics that recreational sport does not have,

including, but not limited to, playing for the coaches' approval, competing for scholarships or money, or playing to gain fame (Ryan & Deci, 2017).

As tough as goal-directed behaviour can be to sustain, Ntoumanis and Mallet (2014) found that athletes who were intrinsically motivated were more persistent, that they demonstrated more positive affect, and that they depicted better engagement in their sport tasks. Ntoumanis and Sandage (2009) found that athlete's degree of basic psychological needs satisfaction predicted their autonomous motivation to pursue and stick with their sport.

In athletic settings, positive feedback has been shown to increase athlete's intrinsic motivation level and negative feedback has been shown to decrease intrinsic motivation (Weinberg & Jackson, 1979; Weinberg & Ragan, 1979). This outcome is not inevitable; it depends on the functional significance of the feedback (Ryan & Deci, 2017). When feedback is controlling and evaluative, it diminished intrinsic motivation. In contrast, Carpenter and Mageau (2013) demonstrated that constructive, autonomy- supportive change-oriented feedback is linked to numerous positive outcomes (e.g., well-being, self-esteem, performance) and can increase intrinsic motivation in athletes.

Research supports what some athletes may know all too well, that losing can have negative effects on intrinsic motivation, mostly by way of diminishing feelings of competence in athletes (Ryan & Deci, 2017). However, if participants receive positive feedback about the things they did in the competition, it can mitigate the negative impact of losing on their level of intrinsic motivation (Ryan & Deci, 2017). The impact of losing on intrinsic motivation is explored in more depth in future chapters.

There is much more than intrinsic motivation at play in sport participation and performance. There are many extrinsic motivators that influence participation in sport, including being accepted by peer groups, parental pressure to participate, and the lure of fame (Ryan & Deci, 2017). In addition, in competitive sports, the skill necessary to compete at a

high-level usually requires relentless and disciplined completion of exercises, drills, and mental skills training (Ryan & Deci, 2013).

Self-determination theory and sport performance. Athletes are influenced by a number of forces that simultaneously interact to impact their interpretation of their athletic experience and impact their athletic outcomes (Turman, 2000). To date, the research has tended to focus more on examining the impact of athlete autonomy, and the coach-athlete relationship in the athletic context and subsequent team performance. For example, a substantial amount of research has examined the impact of authoritarian coaching styles on athletes' self-determination (Matosic, Ntoumanis, Boardley, Sedikides, Stewart & Chatzisarantis, 2017).

Sheldon et al. (2013) applied SDT to examine if the satisfaction of pre-game psychological needs predicted the quality of sports performance, and to examine whether sport performance predicted post-game psychological need satisfaction. These researchers found that both pre-game competence and pre-game autonomy predicted aspects of objective performance during a game (Sheldon et al., 2013). Pre-game autonomy predicted a higher percentage of two point shots taken and made during a basketball game, and that pre-game competence predicted a higher percentage of three-point shots taken and made during the game (Sheldon et al., 2013).

Sheldon and Watson (2011) found that coaches' autonomy support towards varsity-level athletes predicted their intrinsic motivation, autonomous extrinsic motivation, which in turn related to the athletes' positive team experiences. Mahoney, Gucciardi, Ntoumanis and Mallet (2014) found that autonomy-supportive coaching helped foster mental resilience in cross-country runners, while Garcio-Calvo, Leo, Gonzalez-Ponce, Sanchez-Miguel, Mouratidis and Ntoumonis (2014) found that autonomy-supportive coaching predicted player satisfaction and team cohesion. Healy, Ntoumanis, Velhuizen van Zanten and Paine (2014) collected data from athletes competing in numerous sports, and found that athletes playing under coaches who were autonomy-supportive influenced less athlete burnout and illness than coaches who were autonomy controlling.

Relatedness and sport performance. Deci and Ryan (2017) write that although much of the SDT research in sport performance has focused on evaluating the impact of the satisfaction of competence and autonomy for athletes, the satisfaction of the third basic need – relatedness – is also considered to be extremely important in sport performance. Although less research has been done on relatedness and sport, some does exist. Research conducted by Sarazzin, Vallerand, Guillet, Pelletier and Cury (2002) found that when female athletes experienced low relatedness with their teammates, their level of intrinsic motivation was negatively impacted, and their intention of dropping out of the sport increased. Allain (2013) found that when an athlete's environment presented a threat to their core psychological need of relatedness, a feeling of isolation and loneliness emerged.

In the study by Sheldon et al. (2013), pre-game relatedness satisfaction predicted fewer points scored overall. They hypothesized that feelings of connectedness with teammates may actually cause a player to play less aggressively. It has been argued that relatedness may have no direct relationship with individual basketball performance. Sheldon et al. (2013) concluded that feeling very connected to teammates could conceivably undermine individual sports performance.

Banack, Sabiston and Gordon (2011) found that when coaches create an environment of pressure, communicate harshly and in a dictated manner, or foster competition rather than relatedness, intrinsic motivation in children tends to diminish. The goal should be to maximize one's needs, but not at the expense of others (Banack et al., 2011). Clearly, more research is needed in this area, which speaks to the importance of the present study.

Scant research exists examining the specific role that relatedness to peers plays in varsity-athletic performance. A study by Palmer (2013) investigated the impact that team cohesiveness and student-athletes' perceptions of coaching behavior had on success of NCAA Division I women's basketball teams. Palmer's (2013) study revealed an interesting outcome, specifically

related to the relatedness construct of SDT, namely that athletes on losing teams had more trust issues than athletes on winning teams.

Recently, Raabe, Zakrajsek and Ready (2016) found that positive teammate interactions promoted positive mental fitness in varsity level sports participation and, in addition, helped athletes identify values and goals (Raabe et al., 2016). These authors argue that fostering student-athletes' positive relationships and interactions with others is essential to enhancing their psychological well-being and motivation (Raabe et al., 2016). Speaking to the relatedness construct of SDT, Raabe et al. (2016) argue that peers can have a significant impact on the thoughts, feelings and behaviours of athletes. Raabe et al. (2016) also found that interactions between teammates outside of the sports facility impacted athlete's feelings of relatedness during sports performance. In a further study they found peers had a significant positive impact on the basic psychological needs of competence, autonomy, and relatedness of NCAA-Division 1 athletes (Raabe & Johannes, 2017).

Frameworks to Enhance Relatedness

Traditional attempts at enhancing relatedness amongst team members are evident in many competitive athletic teams (Allain, 1997). For example, team jackets and mandatory team meals are two rituals that most teams utilize in an attempt to foster relatedness amongst members. A sense of relatedness amongst members and coaches is especially important in team-based athletics, where on the field or court of play, coaches, and team captains often stress the importance of teamwork, or working together, when addressing their players (Allain, 1997). However, some coaches do not understand how to most effectively develop the sense of relatedness necessary for team members to work together optimally as a collective unit. Typically, coaches are left to rely on personal intuition, and/or non-evidence-based interventions while attempting to enhance relatedness amongst members. In order to fulfill an athlete's need for relatedness, Allain (2013) states that interaction with other team members,

support and encouragement from teammates, and generally feeling like a part of the team are all crucial factors.

So, how can coaches enhance relatedness amongst athletes in an effective manner? In the second part of this literature review I describe the use of ABET (Allain, 1997), and provide an overview of Siegel's (1999) and Ogden et al's. (2006) work on emotional integration. I also describe how this model is applicable to the non-clinical population, as humans in the non-clinical population also slide out of their 'optimal zone' and into states of hypo or hyper arousal when under stress (Ogden et al., 2006; Dezelic, 2013). I conclude by reviewing the important role that self-awareness plays in fostering positive interpersonal relationships (Abbate et al., 2016).

Adventure-based experiential training. ABET has been applied in real-world settings to enhance relatedness amongst athletes. Information assimilation incorporates traditional forms of learning, consisting of accepting, assimilating, applying, and transferring information (Allain, 1997). ABET, on the other hand, begins with an action, and ends with a cognition (Allain, 1997). ABET is underpinned by experiential learning theory (Ibbetson & Newell, 1996). This method of learning happens where direct experience leads to a general understanding of a principle being developed from the effects and consequences of repeated action. When this general principal is understood, it can later be applied under new and different circumstances (Ibbetson & Newton, 1996). For example, an ABET training session may focus on enhancing communication amongst team members by getting them to complete an activity while some members are blindfolded. They can later apply the communication skills they learned to the different circumstances they face while in athletic competition against an opposing team (Ibbetson & Newton, 1997). ABET can be designed to improve communication skills, develop respect amongst team members, and challenge the learners both physically and mentally. It can also provide players with the chance to establish new relationships, and strengthen existing ones within the team (Allain, 1997).

Proudman et al. (1994) write that, for ABET to be effective, an atmosphere must be created by the coach, teacher or group leader where experiential learning can take place. Proudman et al. (1996) outline some principles that should be implemented in the experiential learning process: (i) learners should take responsibility to create and construct meaning from the experience, (ii) learners should not only be challenged intellectually, but also emotionally, socially and physically (in short, the learning should be authentic) (iii), relationships should be both developed and enhanced, (iv) activities should provide opportunities for success, failure, adventure, unpredictability, and fun, (vi) both learners and educators/facilitators should have the opportunity throughout the process to examine their values.

ABET has been associated with improvements in self-perception (Gibbons & Black, 1997) and perceived social regard (Gibbons & Ebbeck, 2010). William, Chgung and Ho (2012) found that ABET was an effective method for promoting well-being among Hong Kong school children, while Ng (2001) found that an ABET program helped influence positive attitudinal changes and an increase in team spirit in an Asian corporation.

Emotional integration and regulation. Siegel (1999) and Ogden et al. (2006) conceptualized an emotional regulation model to explain fluctuations in clinical features that can occur unpredictably and rapidly in patients that have experienced trauma. This model is being used to understand normal brain physiology reaction responses and to help guide psychotherapy and psychological interventions (Siegel, 1999; Ogden, 2009; Dezelic, 2013).

The model proposes that between the extremes of the sympathetic (hyperarousal) and parasympathetic (hypoarousal) states, there is an optimal arousal state where humans who have experienced trauma can experience emotions as tolerable, and integrate these emotions adaptively into cognitive schemas to help them adapt, and rapidly attune to other people in their environment (Corrigan, Fisher & Nutt, 2010). When people are functioning within this ‘window’ various intensities of emotional and physiological arousal can be processed adaptively (Siegel, 1999; Ogden et al., 2006). While in this zone, cortical functioning is maintained – which is a

prerequisite for being able to integrate information on cognitive, emotional and sensorimotor levels (Ogden et al., 2006).

On the contrary, when human experience is filtered through states of hypoarousal, or hyperarousal, maladaptive responses are more likely in response to distress (Corrigan et al., 2010). Not surprisingly, when emotional dysregulation drives maladaptive behaviours in response to distress, it can become increasingly difficult for people to engage positively with others (Corrigan et al., 2010). This is because emotional dysregulation can drive maladaptive efforts to diminish distress levels.

Each person has a habitual width of their optimal zone of their 'window' that influences their ability to process information (Siegel, 1999; Ogden et al., 2006). For instance, people with a wider 'window' can cope with greater extremes of arousal and have the ability to process stimulating information more effectively (Siegel, 1999; Ogden et al., 2006). On the other hand, people with a narrower window, or 'optimal zone' experience fluctuations as unmanageable and become dysregulated more easily (Taylor, Koch & McNally, 1992).

This model explains that when an individual slips out of their 'optimal zone' of arousal (usually in response to an activating event, or certain stimuli), the prefrontal cortex is essentially going offline, with only the subcortical brain regions remaining active (Ogden et al., 2006; Dezelic, 2013). What this means is that because only the limbic system and the brain stem are 'online' or functioning while in this state, people cannot access any of their executive functioning skills (which are all located in the prefrontal cortex).

In relationships, when people are experiencing extreme stress, it is often the case that one, or multiple people slide out of their 'optimal zone' of functioning (Ogden et al., 2006). When this happens, it becomes increasingly difficult for engagement to occur that is safe, respectful, and constructive (Ogden et al. 2006). It can be difficult for individuals to talk through a problem logically, or communicate to others how they want their needs to be met (Dezelic, 2013). Under heightened stress, people develop and incorporate survival strategies during

interpersonal conflict in an attempt to protect themselves from the perceived threat (Siegel, 1999; Ogden et. al, 2006). When the prefrontal cortex goes ‘offline’, people are left to react using their animal and reptilian like brain structures, therefore, common survival strategies include defensiveness, withdrawal, or counterattacking the other person (Siegel, 1999; Ogden et al, 2006). Unfortunately, when people are out of their optimal zone people are often unaware of these impulses in the moment, and naturally they focus on what the other person is doing that triggers them (Ogden et al., 2006; Dezelic, 2013).

Table 1A

Understanding Mental States

State	Reaction
Hyperarousal	Emotionally flooded, reactive, impulsive, hypervigilant, fearful, angry, intrusive imagery and affects, racing thoughts, aggression, lashing out at others. Respond to stimuli in a maladaptive manner.
Optimal Zone/Emotionally Integrated	Encompasses both intense emotion and states of calm or relaxation, in which emotions can be tolerated and information integrated. Respond to stimuli in an adaptive manner.
Hypoarousal	Flat affect, numb, empty, cognitively dissociated, uninterested, unmotivated, difficulty concentrating, low energy. Respond to stimuli in a maladaptive manner.

Self-awareness. Self-awareness has been identified as a vital element of transformational self-development (Gill, Ramsey & Leberman, 2015). Defined as, “knowing one’s internal states, preference, resources and intuitions” (Goleman, 1995), it involves being able to consult one’s inner feelings accurately (Gill et al., 2015). Mayor and Salovey (1997) state that well developed self-awareness affords the holder a reliable basis for perceiving, understanding, and facilitating thought, emotion and action appropriately. Self-awareness also incorporates a person’s attentiveness to words and actions of others and the influence they have on the observer (Gill et al., 2015). In perhaps the simplest terms, self-awareness is about learning to better understand why we feel what we feel and why we behave in the ways we do (Warwick University Counselling Service, 2017).

It is known that focusing attention on the self can foster perspective-taking and, in doing so, reduce egocentrism (Abbate, Boca & Gendolla, 2016; Coté, 2017). Increasing our self-awareness helps us predict not only the possible results of our own actions with regard to others, but also distinguish, identify, and predict other people's actions, whereas a lack of awareness can lead to distortions and misperceptions when communicating with others (Ogden et al., 2006).

Not surprisingly, Ogden et al. (2006) suggest that self-awareness is an imperative aspect of healthy relationships. Becoming self-aware of how, when, and why we slide out of our 'optimal zone', and into emotionally unregulated states is the first step in recognizing our unhealthy survival strategies. Through enhanced self-awareness, not only do we have the opportunity to widen our 'optimal zone', we also gain the ability to better identify triggers (events, actions etc.) that push us out of our optimal zone and into states of hypoarousal or hyperarousal, where we respond to stress in an animal-like fashion (Siegel, 1999; Ogden et al., 2006).

Emotional Integration, Self-Awareness, and Relatedness Amongst Athletes

Varsity-level athletes experience numerous stressors, prior to, during, and following athletic competition. Examples of factors that may be interpreted by individuals as stressors include, performing in front of hundreds, sometimes thousands of spectators, and meeting the expectations of coaches, managers, and professional scouts and recruiters. In addition, players have to perform following extensive travel, oftentimes embarking on road trips to other universities that are hundreds of kilometres away, and engaging in practice on all non-competition days, despite having to attend academic classes, and complete course assignments and examinations. Furthermore, players are often competing amongst each other for playing time, or to earn favour with the coach, and to maintain scholarships (Ryan & Deci, 2017). In short, the stakes are high, the days are hectic, and the level of expected physical and mental performance can be tough to both achieve and maintain.

As a former varsity-level athlete, I remember frequently presenting to practice and games feeling the negative impact of some of the stressors described above. Although I never had the language to describe it, looking back at that experience now, I now know that I was often sliding out of my optimal zone, and into states of hypoarousal or hyperarousal. This was happening while I was at the rink, during team workouts, and during team road trips. I believe that this negatively impacted my ability to positively relate to my teammates on many occasions.

Using Ogden et al.'s (2006) model to conceptualize this experience, I now look back on my time as a varsity athlete and wonder how I would have related to my teammates if I had have had the chance to learn the model at that time. I believe that if I had the self-awareness and psycho-education to better understand why I was reacting the way I was in high-stress situations, I may have been able to incorporate adaptive strategies to enhance my ability to relate positively to my teammates, which may in turn have helped the team perform better on the ice.

Table 1B*Categories of Sources of Strain*

Competition	Organization	Personal
Injuries (type, severity, recovery, emotional response to injury)	Coaching staff (relationship, motivational climate).	Athletes' cognitions and emotions (self-doubt, motivation level, goal orientation and goals etc.)
Emotions (stress, anxiety, anger, guilt, fear, shame, hope, relief, happiness, etc.)	Teammates (relationship, motivational/supportive climate)	Biological factors (age, body type, height, weight, etc).
Cognitions (perfectionist, worry, choking under pressure, athletes' perceptions of performance, burn-out, self-doubt etc.)	National Sport Federation (expectations, support, team processes, etc.)	Relationships with significant others (family, partner, friends, etc.)
Competition Obligations (schedule, travel, travel roommates etc.)	Training Obligations (development and training objectives and plans, schedule, relocation, venue, time away from family and loved ones etc.)	Cultural beliefs and influences
Environment (weather, noise, crowd, etc.)	Sponsorships (agreements, expectations, etc.)	Athletes' status (successful country's view and sport)
	Financial burdens (limited opportunity to earn a salary, expenses, etc.)	

Note. Adapted from Allain 2013; Flettcher, Hanton & Mellalieu, 2006).

Chapter III: Methodology

The goal of this study was to examine if enhancing relatedness amongst varsity-level athletes improved team performance. The data gathered over the course of this study is qualitative in nature. Magnusson and Marecek (2012) write that the goal of qualitative research is to understand the meanings that people ascribe to events and actions, and how they make these meanings their own. Magnusson and Marecek (2012) also state that people's own words afford the best access a researcher can have to understand their experiences. This is why semi-structured questionnaires, which bring forward people's stories, worldviews and beliefs, are so useful (Magnusson & Marecek, 2012), and why I chose to use them in this study.

A qualitative sensibility. Braun and Clarke (2013) describe certain skills that together comprise a qualitative sensibility. These skills include an interest in process and meaning, a critical and questioning approach to life and knowledge (not taking things at face value), and the ability to reflect critically on your cultural membership (Braun & Clarke, 2013). The ability to listen intently, and to critically reflect upon what is being said is also imperative to qualitative sensibility, as is reflexivity (critical reflection on the research process), and finally the ability to develop good rapport and trust with the participants (Braun & Clarke, 2013).

In order to complete this study, it was imperative that I gain a trusting relationship with the participants. For many participants, it was their first time participating in a research project, and I worked hard to make them feel safe, to remain fully informed, and to create open lines of communication between them and me over the course of the study. I also worked diligently to ensure that participants felt the freedom to reply to the semi-structured questionnaires truthfully, and not in a way they deemed socially acceptable, or in a way that they felt would please me.

Research Design

This study incorporated a quasi-experimental design. As the researcher, I was attempting to enhance relatedness amongst all members of the group. Therefore, it was important that as many members of the team as possible participate in the study interventions

together. It would have been contradictory, and perhaps even harmful to split the participants into a control and experimental group.

It is important with this research to understand the consent process. After careful consultation with the Research Ethics Board, it was determined that participants should not have to decide whether they wanted to participate in the study immediately following the study explanation and receiving the Explanatory Letter (Appendix A). If it were the case that participants had to make a decision on consent immediately, and in front of their peers, they may have felt increased pressure to participate. Therefore, following the team meeting where I thoroughly explained the nature and purpose of the study and described the nature of participation and the participants' options, I offered the players one full week to consider their options before deciding if they wanted to participate in the study.

It was determined that players should have three options in regards to participating in this study (Appendix B). These three options were put in place in order to reduce the risk of coercion, and to eliminate any feelings of peer pressure to participate in either the interventions and/or the data collection portions of the study. The three options put in place for the players were:

Option A: To not participate in any aspect of this research study. This meant that players did not have to participate in any of the psycho-education sessions or the relatedness-building sessions, and did not participate in any way as research subjects.

Option B: To participate in any or all of the psycho-education sessions and any or all of the relatedness-building sessions that I offered to the players, but not participate in any way as research subjects. This meant that players were able to participate in the sessions, however, they were not expected to answer any research questions, or provide any personal information or insight following their participation. It also meant that any contributions that they made to group discussions would not be incorporated into research data.

Option C: To participate in the psycho-education and relatedness-building sessions that I offered, and to participate as research subjects. If participants chose to participate as research subjects, they were allowed to offer as much or as little information as they felt comfortable with on the qualitative questionnaires.

Participants could withdraw their consent at any time throughout the study.

Due to extraneous circumstances (cancellations and weather) the participants actually had over two weeks to consider if they wanted to participate before having to make a decision. I believe that this was an effective way to minimize any feelings of coercion that players may have felt when contemplating participation.

It is important to note that no coaches or staff members were present during any interventions. Coaches/staff members did not have the right to access any study data, nor were they privy to any information regarding if/who participated in study interventions. I thought that it was imperative to reduce pressure to participate in the interventions that players may have felt from the coaching staff. Also, I wanted to emphasize open and unbiased lines of communication between the participants and me. This would not have been possible if coaches/staff were privy to the data collected.

Study Participants

I chose a purposive convenience sampling approach in this study, since I wanted to work with a group of varsity-level athletes who comprised a team in order to generate insight and understanding of their collective performance. Convenience sampling refers to selecting a sample based on accessibility and convenience to the researcher (Braun & Clarke, 2013). The participants for this study were a convenience sample of sixteen players on the Varsity-Level women's volleyball team at the University of New Brunswick.

I initially made contact with the varsity-level coaches at the University of New Brunswick via email, in the summer of 2017. In the email, I explained the purpose of the study, and invited coaches to contact me if they would like more information, or if they believed their players

might like to participate. I was contacted by the Head Coach of the University of New Brunswick women's volleyball team, who invited me to speak to the team about the study.

At time of study, players ranged in age from 18-23 years. Years of experience competing in this varsity-level sport ranged from 0-4 years. This sample was chosen because they were a varsity-level athletic team, and their coach demonstrated an initial interest in having the players participate. Also, this sample was chosen because they were readily accessible and in close geographic location to the researcher, thus logistics for interventions and data collection was facilitated, making the study financially feasible. Furthermore, the participants were willing and motivated to participate as active members in the interventions and data collection. Finally, these participants were chosen because they competed athletically for two semesters, which allowed me the necessary time to gain Research Ethics approval, to build rapport with the players, and more time to work collaboratively with the team.

Trustworthiness

When conducting qualitative research, it is important to address the issue of trustworthiness. Braun and Clarke (2013) speak of the four elements, which combine to help ensure the trustworthiness of data derived in a qualitative study. These elements are known as dependability, confirmability, transferability and credibility (Braun & Clarke, 2013).

Firstly, dependability accounts for factors of instability in the design of a study (Braun & Clarke, 2013). In order to account for dependability, I documented any changes that occurred over the course of the study.

Secondly, confirmability is described by Braun and Clarke (2013) as interpreting the data in a way that is representative of the perspectives of the participants. This requires researchers to ensure that no personal feelings or bias impede the interpretation of the data collected. One method to ensure confirmability of the data is to have an individual not involved in the study perform an audit. Therefore, in order to ensure confirmability, I had an individual who was not

involved in any portion of the study, nor interested in study results, perform an audit of the data that I collected.

It is important to ensure that qualitative research studies can be duplicated by other researchers in the future. In order to do so, researchers need to know the context in which the study took place. In order to ensure transferability of this study to future research contexts, I carefully documented the time, place, and social context that the study took place in (Braun & Clarke, 2013).

Finally, the fourth element described by Braun and Clarke (2013) necessary to ensure trustworthiness of research data is credibility. Braun and Clarke (2013) define credibility as the need for researchers to accurately reflect the perceptions of the participants with the realities transferred by researcher(s). There are different ways of ensuring credibility, two of which are prolonged engagement with participants and persistent observation. I was able to ensure data credibility through both of these methods. I worked with the team over the course of many weeks and several sessions. I engaged with the team over the course of the season, taking in many games and practices. This allowed me to see how the team was interacting on the court (Braun & Clarke, 2013).

Data Collection

The data collected in this study was gathered via semi-structured questionnaires following each study intervention. They were conversational in nature (Magnusson & Marecek, 2012), and invited the participants to tell their stories without fear of disapproval or criticism. A semi-structured Initial Needs Assessment was administered before the study began, to provide baseline data for the study. The final semi-structured questionnaire was administered at the conclusion of all study interventions. These questionnaires are described below.

Initial needs assessment. The implementation of the Initial Needs Assessment (Appendix C) came from the recommendations of Allain (1997). In Allain's (1997) concluding remarks, she specifically suggests that in future similar studies, "a needs assessment be conducted..." (p.

126). The Initial Needs Assessment served as a baseline measure for this study, and data derived from this assessment was used to spur constructive conversation with participants following each intervention. The goal of the Initial Needs Assessment was to gather data on how participants felt they related to their teammates prior to the commencement of the study, and to gather data about how participants felt their team related to one another as a whole. Finally, the Initial Needs Assessment aimed to identify certain factors of relatedness that participants felt were most important to them personally, as well as to the functioning of their team (i.e. trust, inclusion, role-acceptance).

Allain (1997) recommended that data from the Initial Needs Assessment be used to build the structure for study interventions. For example, if a theme from the Initial Needs Assessment was that the participants lacked trust, then future study interventions should be designed to create trust building opportunities. Unfortunately, this recommendation was not possible to follow, as the Research Ethics Board required that all study interventions be set before approval would be granted.

Post-intervention questionnaire. The purpose of the Post Intervention Questionnaire (Appendix D) was to gather rich data about how participants experienced the intervention, how they felt the session impacted them personally, and how they felt it impacted the team as a whole. Four identical Post Intervention Questionnaires were administered over the course of this study, one after each of the four study interventions.

Final questionnaire. The purpose of the Final Questionnaire (Appendix E) was to gather data on how participants were impacted by the study interventions as a whole. It was administered at the conclusion of the study, and in the final week of the participants' varsity season. The Final Questionnaire was designed to gather participant's insight/opinions on their relatedness to teammates, their teams' relatedness as a whole, and how it may have impacted the team's performance.

Data Management

Over the course of the study, all data was maintained in a locked filing cabinet in my locked office. After each point of data collection, I returned home and filed the data. As instructed, study participants did not place any identifying information on their questionnaires.

Data Analysis

Thematic analysis. Thematic analysis allows the researcher to see and make sense of collective meanings and experiences (Braun & Clarke, 2013), and focus on data in numerous ways, making it suitable for a wide variety of research questions and research topics. In this study, I incorporated an inductive approach to data analysis. An inductive approach is a bottoms-up approach, and is driven by what is in the data (themes derived from the content of the data) (Braun & Clarke, 2013).

Why thematic analysis? There are numerous reasons that thematic analysis was chosen as the method for analyzing the data of this study. Strengths of thematic analysis include: it's flexibility (in terms of the theoretical framework); it's accessibility to researchers (even researchers with little experience); the fact that it is relatively easy and quick to learn, and; finally, that the results of thematic analysis can be accessible to an educated wider audience (Braun & Clarke, 2013). In sum, as thematic analysis offers a way of completing qualitative research that teaches the mechanics of coding and analyzing data systematically, and linking it into broader theories. It is a suitable method of analysis for those new to qualitative research, and is particularly suitable for student research projects (Braun & Clarke, 2013).

Braun and Clarke's six-step process. Being systematic and thorough is crucial in successful thematic analysis (Braun & Clarke, 2013).

Phase 1: Becoming familiar with the data. The analysis of qualitative data essentially begins with a process of immersion in the data (Braun & Clarke, 2013). The aim of this phase is to become familiar with the data, and to begin to notice things that may be relevant to your research question (Braun & Clarke, 2013). This step requires the data to be read, and re-read until the researcher is familiar with what the data entails. It is important to understand that this

first step is not a passive process, rather it is about reading data as data, which requires reading the data actively, analytically, and critically and starting to think about what the data means (Braun & Clarke, 2013). Analyzing the data in such an active way assists researchers in searching for meaning and patterns in the data set. Note-taking is an essential part of this first step, as it can help develop potential codes (Braun & Clarke, 2013).

Phase 2: Generating initial codes. The second step in Braun and Clarke's (2013) six-step process is to identify aspects of data that have a reoccurring pattern. This systematic way of organizing and gaining meaningful parts of data related to the research question is called coding, and there are two main approaches to coding, known as selective coding, and complete coding (Braun & Clarke, 2013). Braun and Clarke (2013) write that, "selective coding involves corpus of instances of the phenomenon that you're interested in, and then selecting those out" (p. 206). When using the complete coding approach, researchers should aim to identify anything and everything of interest to answering the research question. A code is simply "a word or brief phrase that captures the essence of why a researcher thinks a particular bit of data may be useful" (Braun & Clarke, 2013, p. 207). Coding can be thought of as a way to simplify the data that is derived from a study, so that is more manageable.

Data derived and researcher derived codes. Braun and Clarke (2013) distinguish between data derived and researcher derived codes when describing step-two of their six-step process. Data-derived codes are semantic codes, because they are based in the semantic based meaning in the data, and they mirror participants' language and concepts (Braun & Clarke, 2013). However, researcher-derived codes go beyond the explicit content of the data and instead, "invoke the researcher's conceptual and theoretical frameworks to identify implicit meaning within the data" (Braun & Clarke, 2013). In researcher-derived codes, the researcher's assumptions and frameworks allow them to see a particular thing in the data, and thus interpret and code them in a certain way (Braun & Clarke, 2013). In practice, the separation between

data-derived and researcher derived codes is not pure, and therefore codes can have elements of both, as they do in this study.

Phase 3: Searching for themes. Phase three of Braun and Clarke's (2013) six-step process is to search for themes. In this phase, the researcher examines how the codes derived in step-two combine to form over-arching themes (Braun & Clarke, 2013). A theme can be defined as, "something important about the data in relation to the research question, and represents some level of patterned response or meaning within the data set" (Braun & Clarke, 2006, p. 82). A useful metaphor for distinguishing between steps two and three of the process is, "if you imagine your analysis is a brick-built, tile-roofed house, your themes are the walls and roof; your codes are the individual bricks and tiles" (Braun & Clarke, 2013, p. 207). Themes differ from codes in that themes identify what the data means, they consist of ideas and descriptions that can help the researcher explain events, statements and outcomes from the participant's responses (Braun & Clarke, 2013). In this step, when looking for the patterns that are most important in relation to the research question, it is not as simple as looking at the codes that occur the most frequently. While frequency is important, it is also about capturing the elements that are most meaningful for answering the research question (Braun & Clarke, 2013).

It is important to note that developing themes from coded data is not a passive process, as can sometimes be implied when we read phrases like 'themes emerging from the data' (Braun & Clarke, 2013). In reality, developing themes from coded data is an active process, as analysts, make active choices about how to shape their data limited by their original dataset, similar to sculptors who craft their work of art from their original substance (Braun & Clarke, 2013).

Phase 4: Reviewing and revising themes. By stage 4 researchers should have a potential set of themes that were derived in stage three; therefore, in this stage, it is time to review these themes, and verify whether your themes fit well with the coded data (Braun & Clarke, 2013). There are different ways that a researcher can ensure that the themes they have identified are faithful to the dataset, that they go beyond the surface level, and are critically and theoretically

informed (Braun & Clarke, 2013). These include, firstly going back to the coded data and making sure that each candidate theme works in relation to these, secondly, going back to the whole dataset to make sure that the themes identified capture the meaning of the dataset in relation to the research question, and thirdly being prepared to let things go (Braun & Clarke, 2013). By being prepared to ‘let things go’, Braun and Clarke (2013) are referring to the fact that it is vital to not become attached to the candidate themes, as some may need to change or be eliminated entirely after review.

Phase 5: Defining and naming themes. In working towards the final analysis, researcher’s need to be able to clearly define their themes, and to be able to state what is unique and important about each theme (Braun & Clarke, 2013). Each theme should have a clear focus, and purpose, and when taken together the themes should provide a coherent and meaningful picture of the patterns in the data that address the research question (Braun & Clarke, 2013). By the end of stage five, researchers should be able to define the themes, and explain each theme in a few sentences, and tell an accurate story of what the data means in relation to the research question.

Phase 6: Developing the analysis and producing the report. In the final step, it is time to select extracts of data that can demonstrate the different facets of each theme, and narratively describe the story of each theme (Braun & Clarke, 2013). The goal here is to convince the reader of your analysis, and “compellingly illustrate the analytic point you are making about your data” (Braun & Clarke, 2013, p. 243). Put simply, the analysis is the narrative that you write around the data, which tell the reader your story about the meaning and the content of the data (Braun & Clarke, 2013). At this stage, actually analyzing the data is imperative. This does not mean paraphrasing what the research participants have relayed, but instead telling the reader what is interesting about the data, and why it is so. Furthermore, every analysis should include a link back to the existing literature, and discussing how it contributes to the field. In short, the analysis interprets the data, connects it to the research question, and ties it back into existing

literature. There are two different ways that data extracts can be treated in qualitative analysis, and it is important to differentiate between the two.

Treating data illustratively or analytically. In the illustrative approach, the researcher's analytic narrative provides a rich and detailed description and interpretation of the theme. Data quotations can be used throughout as examples of the analytic points that the author is claiming (Braun & Clarke, 2013). However, if the extracts of data were removed from the analysis, a reader would still be able to make sense of the data because of the thorough and coherent description (Braun & Clarke, 2013). When using an analytical approach, researchers use interpretative claims about the particular extracts that they present and more general claims about the patterns that exist among the themes as a whole (Braun & Clarke, 2013). In this study I chose the analytical approach.

Data Presentation

As Braun and Clarke (2013) write, it is important to edit out unnecessary and irrelevant data from extracts. As the data in this study was gathered via semi-structured questionnaires, where participants wrote out their responses there was very little 'cleaning up' for me to do. However, I have corrected punctuation in certain cases (ensuring that doing so did not change the meaning of the participant's response), in order to enhance readability.

Interventions

Four researcher-administered interventions were used in this study. Below I describe each session's purpose, goals, structure, and data collected.

Initial Consultation

Purpose of the session. The purpose of the initial consultation was to introduce myself to the team members and to offer a brief overview of SDT. It was also to explain the nature and purpose of the study, to explain the different participation options, and to field any questions/concerns that players had about participating.

Goals of the session. Goals of the session were to thoroughly inform the players about the nature and purpose of the study and invite them to participate. I was also working to gain rapport with the players during this session.

Structure of the session. During the initial consultation, the nature and purpose of the study was thoroughly explained. Firstly, a brief overview of SDT was offered to participants. An in-depth explanation of the relatedness construct was offered. All of the interventions that were going to be administered in the study were also explained (psycho-education session #1, psycho-education session #2, relatedness-building session #1, and relatedness building session #2).

The three options that participants could consider in terms of participation were discussed. Participants were given a copy of the Explanatory Letter (Appendix A), and the Informed Consent form (Appendix B) and were invited to read it over. I answered any questions that participants had about the study, and ensured that they had my contact information, as well as the contact information of my supervisor, Dr. Helen Massfeller. During the initial consultation, I explained to the participants that they had a week to consider if/ how they wanted to participate in the study.

Data collected. No data was collected during the initial consultation.

Initial Needs Assessment

Purpose of the session. The purpose of this session was to gain player consent to participate in the study, and to administer a baseline measure of assessment.

Goals of the session. The goals for this session were to gather consent from players that wished to participate in the study, and administer the Initial Needs Assessment with those that consented to participate. Furthermore, I worked to build rapport with the players.

Structure of the session. I began the session by briefly revisiting the Explanatory Letter (Appendix A) and Informed Consent (Appendix B) forms, and asking the players if they had any further questions or concerns. I then asked the players that wished to participate to

ensure their consent forms were signed and hand them into me. All of the players ($n = 16$) agreed to participate, signed their forms and submitted them to me. Once consent was gathered, I explained the nature and purpose of the Initial Needs Assessment (Appendix C), and fielded any questions/concerns that the participants had. I administered the Initial Needs Assessment to participants, who completed them and returned to me. After all data was collected, we agreed to meet the following week to complete Psycho-Education session #1.

Data collected. Every participant ($n = 16$) completed the Initial Needs Assessment.

Psycho-Education Session #1.

Purpose of the session. The purpose of this session was to enhance relatedness amongst team members.

Goals of the session. The specific goals of this session were to:

- Deliver psycho-education on emotional integration, emotional dysregulation and emotional suppression (Ogden et al., 2006).
- To normalize the experience of emotional dysregulation and emotional suppression (Siegel, 1999; Ogden et al., 2006).
- Increase participant's self-awareness (Ogden et al., 2006).
- Increase participant's awareness of others emotional states and triggers (Siegel, 1999; Ogden et al., 2006).
- Facilitate the chance for positive participant behavioural change.
- Create a framework for participants to conceptualize their experience during the relatedness-building sessions that would follow in the coming weeks.

Structure of the session. This session took place in the participant's locker room, in a relaxed setting, where the participants were invited to sit in their stalls, or on the floor. Participants had the option to take personal notes of the session if they pleased, and were encouraged to participate actively. During this session, I explained the theory on the white-

board, while the participants listened, and voiced any questions that they had. After the theory was explained, and participant questions fielded, I asked the participants to brainstorm different factors that they felt influenced them to shift into either emotional dysregulation or emotional suppression. Participants could respond spontaneously, providing answers as they wanted, and the session was intended to be informal since I wanted to continue to build strong rapport. Participants were able to brainstorm a number of things that influenced their shift out of emotional integration, and into emotional dysregulation or emotional suppression, in everyday life. Participants were also asked to brainstorm things that can push them out of their emotional integration zone while they are on the court, or preparing to compete before a game and/or practice.

Debriefing. Following the explanation of the theory, and the brainstorming of strategies, I facilitated a debriefing session with the participants. At this time, I asked the participants if they had any further questions, feedback, or concerns about the session. We discussed how many small factors can contribute to participants shifting out of a state of emotional regulation, and into states of emotional suppression or emotional dysregulation.

Data collected: Following the session, Post-intervention Questionnaire #1 was administered.

Psycho-Education Session #2

Purpose of the session. The purpose of this session was to enhance relatedness amongst team members.

Goals of the session. The specific goals of this session were to:

- Brainstorm strategies that the participants were either already using, or thought would be effective to help them sustain emotional integration both on and off the court.
- Teach participants strategies geared towards helping them achieve emotional integration.

- Build on the framework for participants to contextualize their experience in the relatedness-building sessions.

Structure of the session. This session was delivered in a conference room on the University of New Brunswick campus. I facilitated the session while standing at the front of the room, and used a white board to help demonstrate concepts. Participants were seated in three rows, with desks in front of them. The participants were familiar with this setting, as it is often a place where team meetings are held, and game video sessions are facilitated. Therefore, I believe that participants felt comfortable in this setting. In this session, participants were invited to jump in at any time in the session to ask questions, seek clarification, or offer feedback and comments.

Debriefing. Following the explanation of the theory, and the brainstorming of strategies, I facilitated a debriefing session with the participants. At this time, I asked the participants if they had any further questions, feedback, or concerns about the session.

Data collected. At the conclusion of this session participants were invited to complete post-intervention questionnaire #2.

Relatedness-Building Session #1: Group Juggling

Purpose of the session. The purpose of this session was to enhance relatedness amongst team members.

Goals of the session. The specific goals of this session were to:

- Foster enhanced communication amongst group members (Rohnke, 1982; Allain, 1997).
- Challenge the team to deal with distractions.
- Challenge the team to work through moments of frustration and failure.
- Have fun!
- Use what the participants had learned about emotional integration to explore their experiences in this session.

- As a researcher I was curious if any of the participants would use what they had learned in previous sessions to help them prepare to perform during this session. As the participants had just finished competing on the court, and had already experienced a long day of classes, and assignments, I invited them to use emotional integration strategies, to help them work through these distractions, and focus on the task at hand.

Structure of the session. This session was delivered in the team locker room following an evening practice. Participants were invited to take a seat on the floor of the locker room and to form a circle. Similar to the structure used by Allain (1997), the diameter of the circle was approximately two to three metres. I explained the instructions of the game, while the participants sat and listened. I informed them that I was going to introduce a tennis ball into the circle by handing it to a participant. This participant was then going to make eye contact with someone else in the circle and throw that person the ball. I instructed that this sequence should continue until all team members had touched the ball once. Once the sequence was established (participants continue to pass the ball to the same person), I would add more balls to the circle. I asked for the participant's feedback on whether or not they would like to call the person's name vocally before tossing them the ball. I did not tell the participants that I would be adding other objects into the sequence besides tennis balls, as they were intended to form a distraction from the regular tennis ball sequence.

I allowed the participants to complete one practice round, establishing a sequence with only one tennis ball in play. After the sequence was established, and the participant's relayed that they were ready to continue, the sequence began again. I continued to introduce new tennis balls into the circle, handing them to the same participant every time. I also mixed in two 'distraction items', which were a green apple, and an orange. In total, I introduced nine tennis balls, and the two distraction items into the circle for a total of eleven items. Subjectively, I was very surprised and extremely impressed at the juggling skill of the group, as they were able to

successfully juggle the items, with only the odd ball dropped every few minutes. After a couple of minutes, when more than three items had left the circle, I stopped the activity, and asked if the participants wanted to begin anew, but this time with the stereo playing loudly, so that their vocal communication would be more difficult. The participants quickly agreed, and I turned on the stereo loudly, and began re-introducing the balls in sequence. After a couple of minutes of intense juggling, I again stopped the activity.

Debrief. At the conclusion of the Group-Juggling session, I facilitated a debriefing session with the participants. At this time, I asked the participants if they had any further questions, feedback, or concerns about the session.

Data Collected. At the conclusion of this session participants were invited to complete post-intervention questionnaire #3. Again, I emphasized that participants offer as much or as little feedback as they felt comfortable.

Relatedness-Building Session #2: Water Balance

Purpose of the session. The purpose of this session was to enhance relatedness amongst team members.

Goals of the session. The specific goals for this session were:

- For the participants to have some fun. The team had endured many losses to this point in the season and were feeling discouraged with the team performance. Team members had expressed numerous times that they felt they needed to enjoy volleyball more, rather than experience it as a job.
- Enhance participant communication skills.
- Provide an opportunity for participants to experience group success.
- Challenge the participants to work collaboratively in a competitive atmosphere.

Structure of the session. This session also took place in the team locker room. I had previously asked the participants to ensure that they bring sneakers, socks and track pants to the

session so that they could complete the session. I brought two, five-gallon plastic containers that were cylinder shaped to the session. Upon arriving I had them filled approximately a quarter full with water with the help of a participant. I instructed the participants to put their socks and athletic sneakers on and tie their laces. I then asked them to form two groups of eight, and for each group to form a small circle on the floor of the locker room.

I proceeded to explain the session, describing how, while lying on their backs, participants were going to balance the water bucket above the ground using only their feet. While maintaining the balance of the bucket, one-by-one each member of the group was going to individually remove their feet from the bucket and rapidly untie their shoes and remove their socks. I explained that both teams were going to begin at the same time, and the first team to have all their shoes and socks removed without spilling any water out of the bucket would be the winner. As a group we decided that the teams would complete a best of three series (first team to win two games would be the winner).

Debrief. At the conclusion of the Water-Balance session I facilitated a debriefing session with the participants. At this time, I asked the participants if they had any further questions, feedback, or concerns about the session.

Data collected. At the conclusion of this session participants were invited to complete post-intervention questionnaire #4. Again, I emphasized that participants offer as much or as little feedback as they felt comfortable.

Final Meeting

Purpose of the session. The purpose of this session was to collect the final portion of study data.

Goals of the session. The goal of this session was to collect the final portion of study data, to offer my gratitude for player participation, and to re-iterate to participants how to stay informed with study proceedings over the next months.

Structure of the session. The session was held in the participant's dressing room. I began the session by thanking the players for their participation and asking if they had any final questions or concerns. I then delivered the Final Questionnaire to the study participants.

Data collected. The Final Questionnaire was administered at this time.

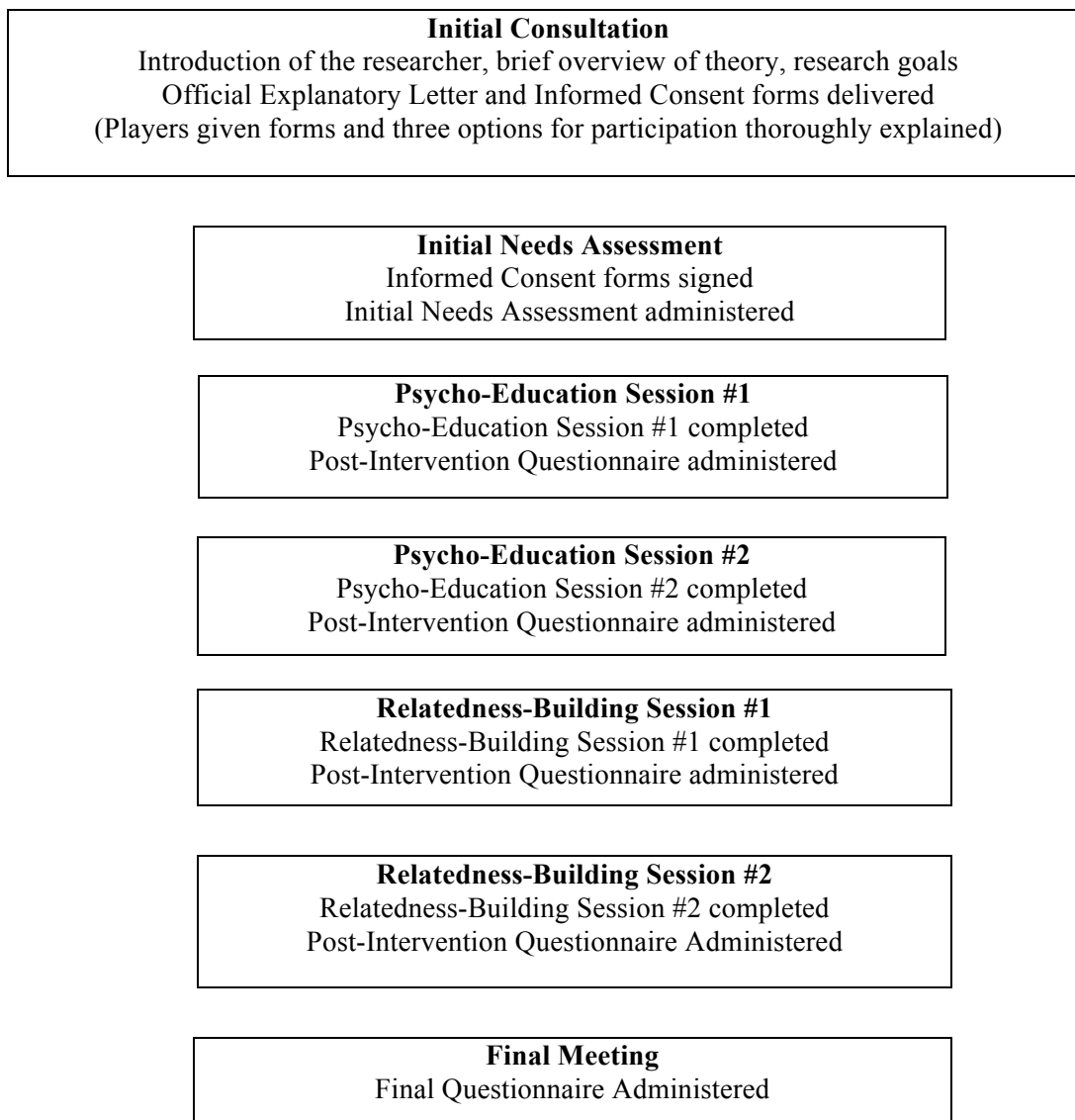


Figure 1A. Intervention delivery summary.

Chapter IV: Results and Discussion

This chapter presents the results from each of the six questionnaires administered over the course of the study, beginning with the Initial Needs Assessment that participants completed at baseline, proceeding to the Post-Intervention Questionnaires administered following each of the four study interventions, and concluding with the Final Questionnaire administered at the end of the study.

Initial Needs Assessment

Personal Relatedness to Teammates.

Theme #1: Related. The Initial Needs Assessment asked participants how they felt they personally related to their teammates. A number of participants reported that they felt they related well to teammates before any interventions had begun. As Deci and Ryan (2017) write, the core of relatedness involves having other humans respond to us with sensitivity and care, and for them to convey the message that we are valued, appreciated and significant. Participants expressed that they felt they related well to their teammates in different ways, which is evident in the following data excerpts:

“... very well – probably the closest I’ve been with a team so far... I feel like I can make connections with everyone on the team...” (Player I).

“... close and bonded more than in past years... confident in our abilities... happy we are all friends already...” (Player H).

As the Initial Needs Assessment was delivered prior to any study interventions, I do not believe that participants had any reason to falsely relay that they felt a connection to teammates in an attempt to please me as the researcher.

Theme#2: Distant. A second theme, of feeling unrelated to teammates emerged from participant responses on the Initial Needs Assessment. Based on the data, it seems that some participants did not feel like a part of the team. As discussed, from a SDT perspective, the

meaning and motives of a great deal of human behaviour can be linked, either directly or indirectly, to the need for relatedness, from forms of dress, to social media rituals, to preoccupations with status, image and achievements (Ryan & Deci, 2017). At the time of the Initial Needs Assessment, the participants had been team members for several weeks; they had travelled together on road trips, and had practiced together on the court. Moreover, traditional attempts had been taken by the coaching staff to increase team-relatedness, for instance, all team members had been issued identical Adidas tracksuits, as well as matching athletic sweatshirts and backpacks. Despite these efforts, some participants still felt emotionally distant from their teammates. Consider the following excerpts of data, which demonstrate some participants feeling of being an outsider at the outset of this study.

“... I don’t know everyone as well as they know each other... I came in after training camp, kind of an outsider...” (Player N)

“... I feel like I related on some levels, while on others I don’t. We’re all on the team together, working towards the same goals... but as an individual, I have a different role in getting there than others, which makes me feel somewhat separate and distant from my teammates...” (Player A).

Theme #3: Mixed. A third theme, of mixed relatedness emerged from the data, suggesting that some participants felt well connected to some teammates, and not so well connected to others. SDT tells us that people can behave in ways that they think others would like in order to feel connected, however, unless people feel somehow personally acknowledged and affirmed for their actions, their psychological need of relatedness will not be filled (Deci & Ryan, 2017). It is unclear from the data if participants experienced specific instances where they were not acknowledged or affirmed by teammates, however it is clear that some participants felt somewhat related to teammates, but not entirely. For instance, participants expressed the following:

“... I relate to some better than others – especially off the court, but we are closer on the court. Overall, I still don’t feel a super strong connection...” (Participant O)

“...Fairly well. Definitely closer to people in my year and with the next year up...” (Participant M).

“... I feel like I clicked with most people very quickly, but there were a few people that I don’t relate to as much. I hope through the year to have personal friendships with everyone on the team...” (Participant B).

These three themes demonstrate that at the time of the Initial Needs Assessment participants felt very differently about their sense of personal relatedness to their teammates. Some participants reported that they felt very well connected, while others felt like outsiders. Some participants felt that they connected well with some teammates, but not so well with others. Interestingly, SDT highlights that despite the importance of relationships to all people, not all social contact yields a sense of relatedness that satisfies a person’s basic psychological need (Ryan & Deci, 2017). For example, the consideration of everyday social interactions makes it readily apparent that some relationships are impersonal, whereas others are more meaningful (Ryan & Deci, 2017).

A study conducted by Downie, Mageau and Koestner (2008) found that people were more likely to experience relatedness when interacting with family members and friends than with coworkers and acquaintances. Deci and Ryan (2017) write that although this study is valid, there are exceptions to the generalities as, at times, interactions with family and friends can be impersonal, superficial and/or objectifying, all of which would decrease the likelihood that the interaction would be experienced as satisfying to one’s basic psychological need of relatedness. In saying this, at the time of the Initial Needs Assessment, it is possible that participants who reported that they felt well connected to their teammates were experiencing their teammates as close friends or family members, whereas those who felt more distant, may have constructed

their relationship with teammates in a similar fashion to relationships with acquaintances or co-workers.

Team Relatedness as a Whole.

The Initial Needs Assessment also examined how participants felt that the team members related to each other as a whole. Interestingly, the themes emerging from this question were different than the previous question on relating on a personal level. Themes derived from the participant responses suggested that some participants felt that as a whole the team was well-connected, that they felt comfortable around each other, and that they were like a family.

Theme #1: Related. Data collected suggested that some participants felt that the team as whole was strongly bonded. The team connection was described using words like family, and tight-knit. When asked how the team relates to one another, some participants expressed the following:

“... As a whole, we are a very tight knit team, we perform pretty well together...”

(Participant J).

“...extremely well...we support each other... enjoy the same things... and have similar goals...” (Participant H).

“... I feel like we all interact with each other... there really isn't any cliques...”

(Participant G).

As SDT emphasizes, it is not simply the dosage or status of human interactions that satisfies the psychological need of relatedness, rather it is specific elements of how people relate to one another (Ryan & Deci, 2017). According to SDT, it is the perceived autonomy and caring between self and another that enables the highest-quality personal relationships, and relationships that are perceived as unconditional and authentic are the ones that are the most satisfying (Deci & Ryan, 2017). The unconditional nature of the participants' acceptance of one another is described by one participant, when asked how she felt the team related to one another as a whole:

“...Even though we are all very different people with different personalities, we get along really well... not judgemental to one another...and very supportive...”

(Participant N).

Relationships such as friendships or romantic partnerships require personal motivation to be maintained (Ryan & Deci, 2017). Psychological evidence has demonstrated a plethora of benefits that may be derived from close personal relationships, including access to information or resources, having allies, and reducing psychological stress (Seyfarth & Cheney, 2012). However, independent of these extrinsic benefits of relationships, the real satisfaction of relatedness will come from both persons (or in this case a group of people) being motivated by an intrinsic caring for one another, rather than extrinsic contingencies (Deci & Ryan, 2017). The intrinsic motivation that some participants felt is evident in the following response from a participant:

“... Extremely well. We get along as teammates but also as friends... we understand each other as we live in the same conditions. Like a family...”

(Participant E).

Theme #2. Somewhat related. A second theme emerged from the data, suggesting that some participants felt that as a whole, the group was somewhat well connected, but could still improve upon their relationships. A divide between the rookies and seniors on the team was felt by some members, and a discrepancy between off-court and on-court relations was also mentioned. For example, one participant expressed the following:

“... 7.5/10... find there is a slight divide between the rookies and seniors because there is so many... but as whole we are well bonded...” (Participant I).

It is unclear from the data why there may have been a divide between rookies and seniors on the team. In high-performance athletic culture, rookies are often ‘hazed’ or forced by older players to prove their commitment to the team by completing a series of rituals (Allain, 1997). Contrary to popular belief hazing rituals usually negatively impact relatedness

satisfaction, because engagement is oftentimes forceful, rather than autonomous (an example being veterans forcing rookies to carry senior players kit bags to and from the bus). SDT emphasizes that relatedness satisfaction depends on others being autonomously and willingly engaged and being autonomous oneself (Ryan & Deci, 2013). However, with this particular team there was no evidence that this sort of ‘hazing’ behaviour was taking place. Nonetheless, it is clear that some team members felt that the basic psychological need for relatedness was not being fulfilled amongst the group. For example, another participant emphasized how they felt that at the time of the Initial Needs Assessment, the team still could make some improvements in relating to one another.

“... I feel as though our team somewhat relates to one another – but we could be closer...” (Participant O)

Despite the fact that humans have evolved to become intrinsically motivated to seek and maintain close, trusting and open relationships, paired with the fact that traditional attempts at enhancing relatedness amongst team members had already taken place to this point in the season (like all members being issued identical team apparel), the data suggests that some members felt that their personal psychological need for relatedness was being unfulfilled from their teammates, and that the team as a whole was failing to relate to one another as well as they could.

Fortunately, the Initial Needs Assessment gathered data on the factors that participants felt were most important in helping them achieve and sustain their psychological need for relatedness with others. As SDT states, unconditional acceptance and autonomous motivation for entering relationships are two of the major factors that help relatedness amongst human’s flourish (Ryan & Deci, 2017). In saying this, there are other factors which contribute to our ability to relate positively to others, and the participants in this study had the opportunity to relay which they felt were the most important in promoting relatedness amongst team members on their varsity-team.

Relatedness Factors

As discussed, satisfaction of the psychological need of relatedness is influenced by a feeling of unconditional acceptance from others, however multiple factors combine to either inhibit or enable relatedness to flourish in personal relationships, including relationships amongst team members (Ryan & Deci, 2017). As Ryan (1993) and Deci and Ryan (2014) depict, different factors like trust, empathy, and the ability to deal constructively with frustration may all play a role in helping athletes satisfy their need for relatedness amongst team members. SDT states that satisfaction of relatedness is highly important in promoting autonomous motivation in sport and positive sporting outcomes (Ntoumanis & Mallet, 2014). Therefore, it was important that the Initial Needs Assessment examine which factors participants felt were most important in helping them satisfy relatedness with their teammates. Different themes emerged from the data, suggesting that participants thought different factors were important in achieving and sustaining relatedness amongst team members.

Theme #1: Trust. Participants expressed that trust amongst teammates was crucial to relating well to one another. In fact, many participants relayed that trust was the most important factor in achieving relatedness with teammates. Consider the following participant excerpt:

“... the most important to me would be trust. We spend so much time together and if we don’t trust each other on and off the court we won’t work well together...”

(Participant F).

Similar to the studies conducted by Ryan (1993) and Deci and Ryan (2014), where being able to trust another person was identified as a key component in enabling relatedness, participants wrote directly about the link they felt existed between trust, and achieving relatedness.

“... Trust is key, it’s hard to be close with someone you can’t trust...” (Participant M).

While another participant added:

“... Trust is most important to me, on and off the court. I want to feel like a team when we're not at volleyball...” (Participant O).

De Waal (2009) writes that humans and primates have a basic need to be responded to, respected, and feel important to others. Evidently, trust plays a role in helping us feel responded to, respected by, and important in the eyes of others. In saying this, it comes as no surprise that participants expressed the importance of trust in satisfying their psychological need of relatedness in their relationships with teammates. As Deci and Ryan (2017) write, if we cannot trust others, or feel that they will betray us, we will most likely not feel responded to or respected, and our basic psychological need for relatedness may be thwarted.

Theme #2: Constructive criticism. In addition to the importance of trust in building strong relationships, participants expressed that having the ability to give and receive constructive criticism was a key factor in achieving and maintaining relatedness amongst team members. This is an interesting theme, and one that requires deeper exploration.

High performance athletic environments, like Canadian varsity sports, tend to be very competitive, and the stakes are often high. Not only are players competing for athletic scholarships, league championships, and in front of family and friends and classmates, many are also competing for an opportunity to play at the professional level. Ryan and Deci (2017) write that elite and professional sports have become much more than just games; they are now an entire industry, and the influence of this industry has subsequently influenced an increase in pressure at the university and junior level of competition (Ryan & Deci, 2017). University athletes, like professional athletes, are susceptible to having their level of intrinsic motivation undermined, and their basic psychological need for relatedness thwarted through increased pressure to perform, and from receiving critical feedback from peers and coaches (Ryan & Deci, 2017). Standage and Ryan (2012) add that pressure to win can come from parents, coaches, and teammates, and that at times this pressure can surface in the form of critical, or harsh feedback. When athletic atmospheres become controlling, critical, and solely focused on winning,

participant's ability to satisfy their core psychological needs may be impaired (Gurland & Grolnick, 2005).

Interestingly, participants relayed that having the ability to both give and receive constructive criticism was essential to relating well to teammates. It is important to point out the difference between constructive criticism, and criticism. Constructive criticism is delivered to help improve, promote further development or advancement, and is not intended to be destructive or demeaning. Criticism, on the other hand, is defined as the act of passing severe judgement, censure, or faultfinding (Ryan & Deci, 2017). When asked which factors were important in relating well to teammates, one participant stated that:

“... Constructive criticism I think is important. I'm the type of person to give advice on technique or try to make them better players but if they don't take my constructive criticism well they will think I'm being mean...” (Participant D).

and others added that:

“... I think being able to take criticism is really important too...” (Participant H).

“...it is important to know how to have difficult conversations with teammates...”
(Participant B).

This theme demonstrates that participants felt that constructive criticism was a necessary component in achieving a sense of relatedness amongst team members. This is interesting, as criticism has previously been identified as need-thwarting in athletic contexts, and has been found to negatively impact autonomous motivation level of coaches and athletes (Rocchi, Pelletier & Couture, 2013). However, in this study, participants clearly identified constructive criticism as a nutrient for relatedness, rather than an inhibitor. I think that, as explained above, it is imperative that this difference between constructive criticism, and criticism be understood, as constructive criticism may enable relatedness, while criticism may hinder its development.

Theme #3. Inclusion. As I have noted throughout this work, and the themes of the data exemplify, different factors combine to either thwart, or enable one's ability to fulfill their psychological need for relatedness. As SDT states, relatedness is about belonging and feeling significant among others (Ryan & Deci, 2017), therefore it is logical that participants would express inclusion as one of the factors necessary for relatedness to flourish within the team. As is evident from the responses below, that participants felt that equal inclusion of all team members and the absence of cliques on a team are instrumental in team relatedness. The response of participant H illustrates this:

“... I think inclusion is really important when it comes to a team. Always including everyone builds relationships that will help us on and off the court...” (Participant H).

while another highlighted the importance of inclusion by relaying that:

“... I feel it is very important to not have cliques. I've been on teams in the past where there are cliques... doesn't end well...” (Participant B).

SDT tells us that, in addition to belonging and feeling significant, relatedness is about being integral to a social organization beyond oneself (Ryan & Deci, 2017). Almost 80 years ago, Anygal (1941) described this concept as homonomy. Homonomy describes how people feel a sense of relatedness when they feel connected and close to others, and when they feel like a significant member of the group through contributing positively to the group. Anygal's (1941) concept of homonomy is captured by one of the participants when they write about the importance of inclusion on the team, in order for the group members to achieve a sense of relatedness:

“... Inclusion is important to make everyone know they play a key role on the team...” (Participant M).

Anygal's (1941) concept is important to consider in this context, as it really highlights the importance of contribution to the group as an integral aspect in achieving a sense of

relatedness. Unfortunately, on athletic teams, certain members can sometimes feel like they are not contributing to the group. Consider that on this particular team, there are sixteen members, and only six members can be on the court competing at any given time against their opponent. Therefore, while six team members battle against an opposing university's club, ten team members are on the sidelines, unable to contribute in the same way to the team goals in that moment. The theme that emerged from the Initial Needs Assessment suggested that despite the fact that all the team members would play a different role on the court over the course of the season, they should all be equally valued members of the group and recognized for their contribution.

Team Goals

The Initial Needs Assessment gathered data about the team goals, and how the individuals felt about the goals that had been set. Setting team goals at the beginning of the season is something that many athletic teams do, especially at the varsity-level, as the competition is extremely competitive. As a researcher, I wanted to gather data about the team goals, and how participants felt about the team goals. From personal experience as a varsity-athlete, I knew that personal buy-in to team goals usually fluctuated amongst different team members. It has also been my personal experience that when team members feel differently about team goals, it can strain team cohesion. Therefore, although I was not directly involved in creating the team goals prior to the season, I thought that gathering data on the team goals, and how participants felt about these team goals may offer important insight on how team members were relating to one another and how it may be impacting the team's performance on the court.

Interestingly, team members responded differently to what the team goals were for the season.

Theme #1: Win Atlantic University Sport Championship. Winning the Atlantic University Sport Conference Championship was the primary goal identified, as numerous participant responses reflected this goal:

“... Win AUS... and to go to Nationals!” (Participant H).

“... We want to win the AUS...” (Participant L).

“... Win an AUS banner!” (Participant I).

Although many participants felt that the goal for the season was to win the Atlantic University Sport Championship, not all participants responded in this way, suggesting that there may have been some confusion as to what the team goals were for the season. A second theme demonstrates this discrepancy in the participants’ responses.

Theme #2: Mixed goals. Some participants described different team goals for the season, some of which were in addition to winning the Atlantic University Sport Championship, while others did not report winning an AUS banner as part of the goal for the season at all. The response offered by Participant E demonstrates the fluctuation in reported team goals for the season:

“...to work as a team and get a few wins and improve together and prove to other teams that we are getting better...” (Participant E).

while another added that:

“... The goal is to be able to give and receive constructive criticism, win AUS, work very hard, and to leave other problems at the door...” (Participant J).

Another participant added that winning the AUS was the goal, however doing their best was also important:

“... Our goal is to ideally win AUS... and to improve and do the best we can and also to build connections with everyone...” (Participant B).

Team goals are important to examine, because when teammates do not agree on team goals for the season, it can be very difficult to relate positively to one another. With a discrepancy in team goals, it can seem like athletes are pulling in different directions, rather than combining their efforts and working in a unified manner to accomplish common goals. When athletes sense that their teammates are pulling in different directions, or are not as

committed to a common goal, the feeling of belonging and connection amongst the group can diminish (Ryan & Deci, 2017).

Buy-in to Team Goals

As important as knowing the team goals for the season is, simply knowing the team goals does not mean that a player believes that they are realistic or even relevant. If a team member does not fully believe in the team goals for the season, will they be fully committed to doing everything they can to help the team achieve them? I thought it was essential to get a better understanding of how participants felt about the team goals, thus, I incorporated the question into the Initial Needs Assessment. Participants felt differently about the goals that were set for the team over the course of the 2017-2018 season, evidenced by the two major themes that emerged from the data.

Theme #1: Bought-in. Some participants felt that winning the Atlantic University Sport Championship was a reasonable goal, and they relayed that they were fully committed to helping the team achieve this goal. Consider the response offered by one participant:

“... The goal is achievable... we just need to want it and be willing to work for it...” (Participant F).

while another responded that:

“... I feel we are definitely capable of this (winning AUS). We’re a much different team than last year and we’re ready...” (Participant O).

and another emphasized her belief in the team:

“... I think we have the bodies and skill to do this but we all need to give 100% to get there...” (Participant H).

The data suggests that some participants believed in the team, and believed that the goal of winning the conference championship was realistic and achievable. However, others did not share this feeling, as the second data theme clearly demonstrates.

Theme #2: Detached/unrealistic goals. A second theme emerged from the data, suggesting that the goal of winning the conference championship was unrealistic, and inappropriate for the season. The response offered by the following participant exemplifies this theme:

“... I feel that the goals we set as a team were unrealistic... we are not yet an AUS winning team... this year we should focus on improvement and gaining wins. Not just the banner or nothing... the goal was set by our coach with little input from the team. I feel that all the girls feel the same way... that we have set an unachievable goal...” (Participant G).

While another added that:

“... I think it is a bit of a stretch looking at how the past few seasons have gone...” (Participant N).

Another participant spoke directly about how her current lack of relatedness to teammates was negatively influencing her ability to connect with the team goal of winning the conference championship:

“... I feel detached, because of my personal role; a role without glory at all times doesn't really feel attached to moments of glory when it is so indirectly connected to them...” (Participant A).

The two themes that emerged from the data demonstrate that some team members felt that winning an AUS banner was realistic and achievable, while others felt that it was not an unachievable goal. This is important to consider as Smith, Ntoumansis, Duda and Vansteenskiste (2011) found that when athletes reported autonomy for pursuing a goal at the beginning of the season, they displayed more midseason effort, which in-turn predicted their end-of-season goal attainment.

As participant autonomous motivation was not measured in this study, I cannot state with any degree of certainty whether the autonomous motivation levels of athletes who did not

feel the goal of winning the conference championship was realistic was negatively impacted. However, from my perspective, I find it difficult to imagine a scenario where athletes who do not agree or believe in the team goals remain autonomously motivated to achieve them.

Summary of Initial Needs Assessment Results

The Initial Needs Assessment was administered as a baseline measure of relatedness amongst the participants prior to any study interventions. The assessment evaluated how participants felt they currently related to their teammates, examined their perception of team relatedness as a whole, and explored different factors that participants felt were essential in satisfying their psychological need of relatedness with others. Furthermore, the Initial Needs Assessment gathered data on the team goals for the season, and the participant's perceptions of these goals.

Different themes emerged from the Initial Needs Assessment. These themes suggested that some team members felt well related to others at the outset of the study, and that their core psychological need of relatedness was being met during their interactions with teammates. A second theme emerged from the data, suggesting that certain participants felt that their basic psychological need of relatedness was being met in some ways, at some times, but that it could be enhanced. Finally, a third theme emerged that signified that some participants felt like outsiders, suggesting that they were not experiencing relatedness with their teammates at the outset of this study.

The Initial Needs Assessment also examined participant's perception of team relatedness as a whole. Interestingly, themes from this question differed slightly from the previous, as themes deriving from the data suggested that some participants felt that as a whole the team related well to one another. Other participants reported that as a whole the team related well at times, but that there were inconsistencies, an example being between a gap between the rookies and the veterans on the team.

The participants identified several factors that they felt were most important to enabling relatedness to flourish amongst the members. Three themes emerging from the data suggested that participants felt that having the ability to trust each other, the maturity to give and receive constructive criticism, and including everyone as equal members of the group were the most essential nutrients in fostering relatedness. The factors identified by participants were consistent with current literature on relatedness, as studies (Ryan, 1995; Deci & Ryan, 2014) have demonstrated the importance of trusting relationships in fostering relatedness, while studies by Standage and Ryan (2012) and Grolinick (2002) have contributed to our understanding of the negative impact of harsh criticism on relatedness. Finally, the importance of group inclusion and contribution was first identified by Anygal's (1941) decades ago, and has since been reiterated in studies by researchers such as Baumeister and Leary (1995); Fiske, (2004) and Shaver and Mikulincer (2011).

Finally, the Initial Needs Assessment examined the team goals for the season and the players' perception of these goals. As discussed earlier, research by Smith et al. (2011) found that when athletes reported autonomy for pursuing a goal at the beginning of the season, they displayed more midseason effort, which in-turn predicted their end-of-season goal attainment. Unfortunately, significant differences amongst members existed about the possibility of achieving the team goal of winning the Atlantic University Sport Championship. Some members felt that this was a realistic goal, and one worth pursuing, whereas others felt that this goal might be unrealistic considering the team's roster for the season.

Psycho-Education Session #1

Contrary to Allain's (1997) study, where she attempted to enhance team cohesion solely through the use of ABET interventions, I believed that if I first worked to increase team member's self-awareness, as well as their awareness of their team members psychological and emotional states, that their ability to relate to one another positively would be enriched (Ogden et al. 2006; Fonagy, Gergely, Jurist & Target, 2002). In addition, by educating participants on

Ogden et al. (2006) model, I was hopeful that it would provide a useful framework for conceptualizing participants experience during the ABET relatedness-building sessions that were delivered later in the study.

The different themes that emerged from the data following psycho-education session #1 are as follows.

Theme #1: Increased self-awareness. Participants reported that they felt the session helped increase their self-awareness. As discussed in the literature review chapter, increased self-awareness has been linked to fostering perspective-taking and, as a result, reduced egocentrism (Abbate, Boca & Gendolla, 2016). Increased self-awareness has been associated with increased consideration of other peoples' points of view (Abbate et al., 2016), and affords the holder a reliable basis for perceiving, understanding, and facilitating thought, emotion and action appropriately (Mayor & Salovey, 1997). In sum, self-awareness helps us relate positively to others. Participants relayed how they felt the session impacted their self-awareness, which is evident in the following data excerpts:

“... It made me more self-aware of what triggers me...” (Participant D).

“... it really helped me to become aware of what I was feeling...” (Participant B).

while others relayed that:

“... After this session I am more able to notice when I am out of my optimal window ...” (Participant H).

“... will help me be more aware of my thoughts and temper...” (Participant M).

Increasing our self-awareness helps us predict, not only the possible results of our own actions with regard to others, but also the intention and actions of others in a way that is accurate and based on present reality. Heightened self-awareness helps us to distinguish, identify, and predict other people's actions, whereas a lack of awareness can lead to distortions and misperceptions when communicating with others (Ogden et al., 2006). Interestingly, participant's reported that Psycho-Education Session #1 not only enhanced their own degree of

self-awareness but, as the second theme deriving from this data suggests, the session also increased their ability to recognize their teammates psychological states.

Theme #2: Increased awareness of teammates present state. A number of participants reported that they felt that participating in the session positively impacted their ability to recognize the emotional and psychological states of other team members. With an increased awareness of other's psychological states, the ability to relate positively to one another increases (Siegel, 1999; Ogden et al., 2006). This is because when we are able to recognize when another human is out of their 'optimal zone' we should be able to distinguish and identify why they are reacting the way they are and, in-turn, respond adaptively and constructively, rather than defensively (Ogden et al., 2006). Specifically, following the session participants reported that:

“... It will help us know when our teammates are triggered...” (Participant D).

“... We will recognize when our teammates are out of their windows... and know that it's not necessarily personal or our fault that they are triggered...” (Participant K).

and other participants added that the session:

“... Improved our understanding of each other and learning how we each cope with things differently...” (Participant N).

“... We will understand when someone is frustrated... and we will not re-react...” (Participant E).

Two interesting themes emerged from the data collected following Psycho-Education session #1, suggesting that the session was at least partially successful in reaching its goals, as participants reported enhanced self-awareness, and an improved ability to recognize and teammates psychological states. As discussed, self-awareness is a key ingredient in human relationships, and has been shown to decrease egocentrism (Abbate et al., 2016), which is an

important component of team building and relating well to fellow team members (Ryan & Deci, 2017).

Psycho-Education Session #2

Similar to Psycho-Education session #1, and consistent with the goals for this session, data derived from this session suggested that the session helped participants increase their self-awareness. Other data themes suggested that participants felt that the session demonstrated the importance of their cognitions on their emotional states, and their ability to relate to their teammates. A third theme from the data suggests that participants felt that the session improved their ability to offer positive support for their teammates during difficult times, both on and off the court. A more comprehensive discussion of the themes is offered below.

Theme #1: Increased self-awareness. Several participants reported that Psycho-Education Session #2 helped increase their self-awareness. For instance, consider the following statements from participants:

“...this session will help me be more aware of my thoughts and help me reduce negative thinking/self-doubt...” (Participant M).

“... I think I will notice when I’m just going off and exaggerating... and I will be more aware of how this impacts others too...” (Participant L).

Another participant added:

“... I will be able to realize my negativity and how it affects me... and also how it may be impacting the team...” (Participant G).

Another theme was derived from the data, suggesting that participants felt that the session impacted the team as a whole, by helping them feel comfortable in both seeking support from teammates, and offering support when they recognized that a teammate might be in need.

Theme #2: Increased support. Several participants reported that they felt this session would enhance participant’s ability to support one another if someone was struggling on or off the court. Having this sort of emotional support, and the demonstration that someone cares is an

integral part of feeling related to (Ryan & Deci, 2017). Following the session one participant responded that:

“... I think our team will be more comfortable seeking help from each other... and also willing to offer help and guidance...” (Participant F).

while others communicated that they thought the session demonstrated how to support each other:

“... the session showed how to be confident and how to support our team during difficult situations during a game or personal life...” (Participant E).

“... everyone has difficult moments and has difficult thoughts but we can all be there for one another...” (Participant C).

This theme ties closely in with the research supporting SDT – that is the need to feel accepted by others unconditionally, regardless of if we are struggling, or perhaps not at our current ‘best’ (Ryan & Deci, 2017). As Ryan and Deci (2017) write, “people are oriented to especially value signs that others’ caring for them is volitional” (Ryan & Deci, 2017, p. 78). I believe that at this point in the season team members generally cared for their teammates. However, certain participants may have been lacking the confidence to express their caring when they believed that a fellow teammate was in need. This session may have been important in changing this, and opened up new channels of communication between team members.

Theme #3: Enhanced positivity. Participants expressed that they felt an important aspect of this session was that it would lead to enhanced positivity amongst team members. SDT tells us that, “in any context in which people experience some level of autonomy, positive feedback should enhance intrinsic motivation” (Deci & Ryan, 1985, p. 485). Positive feedback is most motivating, however, when it is received in an optimally challenging setting, a setting where participants must exert themselves to do well and feel competent (Deci & Ryan, 1985). Research on the impact of positivity goes back a few decades, as studies conducted by Weinberg and Jackson (1979) and Weinberg and Ragan (1979) found that positive feedback

increased, while negative feedback decreased, intrinsic motivation. Five years later, a study by Vallerand and Reid (1984) again demonstrated that positive feedback enhanced intrinsic motivation, while negative feedback diminished it.

On a varsity-sports team, both coaches and players are constantly engaging in conversation and offering feedback, comments, and attempting to work through on-court problems to enhance performance. As the results of the Initial Needs Assessment demonstrated, the participants in this study relayed that they thought an important part of relatedness was being able to give and receive constructive criticism. I think that it is important to point out that constructive criticism can, and should be positive, and not delivered in a mean or condescending way. Recently Carpentier and Mageau (2013) explored the dynamic aspects of negative feedback. The authors found that when feedback was offered in a constructive and empathetic manner, when options for improvement are brainstormed together in a positive manner, and when feedback is delivered in a way that avoids personal attacks, outcomes were increasingly positive.

The theme of enhanced team positivity is clear, by examining the statements of some of participants, which were derived from the post-intervention questionnaire following the session. As one participant stated:

“... Every individual will think more positively about themselves and their performance will improve = improved team performance...” (Participant M).

while another added that:

“... We will encourage participants to be more positive...” (Participant G).

and others added that:

“... Now I think we'll know to get people to stop negative talk if we hear it...” (Participant H).

“... This session will help create a more positive team atmosphere...” (Participant K).

The themes derived from Psycho-Education Session #2 demonstrate that the impact of the intervention was multi-faceted. Firstly, one theme suggests that the session was able to build off psycho-education session #1, by continuing to enhance the participant's self-awareness. Secondly, the data implies that the session helped some participants gain the confidence to reach out to their team members in a positive and supportive manner if they thought that a teammate(s) might be struggling, either on or off the court. I think this theme is important to highlight, as SDT tells us that people feel relatedness most typically when they feel cared for by others, and equally important is the feeling that one is giving to or supporting others (Ryan & Deci, 2017). By helping the participants feel comfortable and confident to reach out to one another, I believe that this session was an important one in enhancing relatedness amongst the team members.

Thirdly, the theme of enhanced team positivity emerged from the data. The participants expressed that Psycho-Education Session #2 helped the team interact and offer feedback more positively. As mentioned, according to studies by Carpentier & Mageau (2013), Weinberg & Jackson (1979), and Weinberg & Ragan (1979) offering feedback that is positive and constructive is associated with more positive outcomes and enhanced intrinsic motivation.

Relatedness Building Session #1

Both Psycho-Education Session #1 and Psycho-Education Session #2 were delivered in a classroom based format. I generally led the sessions, and the participants took the role of passive observers. In relatedness-building session #1 this changed, and the participants were asked to participate as full and active members of the session. Relatedness-Building Session #1 was delivered based on the principles of ABET. At the time of the session, the team had still not won a regular season match, and from subjective observation of the participants, it was apparent that the mood amongst the group was a mixture of frustration, and disappointment. I also noticed that in the midst of all the losing, participants didn't seem to be enjoying themselves at

the court. Rather, volleyball seemed like a job that the participants *had* to do, rather than a sport to participate in because they were intrinsically motivated to do so.

According to SDT, losing can have a negative impact on intrinsic motivation (Ryan & Deci, 2017). In fact, studies by McAuley, Duncan and Tamen (1989) and Reeve, Olson and Cole (1985) prove that losing leads to less intrinsic motivation than winning does. As SDT highlights, winning and losing can convey important information about athletes' levels of competence (Ryan & Deci, 2017). Vansteenkiste and Deci (2003) completed an interesting study, which demonstrated that losing does have a negative impact on intrinsic motivation, but when losers receive positive and constructive feedback it helped mitigate the impact of losing on their level of intrinsic motivation.

SDT also tells us that a problem with direct competition (sports where you compete against another opponent) is the pressure that can surround them (Ryan & Deci, 2017). As many athletes know, winning games or competitions can feel like the most important task in the world, something that your entire life depends on. At this point in the season, the combination of the pressure to win games that comes with competing at the varsity level (or to at least break the losing streak that the team was experiencing), combined with the cumulative losses that the team was experiencing may offer some explanation for my subjective observation of a decline in intrinsic motivation amongst the athletes. Themes deriving from the data that following Relatedness-Building Session #1 resemble my observation, particularly the first theme, where participants expressed that the session helped them realize that volleyball was not a job, and that it was supposed to be fun. A discussion of this theme, and the other themes deriving from the data are offered below:

Theme #1: Have fun! Participants reported that an important impact of Group Juggling was that it reminded members that volleyball should be fun. As I mentioned, I had observed that participants seemed to be approaching games and practices as something that had

to be done, rather than something that they enjoyed doing and were intrinsically motivated to participate in. Following the session, one participant wrote that:

“... It showed us how well we can perform when we’re having fun... we plan to take this into our games this weekend...” (Participant H).

while another added that:

“... I think it helped us realize that volleyball is a game. It is supposed to be fun...” (Participant A).

and other participants reported that:

“... I think having the reminder to just have fun is what we needed because we definitely play better when everyone is hyped...” (Participant M).

“...It made me realize to step back and enjoy myself in the game...” (Participant F).

This theme depicts that prior to the session some participants were not approaching volleyball as if it were a game. In fact, the session reminded the participant that volleyball was in fact a game and not a task or a job that they needed to complete. Participants also mentioned that when they are having fun (intrinsically motivated to participate) they could perform well on the court.

Theme #2: Focus. A second theme emerged from the data, suggesting that enhancing team focus was a key take-away of the session. SDT does not speak to the impact of focus on relatedness specifically, nor the impact of relatedness on the ability to focus. It goes beyond the scope of this study to analyze alternative psychological theories that examine the importance of focus on team performance, however, some of the participant responses that reflect this are offered below:

“...the session showed me that I can clear out distractions and focus on the task at hand...” (Participant K).

and:

“... At the beginning, I was thinking about school and family and thought I couldn’t get it off my mind, but as soon as we started the intervention, I forgot about everything. It showed that I can focus on the task at hand...” (Participant F).

while another added that:

“It will teach me how to focus on one thing at a time and block everything else out...” (Participant J).

and finally, following the session, a fellow participant stated that:

“... Our team will be able to leave everything else at the door and focus on only volleyball at practice and games...” (Participant F).

Relatedness-Building Session #2

Relatedness-Building Session #2 was the final intervention in this study. Similar to the previous session, this session was based on the principles of ABET. At the time of this intervention, the participants had still not won a regular season match. As discussed earlier, SDT speaks to the negative impact of losing on intrinsic motivation of athletes (Ryan & Deci, 2017). At this point in the season I had worked with the team for many weeks, and with the losses piling up, feedback from coaches had been both positive and negative over the course of the season. In saying this, it went beyond the scope of the study to analyze what percentage of coaches’ feedback had been positive, and what percentage had been negative, therefore I cannot objectively attest to the impact that the coaches’ feedback was having on athletes’ intrinsic motivation at this point in the season (Vansteenkiste & Deci, 2003). In saying this, subjectively, a noticeable decrease in the player’s feelings of competence from the beginning of the season was evident (Ryan & Deci, 2017).

Despite the losses, and my subjective analysis of the participants diminished feelings of competence, the goal of the study was to increase team member’s relatedness, and therefore the intervention was not adapted, despite the situation that the players found themselves in.

Different themes emerged from the data that was collected following this session, and a full discussion of the themes, some of them similar to the themes derived from previous sessions, is offered below.

Theme #1: Have fun! When participants were asked how they felt the session impacted their team as a whole, many responded in a similar way to how they had following the previous session. They relayed that they needed to have more fun on the court! At this point in the season, it seemed as if participants were being forced to show up to the court to compete, rather than participate because they were intrinsically motivated to do so. The theme ‘Have Fun!’ speaks directly to this phenomenon. Specifically, one participant relayed the following:

“... we really need to have more fun!...” (Participant L).

while others added that:

“... it got us all to have fun together, which is what we need to do for the rest of the season...” (Participant A).

“... I think it was fun, which is exactly what we need!...” (Participant J).

It is interesting that research has demonstrated that youth participation in sport is mostly influenced by intrinsic motivators such as fun, challenging one’s self, and learning (Gill, Gross & Huddleston, 1985; Gould Feltz & Weiss, 1985). However, themes derived from both ABET sessions suggest that the participants were not having fun while they were competing on the court. Also of note is that they recognized that they were not enjoying the experience, and also recognized that they should get back to trying to enjoy it. Despite not having the specific language to define their experience within the context of SDT, the participant’s recognized the importance of having fun on their levels of intrinsic motivation to continue to compete for the remainder of the season.

SDT highlights that although sports are typically done for intrinsic reasons (especially at the amateur and youth level), elite-level sports likely create an environment where multiple motivators need to be considered (Ryan & Deci, 2017). Spectators, attempting to earn the

coaches respect, scholarship achievement and retention, as well as winning and losing all need to be considered when evaluating athletes' motivation to participate (Ryan & Deci, 2017).

Theme #2: Equal contribution. A second theme emerged from the data, suggesting that the session demonstrated that all participants made an equal contribution to the success and failure of the team. Participants expressed that regardless of size, status, or experience, this session highlighted that everyone had a role to play and should be equally valued by the group. As mentioned earlier, according to SDT, relatedness is experienced when people feel significant among others (Ryan & Deci, 2017). This theme highlights that the exercise was effective in demonstrating the concept of all team members playing a significant role.

Research by Deci and Ryan (2014) emphasizes that integral to relatedness is contributing to a group or others. I believed that the participant responses also speak to this concept of wanting to contribute to the success of the group, rather than functioning as a passive observer. In short, the second theme implies that the intervention helped participants recognize that all team members are imperative to the success of the group, regardless of their role. The following response, offered by Participant K portrays this theme:

“... I felt my value in the team... and noticed the effects of giving something back to the team... and if one person isn't pulling their weight you notice...”

(Participant K).

Theme #3: Too easy! Finally, the data produced a third and somewhat unexpected theme. This theme goes beyond the scope of SDT, nonetheless it is important to report on in case future researchers wish to use a similar intervention in their study. Simply put, participants felt that this session was not challenging enough. This is interesting, as when I planned it, I anticipated that it would be quite challenging. I think that it is worth stating that this intervention may have been more meaningful, and may have had a greater impact on the participant's experience of relatedness if it had been more challenging. Participant responses below clearly demonstrate this theme.

“... It was quick... and not very difficult...” (Participant D)

“... too easy!” (Participant E).

and another relayed that:

“... It was simple and easier than I anticipated...” (Participant K).

As discussed, I did not anticipate this intervention being as easy as this theme suggests that it was. Nonetheless, the participants participated both eagerly and enthusiastically. In future studies it may be beneficial to add more water to the buckets to enhance the level of difficulty.

Final Questionnaire

At the time of the administration of the Final Questionnaire, the participants had still not won a regular season game, and there were only three more games remaining on their schedule. They had been officially eliminated from playoff contention, and they were in danger of going winless over the course of the season.

As the Final Questionnaire was administered late in the athletes' season, participants had been granted plenty of time to reflect on their experience in the study. As a researcher, I wanted to ensure that the participant's had had time to think critically about how the team had performed over the course of the season, how they were currently relating to their teammates, and how they felt their team as a whole was relating. Interesting themes emerged from the questionnaire, each of which are discussed below:

Evaluating Relatedness

Several themes emerged from participant responses on the Final Questionnaire, which asked for participant perspectives on the impact of the sessions on relatedness.

Theme #1: Enhanced relatedness: Several participants' responded that they felt their sense of relatedness to teammates had improved following the study interventions. For example, one participant stated that:

“... I feel like I have gotten closer with some of the older girls as the season went on, and same with the 1st years... I’m able to relate more and have more conversations with them...” (Participant B).

Other participants relayed that:

“... yes... it has gotten better... we are more open now...” (Participant H).

“... They’ve got us on the ‘same page’ about more things... we are all closer and relate better now...” (Participant C).

SDT emphasizes that in order to truly enhance self-esteem, people’s competence must be ‘owned’ (Ryan & Deci, 2017). In a similar fashion, being admired does not account for relatedness; rather, people must believe that others care for them unconditionally, rather than conditionally, and that they are accepted for who they are, rather than what they have accomplished (Ryan & Deci, 2017).

One participant wrote about the impact that the sessions had on the team’s ability to get through the hard times when the performance of individuals and the team as a group was not necessarily being admired:

“... We are closer as a team... bonded over it... and able to reflect on highs and lows better...” (Participant D).

While others added that:

“... We got closer... and we’re calmer in tough situations...” (Participant G).

“... We have gotten closer... and we are able to have more serious and difficult conversations on and off the court...” (Participant A).

Some participants spoke of the team’s newfound comfort level with one another, and knowing that the teammates would be there for each other when they were in need. Consider the following excerpts:

“... Our team is a lot closer now... more comfortable on and off the court...”
(Participant F).

“... We can count on each other... and help each other when needed... all feel like one team now...” (Participant L).

Theme #2: Thwarted relatedness. A second theme emerged from the data derived from the Final Questionnaire suggesting that, despite study interventions, participants did not really feel related to teammates. Certain participants expressed that their relatedness with teammates had not increased, and may have in fact decreased over the course of the study. The following response from participant K and D demonstrates their feelings of frustration and distance from their teammates:

“... Right now I am frustrated with my teammates as we all lack trust and focus...” (Participant K).

“... Yes... though, was more well bonded with the team at the beginning of the year than I am now... we’re not pulling in the same direction, lots of cliques with the team and negative energy...” (Participant D).

Despite the study interventions, another teammate differentiated between the team’s inability to relate on the court in the same way that they were able to off the court:

“... In a social sense, very well, but on the court I think we still need some work...” (Participant C).

When asked about the impact of interventions, participants expressed how they still did not feel well related to all their teammates. Consider these data excerpts:

“... If anything, I feel closer in some ways but more distant in others... on some levels I find that we’re on the same page, but I’m a way different person than most of them with a different role and that makes it difficult to relate...” (Participant J).

“... Yes... mostly good... closer with some, further from others...” (Participant I).

The two themes described above suggest that the sense of relatedness still fluctuated amongst members following study interventions. The responses of some members suggested that they felt the team had really bonded well by the end of the season, while the responses of

others suggested that they did not? share this same feeling of relational bond (Ryan & Deci, 2017).

Evaluating Specific Relatedness Factors

The Final Questionnaire asked participants to expand upon what factors they felt influenced their sense of relatedness over the course of the season, and they were asked to think about any factors deriving from the interventions that may have impacted relatedness. As described above, some participants did not feel that the sessions enhanced relatedness at all. However, participants were encouraged to express which factors they felt enhanced their relatedness, or factors that may have in fact thwarted their sense of relatedness. Data themes are described in detail below.

Theme #1: Increased awareness. Participants expressed how participating in the interventions helped them increase their awareness of both their own states and the states of others, and how this was important in enhancing their ability to relate to their teammates. Consider the following responses, where participant's expressed the impact that increased awareness had:

“...learning to self-assess how I'm feeling... e.g. recognizing when I'm going out of my window and getting back in was really important...” (Participant J).

and another participant added that:

“... the interventions helped me become more aware of my thoughts and how I feel... which allowed me to control my expression and negative thoughts a little bit more...” (Participant B).

Participants spoke about how the interventions increased their awareness of teammates' states.

For instance, consider the following participant response:

“...the interventions helped us get to know each other better... and then know how to react in certain situations...” (Participant K).

and another added that the interventions:

“... helped us learn about each other’s personalities and how we each deal with situations differently...” (Participant A).

while others stated that:

“... They helped us get to know each other’s breaking points...” (Participant I).

“... They helped a lot with getting people talking and getting to know one another better...” (Participant M).

Theme #2: Enhanced communication ability. A second theme emerged from participant responses on the Final Questionnaire, which spoke of the impact that the interventions had on the communication ability of the participants. As discussed at different parts throughout this work, not all social contact yielded a sense of relatedness, however, communicating effectively with others is one instrumental aspect in relating well with other humans (Ryan & Deci, 2017). Not surprisingly, the research highlights that miscommunication can often breed frustration, misinterpretation, and fragmentation in relationships (Ryan, 1995). Consider the following participant responses:

“... the interventions helped communication increase...” (Participant E).

while another also spoke of the impact of the interventions on communication ability, stating that:

“... We have the language to communicate however we’re feeling, and in a way that we can all relate to...” (Participant J).

Another participant wrote specifically about the impact that the enhanced communication has on the ability of the participants to relate to one another, relaying that:

“... We learned how to better communicate and then create a stronger bond...”
(Participant H).

while others stated that:

“... Yes... communication has improved and taking criticism... (Participant G).

“... Strategies on communication were key...” (Participant F).

Theme #3: Losing. Participants also reported that their sense of relatedness was impacted by the performance of the team on the court. Different participants felt that the lack of team success was playing a factor in the team members' sense of relatedness. In fact, two sub-themes emerged from the data, suggesting that losing may have positively impacted some players sense of relatedness, while negatively impacting others.

Losing negatively impacting relatedness. Participants reported that they felt the teams' sense of relatedness was negatively impacted by the lack of team success on the court over the course of the season. Participants that reported they felt the teams sense of relatedness had not improved, or was in fact worse than it was prior to the study beginning, were asked what they felt influenced this, some of whom responded:

"... Losing..." (Participant D).

"... Losing... and stress and life..." (Participant I).

Losing positively impacting relatedness. For other study participants, the team's lack of success on the court was felt to positively impact the teams' sense of relatedness. For some participants, when asked what had influenced the positive change in team relatedness that the participant sensed over the course of the season, they reported that:

"... Our statistical circumstances (no wins)... and this study helped us work through hard times..." (Participant F).

"... we have started playing more as a team...losing has almost brought us together because we all know we each have to pull our own weight to get the result we want..." (Participant A).

Evaluating Team Performance

This study did not allow for team performance to be evaluated via the traditional win/loss record of the team, due to numerous extraneous variables that I could not control (e. g. the quality of opponents that participants faced, pre vs. post study interventions). Therefore, the Final Questionnaire was designed to gather participant insight on team performance. Of note,

the teams' official record at the time of the administration of the Final Questionnaires was 0-16 (wins-losses). The Final Questionnaire asked participants to reflect back and evaluate if they noticed any change in team performance (either positively or negatively).

The themes that emerged from the data, suggest that participants felt differently about the team's performance.

Theme #1: Positive change in team performance. The data suggests that some players felt the interventions had a direct impact on team performance. For instance, one participant reported that:

“... yes throughout the season we have improved a lot, and I think this has a lot to do with relatedness... and hard work, dedication, effort and drive...” (Participant M).

while another participant relayed that:

“... we are playing with more intensity and with more support... we are pushing through adversity and trying to get better together. We aren't scared to do what it takes to get there and it all starts with being aware of what needs to be done. I think these sessions helped us get better at the mental part of things...” (Participant B).

When asked about team performance, participant E relayed that:

“... yes we have improved, and we are more cohesive... the things done and discussed in the interventions have helped...” (Participant E).

Clearly, some participants felt the team had improved, despite their place in the standings.

When asked about team performance, other participants reflected that:

“... yes, we have come a long way despite our results... we have learned to never give up... to check in with team values... and wanting to WIN!” (Participant F).

“yes, the team’s performance has improved... I think our ability to communicate on court has improved (but still needs works). We also notice when we are having fun we play our best...” (Participant C).

“...yes our performance has improved... we all work well together, understand each other and have fun with each other...” (Participant L).

SDT emphasizes that satisfaction of relatedness is extremely important for intrinsic motivation in sport (Sarrazin et al., 2002; Ryan & Deci, 2017). This theme suggests that relatedness may have played a part in helping the team improve its on-court performance. A couple of participants spoke directly of the enhanced relatedness amongst team members and how they believed this may be positively impacting the team’s performance overall (e. g. participant M & participant E). Other participants believed the team’s performance had improved, despite the losing record, which is interesting (e. g. participant L & C).

However, similar to how the participants expressed differing perspectives on the team’s relatedness, the data suggests that they felt differently about the team’s performance as well. A second theme suggests that despite the study interventions, some participants felt the team’s performance had not improved at all.

Theme #2. No real change in team performance. A second theme that emerged from the data, speaks to the notion that some participants felt no real change in team performance had occurred. For example, one participant reported that:

“... did our performance improve? Hmmm... yes/no... different mind sets/same outcomes... mentality of who will be the best on the court vs. team efforts...”

(Participant K).

Another participant spoke specifically of a bad team culture when asked about the team’s performance:

“... yes and no... we are playing better volleyball but nobody is stepping up and taking charge... not a good team culture. I don't think that everyone is bought into the team... losing is a factor...” (Participant D).

In this case, it is transparent that these participants had some doubts about the commitment level of certain teammates, and they were very hesitant to suggest that the team improved. They spoke specifically about the team culture being unwell, which is a strong indication that despite the study interventions, these team members were not experiencing a team culture where all members felt well connected, significant, or a solid sense of belongingness (Ryan & Deci, 2017). Another participant made it clear that they felt that the team's performance had not improved, by stating simply that:

“... No our performance has not improved... but communication yes...”

(Participant G).

and another spoke of the end result being losing, despite the possibility that the team's performance may have improved in some sense:

“... We will play good but still lose, or play bad still lose... when we play good, it's because we are all doing well and contributing.” (Participant I).

The data proposes a sort of split between participant's perceptions of the team's performance. Some participants expressed that they felt that the team had improved, while others relayed that the thought the team had not improved at all. I think that it is safe to say that regardless of how each participant responded to this question, there was considerable frustration and disappointment with how the season had gone. None of the athletes expected the team to be winless.

Chapter V: Summary

Returning to the Research Question

After examining the data, it is necessary to return to the research question which guided this study from its outset, which is “Does enhancing relatedness amongst varsity athletes improve team performance?” This study was ambitious in the fact that it attempted to do two things: firstly, I was attempting to enhance relatedness amongst the participants, which, as the body of literature (Deci & Ryan 1985, Ryan & Deci, 2017) emphasizes, is not always an easy thing to do and secondly, this study attempted to evaluate the impact of this strengthened level of relatedness on team performance. As I noted in the introduction to the study, this was a relatively novel quest, as a limited amount of the literature has spoken directly to the impact of enhanced team member relatedness on team performance, and even less literature has been published examining relatedness on team performance in this specific study population.

After thorough examination of the themes, perhaps the only thing that is clear is that this study has produced as many questions as it has answers. The data clearly demonstrated that some participants perceived that the study interventions significantly enhanced relatedness amongst team members, while other participants felt no real enhancement of relatedness to their teammates at the end of the season, despite having participated in all of the study interventions. So, unfortunately I cannot conclude that the study interventions successfully enhanced relatedness amongst all team members, nor can I conclude that they didn't.

With regards to the influence of enhanced relatedness on team performance, a similar finding appears. Some participants felt the performance of the team had improved over the course of the season, many of whom stated that the enhanced relatedness amongst team members was a crucial factor in spurring this augmentation in the team's improvement on the court. In contrast, some participants felt the team's performance did not improve at all, and may have even regressed over the course of the season, despite the study interventions.

Although, as a researcher, I cannot claim that the interventions in this study were successful in attaining its dual goal of enhancing relatedness and improving on-court team performance, I think that it is important to put the results in perspective.

Perhaps it is appropriate to begin with the positives; I do believe that this study provides compelling evidence that making specific efforts to enhance athlete's self-awareness and their ability to recognize others' mental states may help foster relatedness amongst team members. As the data themes demonstrated, several participants spoke adamantly about the impact that the first two psycho-education sessions had on facilitating this enhancement of self-awareness. This is an important finding, as traditionally ABET has been relied upon almost exclusively in attempts to systematically improve team cohesion in athletic settings. This study was unique in the manner that it combined psycho-education and ABET, and the findings suggest that more relatedness research using a combination of psycho-education and ABET interventions with athletic teams to enhance team performance is warranted.

Limitations

This study had several limitations. First, the lack of a control group makes it impossible to infer any causal relationship between enhanced relatedness and team performance, even if I had successfully enriched relatedness amongst all team members. In saying this, as the goal of the study was to improve the relatedness of all team members, it would have been contradictory, if not harmful to attempt to assign team members to control and experimental groups.

A second limitation of this study was my inability to control extraneous variables that may have contributed to the results. I had no way of controlling extraneous factors that may have contributed positively or negatively to relatedness or performance amongst the varsity-level athletes. For example, I had no way of controlling the amount of homework that professors were assigning to players, nor could I control the amount of interpersonal conflict they may have been experiencing with their parents. Undoubtedly, these and many other factors

outside of my control may have contributed to the participants' ability to relate to one another, and their ability to perform well in the gymnasium.

Thirdly, how does one accurately measure team performance? This is a question that I have pondered for many years as an athlete, and for many months prior to beginning my study. At first thought, many may assume that an objective measure such as wins and losses may unquestionably be the most accurate measure of team output. However, I had no control over the opponents the team played either prior to, during, or following the study interventions. Other factors, like the number of road games played prior to, or following study interventions were also out of my control, as was the quality of the officiating the team received, or the number of injuries that the team members suffered. Therefore, even if the team had won more games following the interventions than they did leading up to them, I still would not have been able to assume that these victories were solely the result of the study interventions.

I attempted to navigate this dilemma by having study participants assess performance subjectively, through the semi-structured questionnaires. Unfortunately, and unavoidably, their responses may have been influenced by their relationship with me. Ironically, a crucial component of the successful completion of this study was my ability to gain rapport with the participants. Had I not been successful in gaining this rapport, interventions would have been ineffective and superficial at best, or at worst, the coach or players would have withdrawn their consent out of disinterest or lack of trust. It is this same strong rapport that may have plagued the themes derived from participant data, as many participants may have responded to questionnaires in ways in which they believed would please me, or speak of an improvement in relatedness or performance, which in reality was absent.

Conflict of Interest

There are no conflicts of interest to report in this study.

References

- Abbate, C.S., Boca, S., & Gendolla, G. H. E. (2016). Self-awareness, perspective-taking, and egocentrism. *Self and Identity, 15*(4), 371-380.
- Allain, M. (2013). Chasing the dream: Understanding the journey of Canadian high performance athletes. *Unpublished dissertation*. University of New Brunswick.
- Allain, M. (1997). The effect of adventure-based experiential training on team cohesion. *ProQuest Dissertations and Theses Global*.
- Andersen, J. L. & Aagaard, P. (2010). Effects of strength training on muscle fiber types and size; consequences for athletes training for high-intensity sport. *Scandinavian Journal of Medicine & Science in Sports, 20*(2), 32-38.
- Anygal, A. (1941). *Foundations for a science of personality*. A Viking compass book. New York: Viking Press.
- Banack, H., Sabiston, C., Gordon, B. (2011). Coach autonomy support, basic need satisfaction, and intrinsic motivation of Paralympic athletes. *Research Quarterly for Exercise and Sport, 82*(4), 722-730.
- Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review, 84*, 191-215.
- Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York, NY: Freeman.
- Baumeister, R. F., & Leary, M. R. (1995). The need to belong: Desire for interpersonal attachments as a fundamental human motivation. *Psychological Bulletin, 117*(3), 497-529.
- Bourbousson, J. & Fortes-Bourbousson, J. (2017). Fluctuations of the experience of togetherness within the team over time: task-cohesion and shared understanding throughout a sporting regular season. *Ergonomics, 60*(6), 810-823.

- Braun, V., & Clarke, V. (2013). *Successful Qualitative Research: A practical guide for beginners*. SAGE, London.
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*, 77-101.
- Bryman, A., Bresnen, M., Beardsworth, A., & Keil, T. (1988). Qualitative research and the study of leadership. *Human Relations, 41*(1), 13-30.
- Carpentier, J., & Mageau, G. A. (2013). When change-oriented feedback enhances motivation, well-being and performance: A look at autonomy-supportive feedback in sport. *Psychology of Sport and Exercise, 14*(3), 423-435.
- Carron, A. V., Brawley, L. R., & Widmeyer, N. W. (2002). *The group environment questionnaire test manual*. Morgantown, WV: Fitness Information Technology.
- Carron, A. V., Widemeyer, W. N., & Brawley, L. R. (1985). The development of an instrument to assess cohesion in sport teams: The group environment questionnaire. *Journal of Sport Psychology, 7*, 244-266.
- Catmull, E. (2008). How Pixar fosters collective creativity. *Harvard Business Review, 86*, 64-72.
- Chern Lim, M. (2014). In pursuit of harmony: The social and organizational factors in a professional vocal ensemble. *Psychology of Music, 24*(3), 307-324.
- Collins Dictionary. (2017). Education. Retrieved from:
<https://www.collinsdictionary.com/dictionary/english/education>.
- Copenhaver, E. A. & Diamond, A. B. (2017). The value of sleep on athletic performance, injury, and recovery in the young athlete. *Pediatric Annals, 46*(3), 106-111.

- Coté, S., (2017). Enhancing managerial effectiveness via four core facets of emotional intelligence: Self-awareness, social perception, emotion understanding, and emotion regulation. *Organizational Dynamics*, 46, 140-147.
- Creswell, J. (2012). *Qualitative inquiry and research design: Choosing among five approaches*. Sage Publications, U.S.A.
- Curtin, K., Munroe-Chandler, K., & Loughhead, T. (2016). Athletes' imagery use from a team-level perspective and team cohesion. *International Journal of Sport and Exercise Psychology*, 14(4), 323-339.
- De Waal, F. (2009). *The age of empathy: Nature's Lessons for a kinder society*. New York Crown Archetype.
- Deci, E. L. & Moller, A. C. (2005). The concept of competence: A starting place for understanding intrinsic motivation and self-determined extrinsic motivation. In A. J. Elliot & C. S. Dweck (Eds.). *Handbook of competence and motivation* (pp. 579-597). New York: Guilfor Press.
- Deci, E. L. & Ryan, R. M. (2014). *Autonomy and need satisfaction in close relationships: Relationships motivation theory*. In N. Weinstein (Ed.), *Human motivation and interpersonal relationships: Theory, research and applications* (pp53-73). Dordrecht, Netherlands: Springer.
- Deci, E. L. & Ryan, R.M. (2007). Facilitating optimal motivation and psychological well-being across life's domains. *Canadian Psychology*, 49(1), 14-23.
- Deci, E. L. & Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human behavior*. New York: Plenum Press.
- Deci, E. L. & Ryan, R.M. (2004). *Self Determination Theory and Participation Motivation. Research in Sport and Exercise*. Woodbridge, UK: Boydell and Brewer.

- Deci, E. L. & Ryan, R. M. (2000). The “what” and “why” of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry, 11*(4), 227-268.
- Dezelic, M. (2013). Window of tolerance- trauma/anxiety-related responses: widening the comfort zone for increased flexibility. Retrieved from <http://www.drmariedezelic.com/#!/window-of-tolerance-traumaanxiety-rela/ca9e>.
- Downie, M., Mageau, G. A. & Koestner, R. (2008). What makes for a pleasant social interaction? Motivational dynamics of interpersonal relations. *Journal of Social Psychology, 148*(5), 523-534
- Dupont, J-P., Carlier, G., Gerard, P. & Delens, C. (2009). Teacher-student negotiations and its relation to physical education students’ motivational processes: An approach based on Self-Determination Theory. *European Physical Education Review, 15*(1), 21-46.
- Fenton, S., Duda, J., & Barrett, T. (2016). Optimizing physical activity engagement during youth sport: A self-determination theory approach. *Journal of Sports Sciences, 34*(19), 1874-1884.
- Fiske, S. T. (2004). Intent and ordinary bias: Unintended thought and social motivation create casual prejudice. *Social Justice Research, 17*(2), 117-127.
- Fletcher, R., Wilkinson, H., Bladon, H. & Gargiulo, A. (2017). Developing a measure of collective efficacy for female netball using polytomous item response modelling and multilevel confirmatory analysis. *Group Dynamics: Theory, Research and Practice, 21*(2), 61-76.
- Fonagy, P., Gergely, G., Jurist. E., & Target, M. (2002). *Affect regulation, mentalization, and the development of self*. New York: Other Pres.
- Garcia-Calvo, T., Leo, F. M., Gonzalez-Ponce, I., Sanchez-Miguel, P. A., Mourtadis, A., & Ntoumanis, N. (2014). Perceived coach-created and peer-created motivational climates

- and their associations with team cohesion and athlete-satisfaction: Evidence from a longitudinal study. *Journal of Sports Sciences*, 32(18), 1738-1750.
- Gibbons, S. & Black, K. M. (1997). Effect of participation in team building activities on the self-concept of middle school physical education students. *AVANTE*, 1, 46-60.
- Gibbons, S. & Ebbeck, V. (2010). The impact of an experiential education program on the self-perceptions and perceived social regard of physical education students. *Journal of Sport & Exercise Psychology*, 32, 786-804.
- Gill, D. L., Gross, J. B. & Huddleston, S. (1985). Participation motives in youth sports. *International Journal of Sports Psychology*, 14, 1-14.
- Gill, L., Ramsey, P. & Leberman, S. (2015). A systems approach to developing emotional intelligence using the self-awareness engine of growth model. *Systematic Practice & Action Research*, 28, 585-594.
- Goleman, D. (1995). *Emotional intelligence*. New York, NY, England: Bantam Books, Inc.
- Goodmon, L., Middleditch, A., Childs, B., & Pietrasiuk, S. (2016). Positive psychology course and its relationship to well-being, depression, and stress. *Teaching of Psychology*, 43(3), 232-237.
- Gould, D., Feltz, D & Weiss, M. R. (1985). Motives for participating in competitive youth swimming. *International Journal of Sport Psychology*, 16(2), 126-140.
- Gurland, S. T. & Grolnick, W. (2005). Perceived threat, controlling parenting and children's achievement orientations. *Motivation and Emotion*, 29(2), 103-121.
- Harlow, H. & Zimmerman, R. (1959). Affectional responses in the infant monkey: Orphaned baby monkeys develop a strong and persistent attachment to inanimate surrogate mothers. *SCIENCE*, 130, 421-431.

- Healy, L. C., Ntoumanis, N., Veldhuijzen van Zanten, J. J., & Paine, N. (2014). Goal striving and well-being in sport: The role of contextual and personal motivation. *Journal of Sport and Exercise Psychology, 36*(5), 446-459.
- Heid, A., Pruchno, R. Cartwright, F. & Wilson-Genderson, M. (2017). Exposure to Hurricane Sandy, neighborhood collective efficacy, and post-traumatic stress symptoms in older adults. *Aging & Mental Health, 21*(7), 742-750.
- Hulsheger, U. R., Anderson, N. & Salgado, J. F. (2009). Team-level predictors of innovation at work: A comprehensive meta-analysis spanning three decades of research. *Journal of Applied Psychology, 94*, 1128-1145.
- Ibbetson, A. & Newell, S. (1996). Winner takes all: An evaluation of Adventure-based Experiential Training. *Management Learning, 27*(2), 163-185.
- Jackson, S. A., & Csikszentmihalyi, M. (1999). *Flow in sports: The keys to optimal experiences and performances*. Champaign, IL, US: Human Kinetics Books.
- Kesthtidar, M. & Behzadnia, B. (2017). Predication of intention to continue sport in athlete students: A self-determination theory approach. *PLoS ONE, 12*(2), 1-10.
- Kozlowski, S. W. J., & Ilgen, D. R. (2006). Enhancing the effectiveness of work groups and teams. *Psychological Science in the Public Interest, 7*, 77-124.
- Meyers, C. van Woerkhom, M., & Bakker, A. (2013). The added value of the positive: A literature review of positive psychology interventions in organizations. *European Journal of Work and Organizational Psychology, 22*(5), 618-632.
- Mahoney, J. W., Gucciardi, D. F. Ntoumanis, N., & Mallett, C. J. (2014). Mental toughness in sport: Motivational antecedents and associations with performance and psychological health. *Journal of Sport and Exercise Psychology, 36*(3), 281-292.

- Maslow, A. (1971). *The farther reaches of human nature*. Oxford, England: Viking.
- Matosic, D., Ntoumanis, N., Boardley, I. D., Sedikides, C., Stewart, B. D. & Chatzisarantis, N. (2017). Narcissism and coach interpersonal style: A self-determination theory perspective. *Scandinavian Journal of Medicine & Science in Sports*, 27(2), 254-261.
- Mayer, J. D. & Salovey, P. (1997). *What is emotional intelligence?* In: Salovey P, Sluyter D (eds) *Emotional development and emotional intelligence: Implications for educators*. Basic Books, New York.
- McAuley, E., Duncan, T., & Tammen, V. V. (1989). Psychometric properties of the intrinsic motivation inventory in a competitive sport setting: A confirmatory factor analysis. *Research Quarterly for Exercise and Sport*, 60(1), 48-58.
- Morgan, P. C., Fletcher, D., & Sarkar, M. (2017). Recent developments in team resilience research in elite sport. *Current Opinion in Psychology*, 16, 159-164.
- Ng, A. (2001). Adventure learning: Influence of collectivism on team and organizational attitudinal changes. *Journal of Management Development*, 20(5), 424-440.
- Nix, G. A., Ryan, R. M., Manly, J. B., & Deci, E. L. (1999). Revitalization through self-regulation: The effects of autonomous and controlled motivation on happiness and vitality. *Journal of Experimental Social Psychology*, 35(3), 266-284.
- Ntoumanis, N. & Mallet, C. (2014). *Motivation in sport: A self-determination theory perspective*. In Papaioannou, A. & Hackfort, D., (Eds.) *Routledge Companion to Sport and Exercise Psychology: Global Perspectives and fundamental concepts* (pp. 67-82). Taylor and Francis.
- Ntoumanis, N. & Standage, M. (2009). Motivation in physical education classes: A self-determination perspective. *Theory and Research in Education*, 7(2), 192-202.

- Ogden, P. (2009). Modulation, mindfulness, and movement in the treatment of trauma-related depression. In M. Kerman (Ed.). *Clinical pearls of wisdom: 21 therapists offer their key insights* (1-13). New York: Norton Professional Books.
- Ogden, P., Minton, K., & Pain, C. (2006). *Trauma and the body. A sensorimotor approach to psychotherapy*. New York: W. W. Norton & Company, Inc.
- Palmer, M. E. (2013). The direct impact of team cohesiveness and athletes' perception of coaching leadership functions on team success in NCAA Division I women's basketball. *Dissertation Abstracts International Section A*, 75.
- Proudman, B., Gass, M., King, K., Walker-Stevens, P., & Warren, K. (1994). *Project Define Task*. Association for Experiential Education.
- Raabe, J., & Zakrajsek, R. (2017). Coaches and teammates as social agents for collegiate athletes' basic psychological needs' satisfaction. *Journal of Intercollegiate Sport*, 10(1), 67-83.
- Raabe, J., Zakrajsek, R., Readdy, T. (2016). Teammate influence on collegiate swimmers' basic psychological need satisfaction: A qualitative perspective. *Journal of Intercollegiate Sport*, 9(1), 27-50.
- Raedeke, T. D. (1997). Is athlete burnout more than just stress? A sport commitment perspective. *Journal of Sport and Exercise Psychology*, 19, 396-414.
- Reeve, J., Olson, B. C. & Cole, S. G. (1985). Motivation and performance: Two consequences of winning and losing in competition. *Motivation and Emotion*, 9(3), 291-298.
- Rocchi, M. A., Pelletier, L. G. & Couture, A. L. (2013). Determinants of coach motivation and autonomy supportive coaching behaviours. *Psychology of Sport and Exercise*, 14(6), 852-859.

- Rodriguez-Sanchez, A., Devloo, T., Rico, R., Salanova, M., & Anseel, F. (2017). What makes creative teams tick? Cohesion, engagement and performance across creativity tasks: A three-wave study. *Group & Organization Management, 42*(4), 521-547.
- Ryan, R. M. (1995). Psychological needs and the facilitation of integrative processes. *Journal of Personality, 63*(3), 397-427.
- Ryan, R. M., & Deci, E. L. (2008). From ego depletion to vitality: Theory and findings concerning the facilitation of energy available to the self. *Social and Personality Psychology Compass, 2*(2), 702-717.
- Ryan, R. M. & Deci, E. L. (2000). Intrinsic and extrinsic motivations: Classic definitions and new directions. *Contemporary Educational Psychology, 25*(1), 54-67.
- Ryan, R. M., & Deci, E. L. (2013). Self-determination theory and the facilitation of intrinsic motivation social development and well-being. *American Psychologist, 55*(1), 68-79.
- Ryan, R. M. & Deci, E. L. (2017). *Self-determination theory: Basic psychological needs in motivation, development, and wellness*. New York: Guilford Press.
- Ryan, R. M., & Moller, A. C. (2016). *Competence as a necessary but not sufficient condition for high quality motivation: A self-determination theory perspective*. In A. Elliot, C. Dweck, & D. Yeager, *Handbook of competence and motivation* (2nd ed.). New York: Guilford Press.
- Sampson, R.J., Raudenbush, S.W., & Earls, F. (1997). Neighborhoods and violent crime: A multilevel study of collective efficacy. *Science, 277*, 918-924.
- Sarrazin, P., Vallerand, R., Guillet, E., Pelletier, L., & Cury, F. (2002). Motivation and dropout in female handballers: A 21-month prospective study. *European Journal of Social Psychology, 32*(3), 395-418.

- Seyfarth, R. M. & Cheyney, D. L. (2012). The evolutionary origins of friendship. *Annual Review of Psychology, 63*, 153-177.
- Shaver, P. R., & Milkulincer, M. (2011). *Attachment theory*, In P. A. Van Lunge, A. W. Kruglanski, & E. T. Higgins (Eds.), *Handbook of Theories of social psychology* (pp. 160-179). Thousands Oaks, CA: Sage.
- Sheldon, K. M. & Watson, A. (2011). Coach's autonomy support is especially important for varsity compared to club and recreational athletes. *International Journal of Sports Science and Coaching, 6*(1), 109-123.
- Sheldon, K. Zhaoyang, R. & Williams, M. (2013). Psychological need-satisfaction, and basketball performance. *Psychology of Sport and Exercise, 14*, 675-681.
- Siegel, D. J. (1999). *The developing mind: Toward a neurobiology of interpersonal experience*. New York, NY, US: Guilford Press.
- Smith, A. L., Ntoumanis, N., Duda, J. L., & Vansteenkiste (2011). Goal striving, coping, and well-being: A prospective investigation of the self-concordance model in sport. *Journal of Sport and Exercise Psychology, 33*(1), 124-145.
- Standage, M., & Ryan, R. M. (2012). *Self-determination theory and exercise motivation: Facilitating and self-regulatory processes to support and maintain health and well-being*. In G. C. Roberts & D. C. Treasures (Eds.), *Advances in motivation in sport and exercise* (pp. 233-270). Champaign, IL: Human Kinetics.
- Stevens, D. E., & Bloom, G. A. (2003). The effect of team building on cohesion. *AVANTE, 9*(2), 43-54.
- Stripada, R., Bowersox, N. Ganoczy, D., Valenstein, M. & Pfeiffer, P. (2016). Self-Determination Theory and outpatient follow-up after psychiatric hospitalization. *Community Mental Health Journal, 52*(6), 662-666.

- Tarnopolsky, M. (2008). Building muscle: Nutrition to maximize strength adaptations to resistance exercise training. *European Journal of Sport Science*, 8(2), 67-76.
- Taylor, S., Koch, K., & McNally, R. (1992). How does anxiety sensitivity vary across the anxiety disorders? *Journal of Anxiety Disorders*, 6, 249-259.
- Turman, P. (2000). Coaches' immediacy behaviours as predictors of athletes perceptions of satisfaction and team cohesion. *Western Journal of Communication*, 72(2), 162-179.
- Vallerand, R. (1997). Toward a hierarchical model of intrinsic and extrinsic motivation. *Advances in experimental social psychology*, 29, 271-360.
- Vallerand, R. J., & Reid, G. (1984). On the causal effects of perceived competence on intrinsic motivation: A test of cognitive evaluation theory. *Journal of Sport Psychology*, 6(1), 94-102.
- Vansteenkiste, M., & Deci, E. L. (2003). Competitively contingent rewards and intrinsic motivation: Can losers remain motivated? *Motivation and Emotion*, 27(4), 273-299.
- Warner, R. (2013). *Applied statistics: From bivariate through multivariate techniques*. Sage Publications Inc., 2nd Ed. U.S.A.
- Warwick University Counselling Service (2017). Self-awareness. Retrieved from: <https://warwick.ac.uk/services/counselling/informationpages/selfawareness/>
- Weinberg, R. S. & Jackson, A. (1979). Competition and extrinsic rewards: Effect on intrinsic motivation and attribution. *Research Quarterly: American Alliance for Health, Physical Education, Recreation and Dance*, 50(3), 494-502.
- Weinberg, R. S. & Ragan, J. (1979). Effects of competition, success/failure, and sex on intrinsic motivation. *Research Quarterly: American Alliance for Health, Physical Education, Recreation and Dance*, 50(3), 494-502.

William, H. C. Chung, J. O. & Ho, E. K. (2013). Effectiveness of an adventure-based training programme in promoting the psychological well-being of primary schoolchildren. *Journal of Health Psychology, 18*(11), 1478-1492.

APPENDIX A

EXPLANATORY LETTER

This purpose of this letter is to invite you to participate in a research project developed by Rankyn Campbell, in partial fulfillment of his Master's Degree in Counselling Psychology.

Statement of the research purpose: This purpose of this research is to examine if enhancing relatedness amongst varsity-level athletes improves team performance.

Identity of the researcher: The Principal Investigator (PI) responsible for this research project is Rankyn Campbell, Master's student at the University of New Brunswick.

Funding: The Principal Investigator has received no funding or sponsorship to aid in the completion of this research. The PI has no conflicts of interest to report.

Expected Duration of the Research: This research is expected to commence in November 2017 and terminate in February 2018.

Nature of Participation: You have three options pertaining to your possible participation in this research study. Below is a detailed description of what each option entails, and the role that you would play if you chose that option.

Option A: Option A is to not participate in any aspect of this research study. This would mean that you do not participate in the psycho-education sessions or the relatedness-building sessions, and do not participate in any way as research subjects.

Option B: Option B is to participate in any or all of the psycho-education sessions and relatedness-building sessions that I offer, but not participate in any way as research subjects. This means that you would be able to participate in the sessions, however you would not be expected to answer any research questions, or provide any personal information or insight following your participation. This also means that any contribution you make to group discussions will not be incorporated into research data.

Option C: Option is to participate in the psycho-education and relatedness-building sessions that I offer and participate as research subjects. Participating as research subjects in this study entails filling out short qualitative questionnaires at different points in the study. The nature of participating as research subjects is explained in detail below.

Research participants in this study will be invited to participate in two psycho-educational sessions and two-relatedness building sessions. The PI will offer the participants the psycho-education sessions in a classroom-based setting on the University of New Brunswick campus. Psycho-educational sessions will focus on emotional integration. Participants will be invited to participate actively during the psycho-education sessions. Participants will be asked to identify some of their personal triggers (which can cause them to shift out of a state of emotional integration), as well as help brainstorm some strategies (to help them re-enter an optimal state) when they have shifted out.

The relatedness-building sessions will take place on. Participants will be asked to participate actively in the relatedness-building sessions. These sessions incorporate Adventure-Based Experiential Training. These sessions will include two activities, Group Juggling and the Water-Balance (Rhonke, 1982; Allain, 1997). In Group Juggling participants will be asked to stand in a circle, facing each other. A ball will be handed to one of the participants in the circle, and they will be asked to make eye-contact with another participant, calling their name and then throwing them the ball. This continues until all team members have touched the ball once. Once the sequence is established more balls will be added to the circle. In the Water-Balance activity, the PI will divide the team into two equal groups. Each group will lay flat on their backs, and form a circle with their feet in the air. The PI will place a large container of water in the middle of the circle, in which each group will attempt to maintain its balance with their feet. Each group will be asked to have one participant at a time attempt to remove their athletic shoes and socks while the group maintains the balance of the bucket.

Coach/Staff Involvement: No members of the coaching staff will be present during any interventions. The coaching staff will not be notified as to who chooses to participate and who chooses to decline participation in the study. The coaching staff will not have access to any of the questionnaires that participants complete. This information will be kept confidential, with only the PI and his supervisor Dr. Helen Massfeller being privy to that information.

Description of Research Procedures: Participants will be asked to complete semi-structured questionnaires over the course of the study. These will be administered in a group setting, and completed individually. Participants will be able to offer as much or as little response as they feel comfortable and appropriate. All entries will remain anonymous. No identifying information will be included in the responses. The questionnaires should take 5-10 minutes to complete each.

Explanation of the Responsibilities of the Participant: Participants will be responsible for showing up to psycho-educational sessions and relatedness-building sessions at the times agreed upon by the researcher and the participants. Participants are invited to offer as much as little as they feel comfortable with in the qualitative responses.

Potential Risks and Potential Benefits: The PI does not foresee any risks to participants arising from their role in this study. The PI believes that research participants may experience potential benefits. These include an increased self-awareness, an enhanced understanding of emotional regulation, increased relatedness to teammates, and enhanced on-court team performance.

Participant Rights: The PI wants to emphasize that participants are under no obligation to participate in this study. In addition, any and all participants are free to withdraw their consent at any time during the study without prejudice to pre-existing entitlements. The PI will make available in a timely manner throughout the research project all information that is relevant to their decision to continue or withdraw from the study.

Possibility of Commercialization of Research Findings: The PI does not foresee any future conflicts of interest, as there are no study sponsors involved in this research. This research is not part of any commercial project.

Dissemination of Research Results: The PI may publish the research findings in the academic literature. If research is published, all participants will remain non-identifiable. The PI will use pseudonyms, and the generic term “varsity-level athletes” to identify research participants.

Qualified Representative: Both the PI and Dr. Helen Massfeller will be available to explain scientific and/or scholarly aspects of the research to participants. They can be reached at: PI: rcampbe3@unb.ca ; Dr. Massfeller: helen.massfeller@unb.ca

Contact outside the research team: If you wish to speak to someone at the University of New Brunswick outside of the research team please contact Dr. Ellen Rose, Acting Associate Dean of Graduate Programs in the Faculty of Education, at ph. 506-447-3294 or ellenrose@unb.ca.

Confidentiality: In accordance with Article 5, Section B and C of the Tri-Council Policy: The PI will maintain confidentiality of all personal information about research participants. The PI will collect only name and email address of the participants. Participants will be asked not to include any identifiable information on questionnaire responses. In addition, all data will be stored in a locked cabinet, in a locked office of the PI. Only the PI and his supervisor Dr. Helen Massfeller will have access to the data. No other identifying information is necessary for the PI to collect. In the event that the data is published in the academic literature, no identifiable information will be published. Participants name and email address will be collected by the PI. The sole reason that the PI is collecting email addresses is so that he can contact participants directly if he wishes to get consent to publish research at a later date. The anticipated uses of data are solely to complete the requirements of the PI’s Master’s Thesis, therefore data may be discussed with the PI’s supervisor and at the defense of the PI’s Thesis prior to graduation. At this time, no identifying information will be used. I will not reveal any names of the individuals participating in this study in any publication of research data, or at my Thesis defense. In addition, I will not reference the name of your team or your sport, or your gender. In any publication of results, I will use the generic term, “varsity-level athletes” to protect your confidentiality.

Payments for participants: The participants will receive no financial compensation for participating in this study.

Research related harm: The PI does not foresee any potential research related harm.

Questions/Concerns: Any questions or concerns can be forwarded to the PI at rcampbe3@unb.ca

When do I have to decide? After the PI fully explains the full nature of participation in person, you do not have to decide immediately whether you would like to choose *Option A* (not participate at all), *Option B* (participate in only interventions), or *Option C* (participate as full research subjects). Instead, you will have time to consider which option you would like to choose. In order to avoid coercion from other team members I ask that participants email me if they feel they may like to participate in this study. If I receive an email from you, I will send you an electronic version of this form (Explanatory Letter) and the Informed Consent form to complete and return to me to verify that you would like to participate. It is important to note that if you do email and ask for more information, you still do not have to participate in the study. You only consent to participating by returning the signed Informed Consent form back to me. I will grant seven days for you to decide whether you would like to choose *Option A*, *Option B*, or *Option C*, and I will make myself available during that time via email to answer

any questions/concerns you have to ensure that are fully informed before making a decision as to your participation.

APPENDIX B

INFORMED CONSENT

Principal Investigator: The Principal Investigator (PI) for this study is Rankyn Campbell, Master's Student at the University of New Brunswick. He can be contacted at: ph. 1(506) 521-0388 or email: rcampbe3@unb.ca

Supervisor of Principal Investigator: The Supervisor of the PI is Dr. Helen Massfeller. Dr. Massfeller is a Registered Psychologist and is an Associate Professor in the Faculty of Education, at the University of New Brunswick, Fredericton Campus. She can be reached at: ph. 1 (506) 453-5033, or helen.massfeller@unb.ca

External Contact: If you wish to speak to someone at the University of New Brunswick outside of the research team please contact Dr. Ellen Rose, Acting Associate Dean of Graduate Programs in the Faculty of Education, at ph. 506-447-3294 or ellenrose@unb.ca.

Invitation to participate: You are invited to participate in the research study conducted by Rankyn Campbell, in partial fulfillment of his Master's Degree, UNB Fredericton.

Study Name: "Does enhancing relatedness amongst varsity-level athletes improve team performance?"

Purpose of the research: The purpose of this research is to examine if enhancing relatedness amongst varsity-level athletes improves team performance.

What you will be asked to do in the research/Nature of Participation: You have three options pertaining to your possible participation in this research study. Below is a detailed description of what each option entails, and the role that you would play if you chose that option.

Option A: Option A is to not participate in any aspect of this research study. This would mean that you do not participate in the psycho-education sessions or the relatedness-building sessions, and do not participate in any way as research subjects.

Option B: Option B is to participate in any or all of the psycho-education sessions and relatedness-building sessions that I offer, but not participate in any way as research subjects. This means that you would be able to participate in the sessions, however you would not be expected to answer any research questions, or provide any personal information or insight following your participation. This also means that any contribution you make to group discussions will not be incorporated into research data.

Option C: Option is to participate in the psycho-education and relatedness-building sessions that I offer and participate as research subjects. Participating as research subjects in this study entails filling out short qualitative questionnaires at different points in the study. The nature of participating as research subjects is explained in detail below. If you choose this option, you will be invited to participate in two psycho-educational sessions and two-relatedness building sessions. The PI will offer the participants the psycho-education sessions in a classroom-based setting on the University of New Brunswick (UNB) campus. These sessions incorporate emotional self-regulation and Adventure-Based Experiential Training. These sessions will include two activities, Group Juggling and the Calculator (Rhonke, 1982; Allain, 1997) (see

Appendices F and G). Participants will be asked to complete 7 semi-structured questionnaires over the course of the study which will take 5-10 minutes to complete.

Period of Participation: Participants are invited to participate in the study from November 2017 to February 2018.

Risks: The PI does not foresee any risks to participants arising from their role in this study.

Possible benefits: The PI believe that research participants may experience numerous potential benefits. These include an increased self-awareness, an enhanced understanding of their window of tolerance, increased relatedness to teammates, and enhanced on-court team performance.

Voluntary participation: Your participation in the research is completely voluntary and you may withdraw from the study at any time. You can also withdraw data provided at any time.

Withdrawal from the study: You may stop participating in the study at any time, for any reason, if you so decide. Your decision to stop participation, or to refuse to answer particular questions, will not affect your relationship with the researchers, your position on UNB women's volleyball team, or your academic career at UNB.

Coach/Staff Involvement: No members of the coaching staff will be present during any interventions. The coaching staff will not be notified as to who chooses to participate and who chooses to decline participation in the study. The coaching staff will not have access to any of the questionnaires that participants complete. This information will be kept confidential, with only the PI and his supervisor Dr. Helen Massfeller being privy to that information.

Confidentiality: In accordance with Article 5.1 of the Tri-Council Policy: The PI will maintain confidentiality of all personal information about research participants. The PI will collect only name and email address of the participants. Participants will be asked not to include any identifiable information on questionnaire responses. In addition, all data will be stored in a locked cabinet, in a locked office of the PI. Only the PI and his supervisor Dr. Helen Massfeller will have access to the data. No other identifying information is necessary for the PI to collect. In the event that the data is published in the academic literature, no identifiable information will be published. Participants name and email address will be collected by the PI. The sole reason that the PI is collecting email addresses is so that he can contact participants directly if he wishes to get consent to publish research at a later date. The anticipated uses of data is to complete the requirements of the PI's Master's Thesis, therefore data may be discussed with the PI's supervisor and at the defense of the PI's Thesis prior to graduation. At this time, no identifying information will be used. I will not reveal any names of the individuals participating in this study in any publication of research data, or at my Thesis defense. In addition, I will not reference the name of your team or your sport, or your gender. In any publication of results, I will use the generic term, "varsity-level athletes" to protect your confidentiality.

Questionnaire Responses: Participants may offer as much or as little information in response to the questions on the questionnaires. Participants may leave questions blank if they so choose.

How subjects may receive information on the outcome of research: Participants may receive information on the outcome of research anytime by contacting the PI at: p. 1(506) 521-0388 or email: rcampbe3@unb.ca

Summary of Findings: If you would like to receive a summary report of my study findings from this collaborative research project, please include your name and email or mailing address below.

(Name and email address and/or mailing address)

Questions about the research: Any questions about the research can be forwarded to the PI at 1(506) 521-0388 or at rcampbe3@unb.ca.

Legal Rights and signatures: I _____ consent to participate in the study, "Does enhancing relatedness amongst varsity-level athletes improve team performance" conducted by Rankyn Campbell, University of New Brunswick Master's student. Your signature indicates that you voluntarily agree to participate in this study, that the study has been explained to you and that any questions have been satisfactorily answered. It has been made clear that your participation is completely voluntary and that you may withdraw, or withdraw and data you wish, from the project at any time. No personal identifying information will be reported at any time to ensure your privacy and confidentiality throughout and beyond the life of the project.

Participant's Name (printed): _____ Date:

Participant signature: _____

Researcher's statement: I certify that the participants has had adequate time to read and learn about the study and all questions have been answered. The participant understands the purpose, risks, benefits and procedures to be followed in this study and voluntarily agrees to participate.

_____ Date:

Researcher's Name (printed)

Researcher's signature

APPENDIX C

INITIAL NEEDS ASSESSMENT

Some of the interventions that will be used in this study are pre-determined. However, as the Principal Investigator, I am committed to working *with* you as participants, rather than subjecting you to numerous pre-determined interventions, as is the case in traditional research.

In line with the suggestions of Allain (1997), an initial needs assessment can be an effective way for participants to have their say in the content of the interventions target over the course of the season. You know yourself, and your teammates best. Therefore, it is imperative that you have your say in how we can work together to enhance relatedness, and work to develop a sense of collective-efficacy over the course of the season.

How do you feel you currently relate to your teammates?

How do you feel, as a whole, your team relates to one another?

As we have discussed, there is no single construct, attribute or behaviour that can single-handedly help humans positively relate to other humans on its own! In reality, relatedness is a multi-dimensional construct. Many attributes and behaviours can help us relate more positively to others. These include:

- Trust: Being trustworthy ourselves, and having the ability to trust others.
- Constructive criticism: Being able to give and receive criticism in a respectful manner.
- Role-Acceptance: Knowing our role on the team, accepting it and fulfilling it to the best of our ability.
- Frustration: Dealing with setbacks, losses, injuries and bad games.
- Inclusion: Avoiding the manifestation of ‘cliques’ on the team.

These are only a few examples! Can you think of other things that you believe would help you better relate to teammates and/or help your teammates better relate to you? What do you believe would really benefit the team in this area? Please explain, as this can help guide the content of future interventions. Remember that all responses are anonymous:

Describe the team's goals for this season:

How do you feel personally about these goals?

As the PI, I fully understand that you are busy student-athletes. Participating in this study should never interfere with your ability to complete your other daily tasks, nor should it ever become a burden to you to have to participate.

In order to make participating in this study as convenient for you as possible, how long do you prefer intervention sessions last?

(i.e. Do you believe that you will have the ability to focus for an hour at a time?)

—

Would you prefer to meet more often, for shorter period of time? Or would you prefer to meet less often, and complete longer sessions?

Do you have any other comments, or concerns that you would like to express?

Thanks you for completing this initial needs assessment.

Please remember that this study is designed to be a collaborative experience. Therefore, as we progress, I invite criticism, suggestions, and ideas about how we can continue to work together to help you and your teammates improve your performance on the court.

Rankyn Campbell
rcampbe3@unb.ca
1(506) 521-0388

APPENDIX D

POST-INTERVENTION QUESTIONNAIRE

Thank you for participating in this intervention.

I invite you to take some time to reflect upon your experience in the intervention and answer the following questions to the best of your ability.

Please remember that all responses are confidential. Please do not put any identifying information in your responses. Please provide as much or as little detail as you feel comfortable with. You are not required to disclose anything that you do not feel comfortable with.

Thank you for your participation and your feedback.

- (i) How did you experience the intervention session today? (i.e. what did you think during it? How did you feel during it?)

- (ii) What did you feel the impact of this session was on you personally?

- (iii) How do you feel the content of this session will impact your team as a whole?

(iv) What did you find ineffective/dislike about this session?

(v) Further comments, concerns, questions or insights:

Note: Some of these questions have been adopted from Allain (1997).

APPENDIX E**FINAL QUESTIONNAIRE**

Thank you for participating in this study.

I invite you to take some time to reflect upon your experience in throughout the study and answer the following questions to the best of your ability. Please remember that all responses are confidential. Please do not put any identifying information in your responses. Please provide as much or as little detail as you feel comfortable with.

- (i) What did you feel was the biggest impact of participating in this study on you personally?

- (ii) What did you feel was the biggest impact of participating in this study for your team as a whole?

- (iii) How do you currently relate to your teammates?

- (iv) Has your sense of relatedness to teammates changed over the course of the season?

(v) If so, what has influenced this change?

(vi) Has the team's performance changed since the beginning of the season?

(vii) If so, what if anything has influenced this change?

Mr. Rankyn Campbell
Faculty of Education
Dear Mr. Campbell,

As Chair of the Research Ethics Board at the University of New Brunswick (Fredericton), I have reviewed your revised application (Does enhancing relatedness among varsity-level athletes improve team performance? --REB #2017-151) for its compliance with Tri-Council Policy (TCP) and with UNB Policy (UPRIH). On the basis of the review, I am pleased to inform you that, in my opinion, your project now appears to be in compliance with TCP and UPRIH. Accordingly, please consider this E-mail to represent notification of REB approval of your project. A formal letter of approval will also sent to you from the Office of the Vice-President (Research) in a few days.

I understand that, as a result of our discussions, you are modifying the project so that team members have three options: (a) not participate in the relatedness-building sessions at all, (b) participate in all the lectures and relatedness-building exercises and sessions but not as research participants, or (c) participate in the lectures and exercises and also complete the requirements of research participants. This largely meets my concern that team members may feel pressure from coaches or peers to participate in the research; they now have the option to participate with the team in the exercises, but not participate in the research component if they prefer not to. Thank you for responding to my questions and concerns so quickly, and for sending modified versions of the information letter and consent form. I have printed them and add them to your file.

Please note that, in the future, if you find that you must make any changes to your protocol, those changes must be considered and approved by the REB before they are implemented. Please submit the REB Case Modification Request form, available online through the Research Ethics page of the Office of the VP (Research). If any funds for this research project are held until REB approval you will have to inform the Office of Research Services at UNB of this approval in order to release your funds.

Annual Reports for this project are due on the 15th of January each year, provided that this date is at least six months after the date of project approval. Final reports are due 90 days after project completion. Both of these reports can be found on our website at <http://www.unb.ca/research/ors/forms/index.php#ethics>.

[If you have not already done so, please send an e-mail copy of your project summary (your answer to question # 1 of the ethics application form) to ethics@unb.ca as soon as possible. Thank you for your co-operation in this matter.

Best wishes for the successful completion of your research project.

Steven Turner, Chair
UNBF Research Ethics Board

CURRICULUM VITAE

Mr. Rankyn Campbell

University of New Brunswick, Master's of Counselling Psychology
Degree Status: In Progress (2016-2018)

St. Thomas University, Bachelor of Arts
Degree Status: Completed (2016)

Publications: None

Conference Presentations

Fraser, K. & Campbell, R. (2018) Child motor vehicle restraint use in the special needs population: A pilot study. American Academy of Cerebral Palsy and Developmental Medicine, Cincinnati, United States.

Kitchenham, A., Johnson, S., & Campbell, R. (2018) Risk factors that promote the manifestation of personality disorders among youth involved in out-of-home care. International Congress of Applied Psychology, Montreal, Canada.

Campbell, R. & Massfeller, H. (2018). Does enhancing relatedness amongst varsity-level athletes improve team performance? International Congress of Applied Psychology, Montreal, Canada.

Campbell, R. & Massfeller, H. (2018). Does enhancing relatedness amongst varsity-level athletes improve team performance? Canadian Counselling Psychology, Calgary, Canada.

Crossland, E. & Campbell, R. (2017). Standing Ovation: How to Overcome Academic Anxiety and Perform Optimally. The University of New Brunswick Student Services Annual Mental Health Campaign, Fredericton, Canada.

Campbell, R. & Clow, K. (2017). Counselling in rural and remote Canadian communities: Understanding and navigating ethical dilemmas. New Brunswick Health Research Foundation, Moncton, Canada.

McAllister, E. & Campbell, Rankyn. (2017). Measuring family-centred care of a paediatric rehabilitation team: Family and staff perspectives. Canadian Association of Paediatric Health Centres National Conference, Montreal, Canada.

Fraser, K. & Campbell, R. (2017). Constraint-induced movement therapy in a box: Ready, Set, Go! American Academy of Cerebral Palsy and Developmental Medicine, Montreal, Canada.

Campbell, Rankyn & Kitchenham, Ashlee. (2017). Counselling clients addicted cocaine: A place to start. Atlantic Graduate Student Conference, Fredericton, Canada.