

**Attachment Style and Development in the Canadian Summer Camp Context: A
Quantitative Analysis of Direct and Indirect Associations Using Phase III CSCR Data**

by

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AUTHOR'S DECLARATION

I hereby declare that I am the sole author of this thesis. This is a true copy of the thesis, including any required final revisions, as accepted by my examiners.

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Abstract

Psychosocial development is an ongoing processes beginning from birth. Attachment theory, as outlined by John Bowlby, takes a working model of self and others approach to explaining the associated psychosocial developmental phenomena (1969). The summer camp experience is a unique social setting where a child is separated from their primary attachment figure for a prolonged period of time and peers can play a larger supportive role. Applying attachment theory to the summer camp experience can help develop an understanding of the developmental processes within the summer camp experience as well as inform summer camp programming and protocol considerations aimed to support all campers. Using data from Phase III of the Canadian Summer Camp Research Project, the direct and indirect associations of attachment style with outcomes of independence, self-confidence, and emotional well-being were assessed using Pearson correlation, multiple linear regression modelling, bootstrapping based mediation analysis, and bootstrapping based interaction modelling. Although negative correlations between attachment constructs and developmental outcomes were identified, a significant direct effect for avoidance but not anxiety was found during regression modelling. Bootstrapping analysis further revealed that social connections at camp and exploration combined were a significant mediator of the relationships between avoidance and the development of independence, self-confidence, and emotional well-being. Additionally, social connections only mediated self-confidence, exploration only mediated independence, and both exploration only and social connections at camp independently moderated development of emotional well-being. A significant interaction term was also found for anxiety and avoidance combined. The interaction indicates that those who are highly avoidant and highly anxious tend to have the lowest levels of developmental outcomes. The findings provide valuable insights

regarding the role of attachment history and elements of the camp experience as a mechanistic explanation for individual differences in developmental outcomes of the summer camp experience. However, further research should aim to determine the role of anxiety in low-income populations to better understand implications of expanding the reach of summer camp programs and how to foster development within a broader population of campers.

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Attachment Style and Development in the Canadian Summer Camp Context: A Quantitative
Analysis of Direct and Indirect Associations Using Phase III CSCR Data

Introduction

The pathway of life is littered with a myriad of experiences and our compilations of experiences are influenced by a combination of both choice and circumstance. In the early stages of life, our experiences are limited to the environmental changes experienced from within the womb. From the rhythmic, soothing vibrations of our mother's heartbeat to the fluctuation of chemical concentrations we are beginning to experience new things and our lives are beginning to take shape. At birth, we are vulnerable infants that have little choice in how we experience life, however, we are learning from our experiences (Berk, 2008). From late infancy onward our growing autonomy allows us to explore and choose our experiences. This exploration and choice leads us on a path to develop our own understanding of the world and our place within it.

Although we have more potential for autonomy as we progress towards adulthood, our desire and ability to explore is influenced by both our current environment and our earlier experiences (Berk, 2008). Early experiences help shape our understanding of the world based on schemas, and our schemas are drawn upon to guide our thoughts and behaviours; early experiences are often the beginning to lifelong trends. This is equally true for social interaction, whereby early experiences develop a sense of what a relationship is and how relationships can and should be utilized (Bowlby, 1969; Hazan & Shaver, 1987, Sroufe, 2005).

Residential summer camp is a unique social setting. For those who attend summer camp, the camp setting is typically the first instance in which an individual is separated from their primary caregiver for a prolonged period of time. Residential summer camps are a small community setting involving camp councillors, other staff, and one's peers (Collins, 2006). The

separation from a primary caregiver at camp provides an opportunity for relationships with other people, primarily one's peers, to play a larger role in the individual's life experiences. The camp environment is also a safe, stable environment which may differ from an individual's home life. Since various environmental factors influence which stressors require relief as well as when and how social supports become useful and/or important the change in environment allows for a different perspective of how and when to use social supports. Because of the unique environment, residential summer camps provide a novel setting to explore the role of attachment style and how attachment schemas can influence developmental outcomes.

Within a psychosocial development perspective, this study explores how attachment styles are developed and maintained through working models of self and others. Differences within the working models of self and others are the backbone of attachment theory and, by their very nature, can influence how we interact in social contexts (Bowlby, 1969). From this theoretical underpinning, the summer camp experience will be analysed to determine associations between attachment style, based on anxiety and avoidance constructs, and developmental outcomes of independence and self-confidence. It is proposed that how an individual has formed working models of self and others, determined by anxiety and avoidance constructs, can influence how an individual responds to the unique social environment of a residential summer camp and, in turn, trends in how individuals can benefit from the summer camp experience. The study utilizes data collected from the Phase III CSCR survey in a unique way that identifies associations between outcomes of independence and self-confidence at residential summer camps with no religious affiliation to campers' attachment style constructs of avoidance and anxiety. Potential mediation through social connections at camp and exploration as well as interaction between anxious and avoidant attachment constructs will also be tested.

Identified confounders which will be controlled statistically during analysis include age, sex, household income, returning camper status, and camp duration.

Literature Review

Summer Camps in Canada

Need for Summer Camp Programming.

In Canada, elementary and high school students are generally given a two month break from school which spans from late June to the beginning of September of each year (Ontario Ministry of Education, 2013). Because there is no mandatory standardized schedule during the summer break from school, there is considerable variability in the types of activities that these youth may experience. Summer camp represents one of many summer break activity options.

Not only is the summer break a scheduling transition for students, but it is also a transition for their primary caregivers. For the sake of this paper, primary caregiver will be used to refer specifically to a biological or non-biological parent. The summer break marks a change from government provided childcare during business hours, in the form of schooling, to caregiver or caregiver appointed childcare. During the summer break, parents may also have competing obligations such as employment or provision of care for other dependents. In 2008, 77% of Canadian families with the youngest child aged 6-15 had both parents employed (Statistics Canada, 2010). It is also estimated that, in 2009, 62.6% of lone mothers in Canada were employed (Statistics Canada, 2012); a statistic was not identified for the employment status of lone fathers. In 2011, 16.3% of Canadian families had a lone parent with 3.5% of families having a lone father and 12.8% of families having a lone mother (Statistics Canada, 2013a). Due to the aging population of Canada, there is also a growing number of adults providing care for both children and aging parents. According to Statistics Canada, in 2005, 27% of individuals cared for both a dependent below the age of 25 and a parent over the age of 65 (Williams, 2005).

Because of these and any other competing obligations, it may be difficult for caregivers to ensure both stimulating and entertaining experiences while providing adequate supervision and support.

For many Canadian caregivers, it may be more practical to enrol their child/children in a program or childcare service during the summer break. However, this may not be feasible depending on the caregiver's resources and other available supports for the caregiver. An ethnographic study by Chin and Phillips found that parents, regardless of socioeconomic status (SES), try to provide their child with the most stimulating experiences possible. However, it was also found that differences in financial resources, knowledge of how to entertain and stimulate growth in children, and knowledge of how to access appropriate activities and programs ultimately determined how a child would utilize their summer break (Chin & Phillips, 2004). To help caregivers through the decision making process it may be necessary to provide education and awareness of available summer break programs such as summer camps. Additionally, since resources and available supports are a determinant of program use, special consideration should be taken for low SES populations. In Canada, summer camps represent a large industry that can be expensive and difficult for many families to access. Summer camps represent a \$428 million dollar a year industry representing nearly 8 million camper days per year (Canadian Camping Association, 2011). This translates to approximately \$54/day (\$379/week) per child. Although subsidies do exist for summer camps, survey data shows that families that send their children to camp in Canada tend to include two parents and have an average household income between \$110,000 and \$119,000 (Glover et al, 2013). The average household income of campers is well above the national average private household income of \$79,102. (Statistics Canada, 2013b), This indicates an inequitable access to summer camps in Canada with access primarily limited to individuals from high income families. Although summer camps are typically expensive and

underutilized by low SES population segments, potential to expand the reach of summer camp programming can exist through promotion and subsidies. An example of this is the Tim Horton's Children's Foundation which runs subsidized summer and outdoor education camps. In this setting, gains in motivation, caring, and responsibility have been found (Tim Horton's Children Foundation, 2012). In order for decision makers to decide whether or not to promote and/or fund summer camps, understanding of the benefits of the summer camp experience and the role of individual differences must be understood to ensure that equitable access has a positive impact.

Benefits of Summer Camp.

The early literature identifies camp as not only a setting away from home but also as an opportunity to create a new community (Schwartz, 1960). Collins identified that three core components of the residential camp experience were important to campers: sense of community, relationships formed, and sense of accomplishment (2006). Collins further identifies the importance of self-determination, the problem solving process, the importance of mutual aid, the role of leaders, the roles in the group among members, and the use of activity in developing these three core components of the camp experience. The sense of community is established through the camp community as a whole as well as the sub-community that can exist in the form of a cabin/activity group (Collins, 2006). It was also noted that modern camps are designed to develop decentralized tight-knit groups rather than using a "mass camping" model that attempts to bring everyone together which was employed by early camps (Collins, 2006). The camp community differs from the "city" community by adult leaders being more relatable due to the informal nature of their relationship with campers, by the different roles and choices of roles that campers are able to carry out, and by the nature and strength of the connections between campers. In particular it was noted that the 24hour contact between campers allows for deeper

connections and limits the potential for conflicts to go-on unresolved (Collins, 2006). The camp activities are also important to the experience by promoting self-worth in the individual or group as well as promoting gains in competence by allowing feelings of accomplishment (Collins, 2006). Gillard, Watts & Witt found that many campers attend camp with the purpose of trying new activities (2009). In addition, they attribute gains in motivation and interest in camp through a combination of camp activities and social environment acting to promote self-determination through competence and relatedness needs (Gillard et al, 2009; Ryan & Deci, 2000). Specifically, they found that the camp experience allows for a sense of personal causation of competence through participation in the camp activities and reinforcement of feelings of competence through positive supportive and reinforcement from the camp community (Gillard et al, 2009).

Overall, summer camp programs are designed to provide a stimulating and enjoyable experience while ensuring adequate supervision. A novel camp program in Norway was studied in order to determine if the camp setting is an effective learning space. Within the study, Dahl, Sethre-Hofstad, and Salomon analyzed experiences based on components of non-formal thinking spaces. Non-formal thinking spaces were defined as spaces where people's identities are the focal point and programming centers around these unique identities (Heath, 2004). Experiences in non-formal thinking spaces should also be engaging experiences ranging from active to passive involvement inspired by aesthetic interests (being there), escapist interests (doing), educational interests (learning), and entertainment interests (sensing) (Pine & Gilmore, 1999). In the aforementioned study it was found that, despite some occurrences of negative experiences, self-critical feelings, and feelings of exclusion, the camp experience provided a learning environment consistent with learning and experience space characteristics (Dahl et al, 2013).

This indicates that beyond providing unique social and activity elements, the camp environment provides an opportunity for rich learning experiences.

The potential of the summer camp experience has been analyzed and found to foster positive development. A recent large-scale study by the American Camp Association (ACA) known as the *Youth Development Outcomes of the Camp Experience* (YDOCE) study, found that the camp experience was associated with the development of self-esteem, independence, leadership, friendship skills, adventure and exploration, and spirituality (Henderson, Whitaker, Bialeschki, Scanlin & Thurber, 2007). Additionally, when parental perceptions were assessed more developmental constructs were found to be positively associated with the camp experience: identity, independence, leadership, making friends, social comfort, peer relationships, adventure and exploration, environmental awareness, positive values and decision making, and spirituality (Henderson et al, 2007). The findings from the YDOCE reveal that the summer camp experience is associated with positive development.

Although the Canadian and U.S. contexts are similar, until recently there has been a lack of empirical evidence to support the positive outcomes associated with the summer camp experience specific to the current Canadian context. It is important to distinguish between the two contexts because of potential differences in both impact of findings as well as differences in need for summer programs. For example, Canada is in a more temperate zone making summer a more precious resource. In more regions within Canada than the U.S., winter is a barrier to outdoor activities as well as being a barrier to transportation to and from all available activities; the same barriers applies to social contact. This makes gaining social experience as well as participating in activities over the summer months particularly important within the Canadian context. Additionally, Canada has a publicly funded healthcare system in which cost-recovery

and evidence-based decision making are important elements in health promotion activities. Because decision makers are allocating precious resources, context specific evidence should be used in order to minimize risk of being misinformed due to contextual differences (Clancy & Cronin, 2005). Another decision maker that is important to consider is parents. Parents are likely to follow the same trend in use of evidence and be more inclined to send their child to summer camp in Canada if the Canadian summer camp experience is found to be associated with positive outcomes. For these reasons, the Canadian context is unique and requires context specific evidence.

The lack of Canadian context specific empirical evidence was addressed by the *Canadian Summer Camp Research Project (CSCR)*. The CSCR was a collaborative effort between the Canadian Camping Association/Association des camps du Canada (CCA/ACC) and the University of Waterloo. The CSCR utilized a mixed methods approach and was rolled out in three phases: Phase I, which involved interviewing 65 camp directors to explore potential outcomes of interest and determine which outcome measures to assess in following phases; Phase II, which involved a convergent interpretation of camp counsellors' observations and recordings of 1,288 campers' pre/post attitudes and behaviours to determine summer camp outcomes; and Phase III, which involved a convergent assessment of open- and closed-ended survey responses from 1,405 parents to determine perceived changes in campers' attitudes and behaviours in life outside of camp following a camp experience (Glover et al, 2013). Based on the findings of the CSCR Phase I study, the CSCR Phase II study examined the following outcomes for campers from various Canadian summer camps: social connections at camp, environmental awareness, self-confidence, personal development, emotional intelligence, and attitudes towards physical activity. The Phase II study found significant positive development in

all five categories with variability by age, sex, and past camp participation (Glover, Chapeskie, Mock, Mannel & Feldburg, 2011). Phase III of the CSCRP confirmed the long-term developmental outcomes of the summer camp experience by finding that campers had a positive change in social connections at camp, environmental awareness, attitudes towards physical activity, emotional intelligence, and self-confidence and personal development that carried over into their home lives after attending camp; variability by age, sex, duration of camp experience, and being a returning camper was also found (Glover et al, 2013). The CSCRP reveals evidence for the effectiveness of the camp experience and its potential utility to fill the need for stimulating summer break experiences that promote healthy development. However, these findings suggest that there is variability in the outcomes of the camp experience based on individual differences.

Summer Camp Knowledge Gap.

Although it is evident that the summer camp experience has the potential for creating developmental benefits (Henderson et al, 2007; Glover et al, 2013), it is important to determine the mechanisms of how individuals can develop at summer camp. Understanding the mechanisms of change can also help to determine whether or not specific groups are benefitting more from the experience and what factors lead to variability in the potential to reap the rewards of the experience. Understanding of how and why summer camp leads to developmental outcomes and what factors contribute to individual differences is not well understood beyond those of age and gender; some evidence of differences based on developmental trajectories exists in the literature and will be presented later. Understanding the mechanisms underlying the developmental outcomes of the summer camp experience is important to not only better understand the phenomenon but also to support findings from previous research. For example,

the CSCRP project did not use a control group so evidence supporting a mechanism of change would reduce the potential of confounding due to maturation (Glover et al, 2001; Glover et al, 2013). Additionally, while attachment and social history have been linked to social competence and adaptation to the camp environment, these performance measures were not linked to specific outcomes of the campers' experiences (Elicker, Englund & Sroufe, 1992; Sroufe, Egeland, Carlson & Collins, 2005; Fichman, Koestner & Zuroff, 1996; Fichman, Koestner, & Zuroff, 1997). Determining what factors are associated with variability can inform whether or not inequities will be created and/or inform specific camp programming considerations to reduce potential inequities.

Understanding individual factors as well as modifiable mediators that produce differences leading to inequitable outcomes is important for camp programming considerations. Identifying modifiable factors for programming considerations is important to help ensure that the camp experience fosters development in all individuals, especially those currently within unfavourable developmental trajectories. When intentionality of camp programming was assessed, programming intentionally aimed at addressing self-constructs were found to foster more growth in campers (March, 1999). Intentionally designed programming aimed at positive identity, independence, leadership, peer relationships, making friends, adventure and exploration, and spirituality was also found to be influenced by camp director and staff goals (Henderson et al, 2005). While these findings indicate the potential for the effects of focused programming, knowledge of where to focus programming to promote development in all campers is still needed.

Additionally, knowing how individual factors contribute to the summer camp experience is important to ensure that education and promotion of the summer camp experience portrays an

accurate and unbiased message and that programming considerations meet the needs of those who may otherwise not benefit from the experience. Thus, it is important to determine if enabling all individuals to attend a summer camp would be beneficial rather than create health inequities and, if potential inequities are found, generating knowledge regarding considerations for focused programming/protocols that can reduce known inequities is important. Preliminary evidence suggests that there is potential for summer camp to benefit vulnerable populations. Kirschman , Roberts, Shadlow and Pelley (2010), found that high-risk teens at an inner-city camp were able to increase in the their level of hope at camp; hope was defined as orientation towards and invitation of goals, as well as the individual's belief that they can accomplish their goals. However, other evidence suggests that individual differences in access to a supportive environment in early life can lead to differences in adaptation to the summer camp environment and thus outcomes of the summer camp experience. Particularly, early infant attachment and other social experiences influenced adaptation to the camp social environment and engagement in camp activities (Sroufe, Egeland, Carlson & Collins, 2005). Understanding the role of individual differences can help programs, such as the previously mentioned inner-city camp, by helping camp staff to develop programming that benefits those that might otherwise not benefit from the experience. Additionally, having evidence to support the need for specific programming considerations can help these programs justify funding requirements.

As a step towards a more complete understanding of individual differences of the camp experience, this study explores whether or not attachment style is associated with developmental outcomes by including camper attachment style constructs in the analysis of summer camp developmental outcomes. The study also assesses indirect effects through modifiable factors of social connections at camp and exploration behaviours which may help serve as programming

considerations. It is important to note that, while the study sample is of relatively high SES (\$130,000-139,999 average household income), individuals within the study population of high avoidance and/or high anxiety will be deemed at-risk due to their unfavorable developmental trajectories (Sroufe, 2005). The study is primarily concerned with determining a mechanism for development within the summer camp context that takes into account individual's pre-existing psychosocial developmental differences and identifies practical insights regarding how to address these individual differences.

Attachment Theory

Attachment theory provides a framework for identifying individual differences that may influence the summer camp experience. In particular, attachment theory provides a psychosocial perspective for the development of individual differences as well as how differences can manifest into thoughts and behaviours that play a role in the developmental outcomes of the camp experience. Attachment theory proposes that working models of self and others are developed through all social interactions and form the basis for social perceptions and behavioural tendencies. It is also noted that while working models of self and others are constantly evolving, early interactions with one's primary caregiver tend to be the most influential (Bowlby, 1969; Bowlby, 1973; Bowlby, 1980; Sroufe et al, 2005).

Attachment Theory Origins.

The notion of attachment was first put forward by John Bowlby in 1958. In a 1958 study titled *The Nature of a Child's Tie to his Mother*, Bowlby distinguished the difference between dependency and attachment; the parent-child relationship is more complex than simply fulfilling survival-based needs of an infant. According to a historical review by Bretherton (1992), this novel perspective changed the research climate that previously focused on the Freudian notion of

infant interactions with the mother primarily fulfilling basic needs to a more complex, supportive relationship that enables exploration and sets the initial trajectory for proceeding psychosocial developmental. According to Bowlby (1969), there was harsh criticism to this way of thinking because it conflicted with conventional wisdom. However, according to Bretherton (1992), when Ainsworth and Wittig conducted the famous *Strange Situation* experiment in 1969 that outlined characteristic attachment styles the attachment paradigm began to gain popularity and acceptance.

An etiology of attachment theory was developed by Bowlby through a series of publications titled *Attachment and Loss* (1969; 1973; 1980). The attachment theory was developed to help explain what seemed like an innate need for a mother's attention and support as well as the adaptation that occurred when infants were separated from their mothers (Bowlby, 1969). The formation of attachment theory, as noted by Bowlby, utilized some of Freud's lesser known theories as well as various theories, insights and observations from other psychological theorists and psychiatrists at the time (1969). This reformulated theory of early parent-child relationships was developed through an approach that first observed attachment events and then determined outcomes. This too was also a novel approach that countered the more predominant psychoanalytic approach used at the time which first identified psychosis then retrospectively determined causes (Bowlby, 1969).

According to the mechanisms proposed by Bowlby, attachment is any behaviour that aims to establish or maintain proximity to an attachment figure. An attachment relationship utilizes an attachment system that enables goal-oriented action through relieving distress or reducing stress. For the purpose of this paper, the term distress will be used synonymously with anxiety to reduce confusion between anxiety as a function of a negative effect of stress and

anxiety as it pertains to anxious attachment. An attachment system consists of an individual seeking out another individual (attachment figure) in times of distress as a coping mechanism to reduce the distress (Bowlby, 1969). Stress, at various levels and forms, is assumed to be inevitable and thus the desire to have an available coping mechanism drives a need for proximity maintenance. Proximity maintenance refers to an individual's behaviours to establish or maintain minimal distance from their supportive attachment figure. The desire for proximity maintenance is theorized to occur by the attachment figure serving as a secure base from which to explore and a safe haven in which to return to in times of distress. A lack of proximity to an attachment figure can also produce separation distress (Bowlby, 1969; Hazan & Shaver, 1994).

While attachment systems can help foster exploration through stress and emotion regulation, Bowlby also found that children tend to follow a similar sequence of responses to separation. Separation, in this case, does not allow for an attachment system to be used because proximity cannot be established. Bowlby found that separation tends to begin with protest in the form of crying, active searching for the attachment figure, and resistance to the attachment figure (1973). Instances of separation can also have prolonged effects. Bowlby found that a separation involving a protest response seemed to lead to children's excessive need for physical contact and apparent fear of abandonment for up to a month after the distressing separation. However, it was also theorized that if protest does not successfully re-establish proximity, then despair in the form of passivity and obvious sadness can be observed (Bowlby, 1973). In a final response to separation, in an attempt to resolve despair, emotional detachment may also occur (Bowlby, 1973; Hazan & Shaver, 1994). Emotional detachment from one's caregiver was reported as a coping method for dealing with separation induced despair, which, according to Bowlby, serves two functions: enabling normal functioning without the caregiver, and/or enabling the search for

a new caregiver/attachment figure (1973). Instances involving separation induced despair may be resolved in time as the individual begins to resume seeking contact and comfort (Hazan & Shaver, 1994). The observations of separation and subsequent adaptation were the initial intriguing finding that inspired Bowlby to propose that interactions with a primary caregiver can shape an individual's understanding of self and others (Bowlby, 1969; Bretherton, 1992).

Working Models of Self and Others.

Because development of perceptions and behavioural trends are hallmarks of individual attachment styles, working models of self and others are integral to attachment theory (Bowlby, 1969; 1973; 1980). It is important to understand the underlying pathway and theory of working model development to understand how and why individuals behave within and utilize relationships. Understanding the pathway of attachment style development is also important because various attachment classification systems are used within the literature and the working models' perspective provides some clarity when comparing findings between studies.

Attachment classification systems will be discussed in a later section.

Overall, a working models perspective is used to explain how attachment experiences in early life set the stage for social development by creating models of what to expect within and from subsequent relationships. A grouping of associations that forms a model for an object is referred to as a schema. In regards to attachment, self and others are the objects and associations serve as explanations of the experienced behaviours between the individual and their attachment figure within an attachment system (Bowlby, 1969). For example, an individual can associate others as supportive or not supportive and/or an individual can associate themselves as valuable to others or as a burden to others. Bowlby also proposes that since experiences relating to self and others are dyadic they are often intertwined and, thus, often complimentary (1973). For

example, if an infant cries in order to obtain support and support is not received, the infant can associate themselves as having low value and perceive others as unsupportive. The schemas derived from early experiences with attachment figures are then used to form preferences, make decisions, and ultimately direct behaviour within social contexts to follow (Bowlby, 1969). Moreover, developing an understanding of how to use and what to expect from relationships can influence experiences in social settings such as summer camp. Conversely, social experiences such as summer camp can alter perceptions of what to expect and how to best utilize relationships through adaptation to the working models of self and others.

The potential for schemas to change gives rise to the dilemma of schema stability versus plasticity. According to Hazan and Shaver, the stability-plasticity dilemma by Grossberg (1980), which proposes that schemas are most useful if they are stable enough to invoke confidence in decision making but also pliable enough to become accurate and helpful is an important concept to attachment related schemas (1994). At a basic level, stability allows for schema use while plasticity allows for schema accuracy. Plasticity is especially important in regards to age related changes allowing individuals to develop new skills and abilities and/or transition from one social context to another. Age related changes will be described in a later section.

Bowlby proposes that schema development and strengthening mechanisms follow a Freudian psychological energy model which theorizes that associations are made through a certain level of stimulation and that the stimulation must also be maintained at a minimal level to keep the associations salient. Conversely, an association can change if a significantly strong stimulating experience that opposes the previous association is encountered (Bowlby, 1969). This can be conceived as developing a model and obtaining feedback that either strengthens the associations or causes alterations. This theoretical mechanism is also supported by Long-Term

Potentiation (LTP) theory for learning and memory which posits that repeated use of neuronal pathways creates efficiencies within those pathways and that efficiencies represent strengths of association. LTP is the basis for how memories of associations are formed (Douglas & Goddard, 1975). In addition to the psychical energy and LTP models supporting the notion of schema development, Bowlby proposes that two practical conditions are needed to reshape a working model: one, the ability to understand and reflect on the current working model; and two, having significant experiences that differ from associations within the current/previously developed schema (1988). This may signify a higher ability for older individuals to adapt because of their increased cognitive abilities allowing more significant reflection and critical thought regarding various associations. Conversely, this also signifies the importance of extreme meaningful experiences that are difficult to overcome and/or extreme meaningful experiences that can easily overcome past experiences.

Attachment Style Classification.

Attachment styles are classified by the development of certain constructs pertaining to working models of self and others. Attachment style classification systems are helpful in research for understanding influences of attachment history as well as analysing and presenting findings. However, within the literature various classification systems exist for attachment styles with little convergence on presenting a common attachment measure and/or easily interchangeable constructs (Brennan, Clark & Shaver, 1998). Therefore, understanding the prevailing theories is important for interpreting the attachment literature and comparing results across the various studies. The most popular classification systems identified are the Ainsworth, Blehar, Waters, and Wall's three category system (1978), the Bartholomew and Horowitz's four

category system (1991), and, more recently, the two category system proposed by Brennan, Clark & Shaver (1998).

Ainsworth, Blehar, Waters, and Wall identified and outlined three different categories of attachment style based on the early experiences of infants with their primary caregiver: secure, avoidant, and anxious/ambivalent (1978). The secure attachment style was associated with sensitivity from the caregiver and the caregiver being a consistent safe haven for the infant. This would be synonymous with a psychosocially safe and supportive relationship. Secure attached infants tended to show separation distress but positively responded to the caregiver when proximity was re-established. Securely attached infants also tended to be suspicious of strangers (Ainsworth et al, 1978). The avoidant attachment style was associated with an absence of the caregiver serving as a safe haven. In this case the caregiver relationship was not supportive. Avoidant attached infants engaged in exploration but it was theorized that their continued exploration was primarily for the purpose of ignoring the caregiver rather than genuine curiosity. Avoidant attached infants also did not show a unique positive response to their caregivers (Ainsworth et al, 1978). The anxious/ambivalent attachment style was associated with inconsistent provision of a safe haven by caregivers and the caregiver occasionally being a source of distress for the infant. In this case the relationship was not psychosocially safe or consistently supportive. Anxious/ambivalently attached infants displayed excess separation distress and ambivalence toward the caregiver with anger being within the range of common responses (Ainsworth et al, 1978). Within this classification system, working models pertaining to what to expect from a caregiver and perceived value of self based on the level of care received form the underlying reasoning for the presented attachment classifications.

Although there is agreement between Ainsworth et al's classification system and attachment theory in general, justification of separating the three classification categories into four categories has been proposed to better align with the working models of self and others perspective that underlies attachment theory. The proposition of changing to a two-dimensional classification system was proposed following Hazan and Shaver's extension of attachment theory to adult romantic relationships in 1987. Bartholomew and Horowitz argue that a classification of attachment style should include both positive and negative associations of self, and positive and negative associations of others. The classification system proposed by Bartholomew and Horowitz determines positive or negative views of self based on dependency and positive or negative views on others based on avoidance (1991). They propose that this classification system is a better fit to the underlying theory of working models of self and others since it allows for all possible combinations of working model associations. The four classification styles are depicted in Figure 1 and include secure, dismissing, preoccupied, and fearful (Bartholomew & Horowitz, 1991). Within this classification system, secure attachment style relates to comfort with intimacy (positive others) and autonomy (positive self), preoccupied attachment style relates to a preoccupation with relationships (positive others) and distrust in other's sincerity (negative self), dismissing attachment style relates to dismissing of intimacy (negative others) and counter-dependence (positive self), and fearful attachment relates to fear of intimacy (negative others) and social avoidance (negative self) (Bartholomew & Horowitz, 1991).

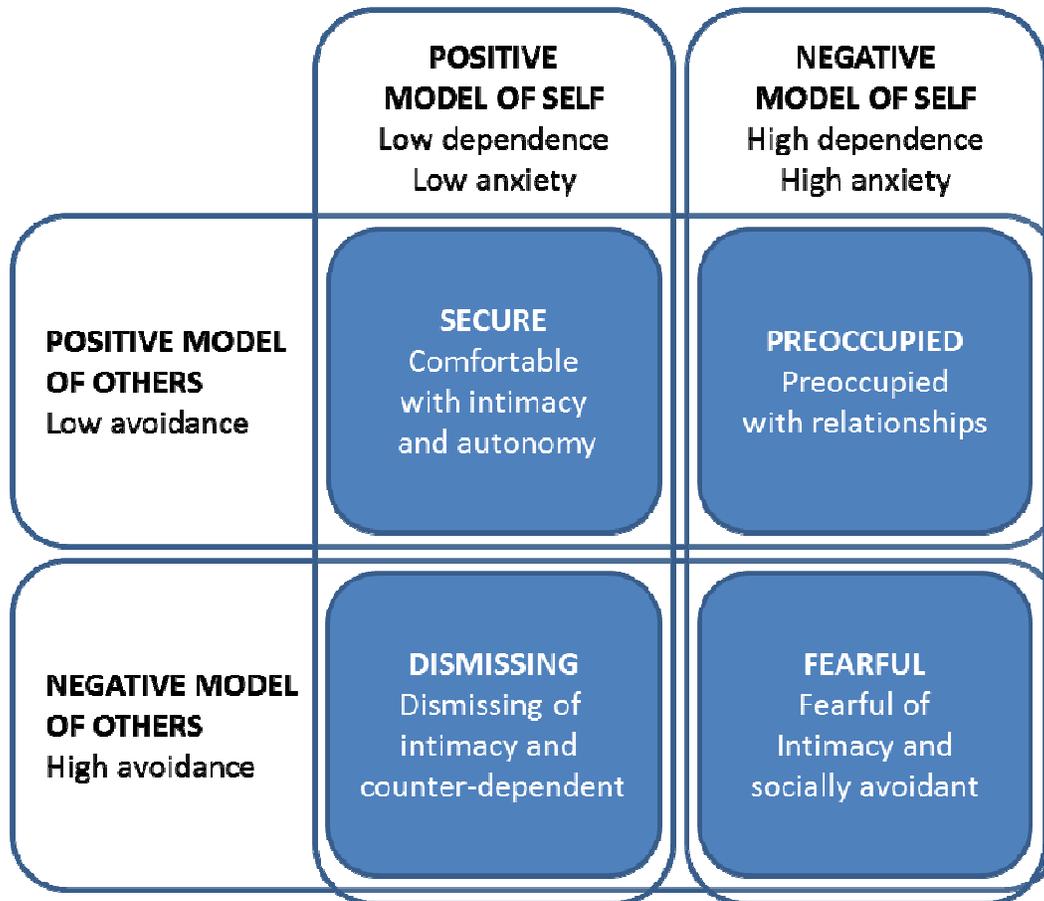


Figure 1: Attachment Classification and Constructs. The above figure shows the attachment classification system based on avoidance and dependence developed by Bartholomew and Horowitz (1991) with the addition of the anxiety construct as proposed by Brennan, Clark and Shaver (1998). The figure depicts the relationship between each attachment style and a construct of others based on avoidance and a construct of self based on dependence/anxiety.

In response to a growing number of self-report attachment measures and inconsistent methods for presenting attachment in the literature, Brennan, Clark, and Shaver sought to identify the primary dimensions that underlie the existing self-report scales to direct researchers towards a common measure for reporting attachment in the literature (1998). By comparing the various available scales it was found that anxiety and avoidance were the two dimensions that best underlie the available self-report scales as well as concepts underlying attachment theory. According to their findings, anxiety is a function of fear of abandonment and is related to anxious/ambivalent reactions to abandonment by a caregiver in Ainsworth et al's strange

situation experiment (1978) and Bartholomew and Horowitz's model of self based on dependency (1991; Brennan et al, 1998). Additionally, avoidance was stated as being a function of discomfort with closeness and low trust in others, and was related to avoidance of mothers in Ainsworth et al's strange situation experiment (1978) as well as Bartholomew and Horowitz's model of others based on avoidance (1991; Brennan et al, 1998). This led to three different classification systems being used within the literature as well as numerous different scales and methods of reporting attachment. Brennan et al have proposed a method of reporting attachment that can help unify the field and clear inconsistencies between attachment style classification and the underlying theory so that meaningful insights can be gained and shared among researchers in the field. Because of the alignment with attachment theory and the practical utility of the measures obtained it is justifiable to use the Relationships Questionnaire within this study.

Additionally, while both Brennan et al, and Bartholomew and Horowitz primarily focus on addressing adult attachment in romantic relationships, the initial intent of Bartholomew and Horowitz was to redevelop a classification system to better represent attachment theory by assessing of trends in working models of self and others rather than behavioural trends within a parent-child relationship only. Because this classification system allows for classification of attachment at all developmental stages, it is a preferred model in addressing the study population that spans from childhood to adolescence.

Caregivers and Context.

The attachment literature can often be perceived as laying blame on parents for maladaptive outcomes of children, however, when caregiver attachment and other contextual factors are considered, a different story can be told. While attachment theory clearly identifies that the caregivers' actions impact the psychosocial developmental trajectories of children,

caregiver actions are also influenced by factors which may be outside of their control. For example, the range of available actions is influenced by environmental factors such as available resources/supports or the safety of the surrounding environment. Additionally, chosen actions are influenced by the caregiver's developed schemas of self and others as well as schemas of caregiving and the extent to which they associate themselves as being a caregiver.

The study by Huth-Bocks, Levendosky, Bogat & von Eye (2004), which utilized data from a longitudinal study examining the effects of domestic violence on the physical and psychological health of pregnant women and their children, illustrates how various factors related to mothers' histories and contextual factors influence infant attachment security. The study followed a diverse sample of pregnant women (n=189) that from a sample balanced by the presence/absence of violence during the current pregnancy. In particular, the mothers' attachment histories were associated with their perceptions of caregiving and identity as a caregiver, which, in turn, was associated with higher levels of infant attachment security (Huth-Bocks et al, 2004). Perhaps a more profound finding was from that of George and Solomon in 1996 which compared mothers' attachment styles and mothers' caregiving styles with the attachment styles of their children. Parents were rated on four caregiver scales which aimed to assess elements of caregiving perceptions and abilities: a secure base scale, which assessed a commitment and ability to provide care and promote a sense of safety and security; a rejecting scale, which assessed the degree to which both parent and child were described as being unwilling to participate in a caregiving relationship; an uncertainty scale, which assessed the ability to understand needs as well as a how a relationship can be utilized to meet those needs; and a helplessness scale, which assessed the degree to which the parent was in control of the relationship. In addition to findings showing concordance between mothers' attachment styles

and their children's attachment styles, the study also found concordance between the mothers' caregiving styles and their children's attachment styles: secure base parenting corresponded to secure attachment, rejecting parenting corresponded to avoidant attachment, uncertain parenting corresponded to ambivalent attachment, and helpless parenting corresponded to controlling / disorganized attachment (Goerge & Solomon, 1996).

The longitudinal study by Huth-Block et al also found that other contextual factors influenced the relationships between the mothers' schemas and the infants' attachment security levels. The study found that poverty, SES, single parenthood, and domestic violence significantly explained additional variance in caregiver functioning and the way that the mothers viewed their children. This finding can be best described by comparing the caregiver style presented by Goerge and Solomon. For example, an individual that is of low SES may not have the resources to provide a safe environment for their child and would have to exert extra effort to keep them free from harm and resolve distress. This may contribute to an unwillingness to be involved in a caregiving relationship (rejecting), an uncertainty of how to provide care given the individual's lack of available resources/supports (uncertainty), and/or an inability to control the relationship given the lack of available resources/supports (helplessness). Single parenthood can influence the caregiving relationship in a similar way by influencing the caregiver burden. A single parent has to provide care and generate income without having a partner to balance the work-load and/or to provide ongoing respite. Domestic violence has multiple levels of influence. Firstly, domestic violence can directly influence an infant's attachment style by associating the parent as a potential source of harm rather than a secure base/safe haven. Secondly, domestic violence may influence a child's schemas indirectly by altering a parent's schemas to include more negative

associations of self and others within their overall relationship schemas that, in turn, influences how they treat their infant.

Attachment and Age.

Although attachment style tends to be stable throughout the lifespan, attachment relationships are different in later life compared to infancy. In infancy, relationships tend to be complementary in that the caregiver provides care and the infant receives care. However, in later life, the attachment relationships tend to be more reciprocal with both parties giving and receiving care (Hazan & Shaver, 1994). The transition between complementary and reciprocal relationships can also be seen in the transition between support relationships involving a caregiver and support relationships involving a peer. Additionally, as individuals develop more complex cognitive abilities, attachment relationships tend to move from strictly behavioural interactions to including internal beliefs and expectations (Main, Kaplan & Cassidy, 1985). The transition to internal beliefs and expectations marks a critical transition towards felt security stemming from internal beliefs rather than proximity being a central component of the attachment relationship (Sroufe & Waters, 1977; Schneider & Younger, 1996). This may allow older campers to utilize social support in the form of felt security more easily than younger campers.

How attachment style manifests itself at various stages of development in various relationships is not yet fully understood. An example of a gap in the literature is seen in attachment classification. Attachment classification has been well established from an infant perspective and from an adult romantic relationship perspective (Brennan et al, 1998), but during the highly developmental phases of childhood and adolescence classification systems seems less clearly defined and do not necessarily reflect this stage of transition. Although an attachment

system can be used and various responses to not being able to use an attachment system can occur, attachment theory is a developmental perspective that involves adaptation of attachment behaviours based on actual performance (Bowlby, 1973). Within the adaptation perspective, Bowlby noted that attachment behaviours to an attachment figure tend to be goal-oriented. If an attachment system is not being utilized effectively, goals and approaches to attaining the goals are changed to adapt to past experiences and perceptions. In adapting to discrepancies between initial goal and attainable outcome, altered perceptions of self and others typically occurs, which, in-turn, alters subsequent behaviour (Bowlby, 1973). Because of the continual reflection and influence of historical experiences, trends that are developed early in life tend to be stable and predictive of life-long trends (Bowlby, 1973). However, this theory of change is difficult to examine because of the nature of individual trajectories and multiple, complex influences required to support such a theory.

While some may view this as a challenge, other researches have also noted that attachment is a useful developmental theory because it allows for an explanation of continuity between distinct stages of psychosocial development that have previously been explored in relative isolation (Sroufe, Egeland, Carlson & Collins, 2005). In a major longitudinal study of risk and adaptation, attachment theory was used (among other theories to explain other developmental influences) to explain changes in social competence throughout the lifespan (Sroufe et al, 2005); findings from the study will be drawn upon throughout this literature review. Sroufe et al view working models of self and others as an organizational construct for social behaviour. In particular, Sroufe et al view early infant attachment patterns to enabling the resolution of salient developmental issues within the developmental phases as an infant, a toddler, a preschooler, and in middle-childhood. In an earlier publication, Elicker, Englund &

Sroufe mention the various psychosocial issues that need to be resolved and the role of the caregiver in successfully resolving the development related issues (1992). In addressing these issues at various phases schemas of self and others are further shaped and social competence is formed (Elicker et al, 1992). In general findings from the longitudinal study identified that early attachment style assessments at 12-24 months was significantly associated with social competence and adaptation in various situations with developmental stage specific measures of social competence explaining additional variance in the social competence and adaptation outcomes (Sroufe et al, 2005).

In addition to developing social competence through a cascade of situational, stage-wise triumphs, Hazen and Shaver have proposed that close relationships change over time and, as a result, an individual's primary attachment figure and how they are used also changes over time (1994). In the literature, the different ranked nomination of attachment figures is referred to attachment hierarchy. Building on a proposed model by Hazan, Hutt, Sturgeon & Bricker (1991), Hazan and Shaver propose that three components of attachment relationships (proximity maintenance, safe haven, and secure base) transfer from a parental attachment figure to a peer attachment figure one at a time beginning with proximity seeking, then support seeking (safe haven), and eventually followed by the development of a secure base. The secure base function of peers in later life, often beginning in late childhood or adolescence, is also proposed to be more salient in the form of felt security than in the form of proximity seeking (Hazan & Shaver, 1994). In accordance with Hazan and Shaver's model proposing a transition from parents to peers as primary attachment figures (1994), Freeman and Brown found that by late adolescence it is equally likely that a peer or a parent will be an individual's primary attachment figure (2001). Freeman and Brown also found that a boyfriend/girlfriend was more commonly a

primary peer attachment figure than a best friend, and a mother was more commonly a parental primary attachment figure than a father. The nomination of a primary attachment figure also differed by individual attachment style with secure attached individuals more likely nominating a parent and an avoidant or anxious/ambivalent attached individual more commonly nominating a peer. It was also important to note that avoidant attached individuals also significantly rated themselves as the primary attachment figure more often than any other attachment group (Freeman & Brown, 2001). These general trends in attachment hierarchy are supported by Nickerson's and Nagel's findings that individuals in late childhood are more strongly attached to parents as opposed to peers than individuals in early adolescence which tend to be more strongly attached to peers than parents (2005). In addition, Nickerson and Nagel also found that proximity seeking is greater for individuals in late childhood than early adolescence which supports the second major construct of Hazan and Shaver's proposed of change (2005; 1994). It is interesting to note that although there tends to be a shift in attachment from parents to peers, Nickerson and Nagel found that trust was higher in late childhood compared to adolescence for both parents and peers which they partially contributed to confounding of increased delinquency from late childhood to early adolescence (2005).

There are two proposed mechanisms theorised for why an individual may move towards peers as a primary attachment figure: one, individuals without a secure attachment to a parent may compensate by turning to a trusted peer to establish a secure attachment; or two, individuals may turn to peers in response to increased conflict or desire for autonomy (Nickerson & Nagel, 2005). Both of these pathways correspond with Hazan and Shaver's finding that avoidant attached individuals tend to idealize their parents as a coping mechanism but that the idealization tends to dissipate with maturity and time spent out of the home (1987).

Attachment Style and the Summer Camp Experience

In addition to this study fulfilling a knowledge gap within the summer camp literature, the summer camp experience provides a novel setting for additional attachment research. As noted previously, the summer camp experience takes place in a social learning environment and is associated with developmental outcomes (Collins, 2006; Dahl et al, 2013; Henderson et al, 2007; Glover et al, 2013). As seen in the attachment literature, working models of self and others can influence how individuals engage in social activity and attachment systems can enable exploration and social competence (Bartholomew & Horowitz, 1991; Bowlby, 1969; Bowlby, 1973; Bowlby, 1980; Elicker et al, 1992; Hazan & Shaver, 1994; Sroufe et al, 2005). Thus it is proposed that attachment style is associated with the outcomes of the summer camp experience. As previously noted, attachment style is proposed to be indicative of behavioural tendencies within the camp environment, so it is also proposed that exploration behaviours and social connections at camp serve as a mediating pathway within the association of attachment style and developmental outcomes as seen in the proposed model in Figure 2.

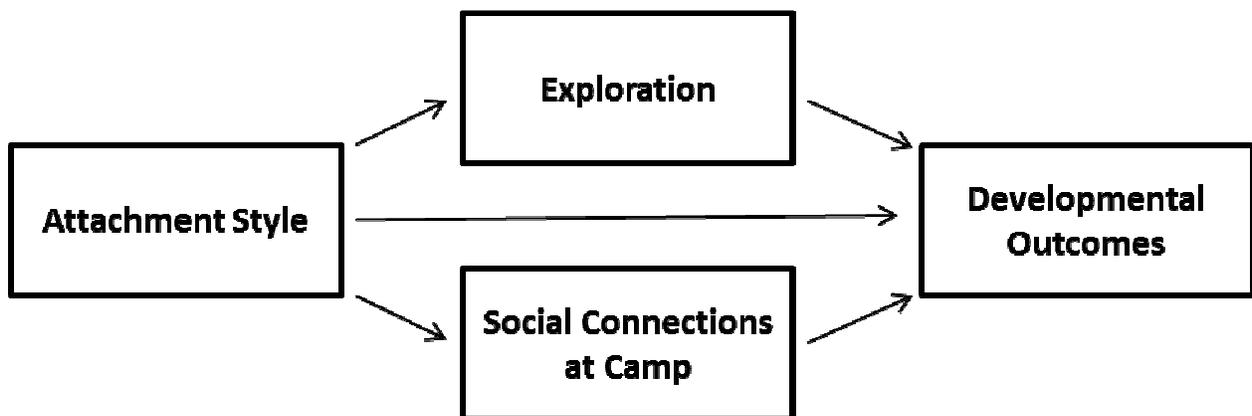


Figure 2: Theoretical Model. The above figure depicts the theoretical model associating attachment style to developmental outcomes at summer camp. The figure depicts an association between attachment style and developmental outcomes mediated by exploration and social connections at camp. Attachment style is based on constructs of anxiety and avoidance and developmental outcomes include independence and self-confidence.

In addition to the proposed model for the relationship between attachment style and developmental outcomes at summer camp, other variables will likely contribute to variance within the relationship. Other variables identified include age, sex, household income, returning camper status, and camp duration. Although other influences exist, these variables were present within the CSCRP Phase III data and can be statistically controlled during model testing to reduce the potential for confounding.

In general, two different influences pertaining to attachment may be present within the summer camp context: one, attachment style may affect campers' experiences and be associated with certain outcomes; or two, the unique social setting of a residential summer camp may provide a different attachment experiences for campers and alter their developmental trajectory by changing schemas of self and others. It is proposed that attachment style, based on avoidance and anxiety, will be associated with development of independence and self-confidence at camp. Specifically, it is anticipated that those with high anxiety and/or high avoidance are less likely to benefit directly from the summer camp environment but that social connections at camp and exploration will limit this inability to reap reward and may actually allow these individuals to benefit more from the summer camp experience than those already on a favourable developmental trajectory (those with low avoidance and/or low anxiety). While this correlation-based study will not be able to assess the direction of causality it is believed that the proposed model being studied will help generate understanding of potential mechanisms for development in the unique social setting of a residential summer camp.

Attachment Style.

Although there is limited literature linking traditional attachment style categories to the summer camp experience and limited comparability of those that do focus on attachment styles,

focussing on specific constructs allows for more informed mechanisms to be theorized. For these reasons, this study will utilize Brennan, Clark, and Shaver's two-dimensional classification system that uses anxiety and avoidance constructs to depict attachment style (1998).

To better understand how anxiety and avoidance relate to summer camp outcomes through social connections and willingness to explore, the attachment literature will be reviewed. Recall that anxious attachment refers to fear of abandonment and a resulting dependent tendency. Within the attachment literature, the Bartholomew and Horowitz classification system uses dependency (anxiety) directly as a determinant of attachment classification with preoccupied and fearful individuals exhibiting high levels of dependency (anxiety) (1991). According to Bartholomew and Horowitz, dependency (anxiety) relates to both the desire to depend on others and a worry of whether or not the individual is valued by others (Bartholomew & Horowitz, 1991). In regards to summer camp, this indicates that those with higher anxiety will be more likely to seek out social support but also experience higher levels of distress when social support needs are not met. This distress is anticipated to lead to less favourable outcomes because of perceived negative experience/perceived lack of support and will also likely reduce exploration and engagement in camp activities.

Using a different classification system, Hazan and Shaver report that dependency (anxiety) in later life is most strongly associated with anxious/ambivalent attached individuals (1987). As learned from findings by Ainsworth et al regarding anxious/ambivalent attachment, anxiety can lead to high levels of separation distress that can reduce independent exploration as well as a potential for anger and/or hostility towards social supports that are perceived as unsupportive (1978). Those with an anxious/ambivalent attachment style have also been found to have a high propensity towards dependent relationship formation in adulthood (Hazan & Shaver,

1987; Feeney, 1995). In regards to summer camp, this indicates that those with higher anxiety will be more prone to conflict in relationships and thus less likely to develop unsupportive relationships. Additionally, this also indicates that those with anxiety may have less desire to explore because of a preoccupation with relationships as well as a high potential for relationship based distress.

Bartholomew and Horowitz also use avoidance to classify attachment style with dismissing and fearful attached individuals exhibiting high levels of avoidance (1991). According to Bartholomew and Horowitz, avoidance relates to comfort with intimacy and level of trust in others (1991). Within the camp context, avoidance of others and lack of trust can inhibit the ability to utilize social supports. This may limit the strength of social connections as well as reduce the ability to form a secure base/safe haven to ease distress for exploration purposes (Bowlby, 1969). Additionally, Ainsworth et al found that avoidant attachment styles had reduced genuine curiosity in novel activities and gave limited or no affirmation of felt support towards their attachment figure (1978). This can reduce the amount of engagement with novel camp experiences and reduce the strength of social connections made by individuals who are highly avoidant. It is also possible that for camp activities with a social component such as teamwork or trust, avoidant individuals may not engage in that element of the activity which could influence interest in camp as well as potential to reap potential reward from those camp elements.

In regards to the development of independence, avoidant individuals may have a unique advantage. Some avoidant individuals tend to be counter-dependent which may lead to an increase in independence because independence is their preferred strategy to enable striving within their environment (Bowlby, 1973). The summer camp environment may allow these

individuals to gain new skills to further enable their independence and avoidance of others. Conversely, a transition from an unsupportive attachment system to a supportive attachment system, or any other element of an environment that does not require avoidance to thrive, may reduce independence in individuals who have previously established independence out of necessity. This may occur through the establishment of a supportive environment and altering of previously negative schemes of others based on distrust (Bartholomew & Horowitz, 1991; Sroufe, 2005). It is also proposed that the individual's goals that guide the use of attachment systems differ by attachment style and that avoidant attached individuals' goals favour generation of independence. Mikulincer found that lack of trust in both avoidant and anxious attached individuals is linked to avoidant individual's primary goal of achieving control and anxious attached individuals' primary goal of achieving security (1998). Conversely a gain in independence could be experienced by these individuals because of a supportive environment leading to positive views of self (Bowlby, 1969).

Emotional detachment can play an interesting role in the experience of avoidant individuals at summer camp. It has been found that avoidant attached individuals tend to have a less secure history of attachment and tend to be emotionally distant in adult relationships (Hazan & Shaver, 1994). The emotional distancing may be due to a tendency for avoidant individuals to pay less attention to their emotions and/or be emotionally detached from attachment figures (Hazan & Shaver, 1994; Feeney, 1995; Mikulincer & Orbach, 1995). As previously mentioned, emotional detachment may enable normal functioning without an attachment figure and/or enable the search for a new attachment figure (Bowlby, 1973). Within the camp setting, not utilizing or relying on social support may be beneficial if the social environment at camp is unsupportive (Bowlby, 1973). Additionally, the search for a new attachment figure function may

be beneficial within the summer camp environment by facilitating a transition to a peer or camp staff as a primary attachment figure (Hazan & Shaver, 1994).

However, lower regard for emotions may also interfere with internalizations and personal growth potential of the camp experience because of an inability to understand and reflect on formed schemas (Bowlby, 1988). Studies have identified that emotional suppression by avoidant individuals is a strong enough mechanism to be able to change physiological measures of arousal (Fraley & Shaver, 1997). Differences in defence mechanisms of avoidant versus anxious attached individuals may also influence internalization of negative associations. For example, it has been shown that anxious attached individuals tend to exhibit less defensive response in recalling conflict whereas avoidant individuals exhibit more defensive responses in recalling conflict (Pietromonaco & Frelman-Barret, 2000). These defensive tendencies may not only influence internalization of negative experiences, but also limit the direct effect of negative experiences. This is exemplified by the study by Mikulincer that found that negative self-referent words had less impact on Stroop color-naming task performance for avoidant attached individuals than for anxiously attached individuals (1995).

Although the attachment constructs of avoidance and anxiety can be analyzed separately, they can also be analyzed together by comparing secure (low anxiety and low avoidance) and insecure attachment (high anxiety and/or high avoidance). In the summer camp context, secure attached individuals are likely to have positive outcomes because of the general association of secure attached individuals with adaptation skills and social competence (Thurber, 1995; Sroufe et al, 2005). In adult relationships, Hazan and Shaver have found that those with a history of secure attachment tend to be comfortable with emotional closeness and approach relationships positively (1994). Because these attachment-related social skills and abilities can allow secure

attached campers to adapt to and utilize the camp environment, secure attached campers will likely benefit most from the summer camp experience. Additionally, the literature also shows that both avoidant and anxious/ambivalent attached individuals seem to distrust others and suppress emotions (Hazan & Shaver, 1987; Feeney, 1995). These tendencies related to attachment style may reduce the ability to form social connections and utilize social supports in a beneficial way.

In the Minnesota longitudinal study by Sroufe, camp counsellors' and school teachers' ratings reveal that individuals with a history of more secure attachment have higher ratings of self-confidence, self-esteem, and the ability to express feelings and desires appropriately (2005). It was also found that attachment style tended to stay the same in terms of early experiences setting a developmental trajectory. It was highlighted that the early experiences, such as attachment experiences, were important because early experience is never lost regardless of subsequent adaptation in later stages of life (Sroufe et al, 2005). Specifically, during a summer camp study conducted at the University of Minnesota with a subset of the longitudinal study sample it found that infant attachment style obtained at 12 and 24 months significantly predicted social competence at camp. Specifically, secure attached individuals were more commonly ranked above the median for social competence and insecure attached individuals were ranked below the median for social competence; rankings were made blind to infant attachment style by camp counsellors which were Masters Students at the University of Minnesota (Sroufe et al, 2005).

Some literature exists that indicates the role of attachment style within the summer camp context. Within the summer camp context, Fichman, Koestner and Zuroff explored whether or not individuals' differences in dependency and self-criticism played a role in how individuals

adapted to the summer camp experience by analyzing distress levels of campers (1996; 1997). In these studies, the constructs were as follows: dependency was a measure of an individual's preoccupation with maintaining support and affection from an attachment figure, which relates well to anxious attachment; and self-criticism was measured based on preoccupation with personal achievement (Fichman et al, 1996; Fichman et al, 1997). While it is unclear whether self-criticism best relates to avoidance or anxiety, self-criticism is related to insecure attachment more generally. Recall that attachment style is a function of associations with self and associations with others based on early caregiver interactions. This comparison is supported by the finding by Zuroff, Koestner and Powers that rejection from parents within the first 5 years of life was highly predictive of self-criticism at age 12 as well as the finding that critical and overly controlling parents foster higher levels of avoidance in their children (Zuroff et al, 1994). As can be seen in the example being presented, it can be difficult to compare attachment literature because of the differences between the constructs being measured; this further supports the use of anxiety and avoidance constructs within this study to help conform to an emerging standard within the field. Within the two studies, it was found that while self-criticism (high anxiety and/or high avoidance) was related to distress at summer camp in general, dependency specifically (anxiety) was associated with distress more strongly for overnight as opposed to day-camp campers and first time as opposed to returning campers (Fichman et al, 1996; Fichman et al, 1997). These findings suggest that while attachment style in general may have a stable association with summer camp outcomes, anxiety may be more influenced by social supports either at camp or from home.

Although the aforementioned constructs appear to be distinct, some overlap may occur due to the complementary nature of schemas of self and others. Particularly, in the summer camp

study by Fichman et al, self-criticism and dependency were significantly positively correlated (1997). This may signify the overlapping nature of the two constructs: the constructs both primarily relate to models of self, and the dyadic nature of interpersonal relationships often results in complimentary associations of self and others. As Bowlby posited, associations towards self and others are formed from perceptions of dyadic and intertwined experiences and thus likely that models of self and models of others are complimentary (1973). In either regard, the aforementioned attachment constructs were able to influence the camp experience through their association with the level of distress experienced. Distress at summer camp is proposed to either be resolved through a coping mechanism, such as social support from social connections at camp, or distress can influence willingness to engage in activities and trying new things (exploration). This is one way that attachment may be associated with the variation in summer camp experiences through desire and ability for social connections as well as willingness to explore.

Attachment related distress can affect the camp experience. While limited attachment specific literature exists for the summer camp context, the homesickness literature may serve to inform the role of attachment related distress and adaptation to summer camp. Homesickness is a particular form of distress that may lead to a generally negative experience and, thus, a reduced potential to reap the rewards of the summer camp experience. Homesickness has been characterized by preoccupying and distressing thoughts towards home, home life, and attachment figures during anticipated or actual separation from home (Thurber, 1995). Homesickness primarily relates to attachment through the desire for proximity maintenance and related separation distress (Bowlby, 1969). However, it may also be linked to the incomplete transition from an attachment system based on outwards behaviours to an attachment system based on

internal beliefs and expectations in the form of felt security (Sroufe & Waters, 1977; Main et al, 1985). Although homesickness appears to be inherently linked to attachment, attachment is not the only factor that leads to homesickness and is therefore not a consistent predictor of homesickness as exemplified in the null finding by Kerns, Brumariu & Abraham (2008). The impact of homesickness is important since it is theorized that those with less secure attachment are more likely to experience homesickness (Thurber, 1995). However, avoidant individuals may not experience negative effects of being displaced from their primary caregiver since these individuals have adapted to be able to cope without the use of social supports which is evident in their self-nomination as their primary support figure (Freeman & Brown, 2001) as well as their tendency to use emotional detachment from their caregiver as a coping mechanism (Hazan & Shaver, 1994; Feeney, 1995; Mikulincer & Orbach, 1995).

Exploration.

In regards to exploration, the desire and comfort in engaging in exploratory behaviours will influence engagement in camp activities and the camp environment. While the desire and ability to explore is linked to the ability to utilize attachment systems (Bowlby, 1969; Bowlby, 1973; Bowlby, 1980; Hazan & Shaver, 1994), actual exploration is an important indicator of immersion into the camp experience and thus also outcomes of the camp experience. Exploration is theoretically linked to attachment in two ways: one, ability to build and utilize social supports that help enable exploration, and two, history of exploration which is a function of the previously available attachment system (Bowlby, 1969; Hazan & Shaver, 1994). Social supports serve to enable exploration through the presence of a secure base from which to explore and a safe haven in which to return to in times of distress (Bowlby, 1969). These secure base and safe haven functions can shift from a primary caregiver to a peer during normal development (Hazan &

Shaver, 1994). It is also important to note that proximity is not necessary for the secure base and safe haven functions if the individual is able to perceive felt security (Main et al, 1985). This is only likely to occur in securely attached individuals. While attachment style and attachment history may be associated with exploration, actual exploration at camp indicates engagement in camp activities and comfort within the camp environment. Since camp activities are an important component to the camp environment, and the camp environment is theorized to be a unique social environment that can influence development, trying the novel activities and roles within the camp environment is viewed to mediate the relationship between attachment style and developmental outcomes. Exploration at camp is theorized to generate positive outcomes for both secure attached individuals and for individuals with insecure attachment. In particular actual exploration at camp may be more influential for insecure attached individuals since they have not likely explored previously due to lack of a secure base/safe haven within their attachment history.

Social Connections at Camp.

As noted previously, the summer camp experience is a unique social environment that separates children from their primary caregivers and thus the potential to utilize their caregivers' direct supports. Since attachment theory pertains to psychosocial development and, in particular, how individuals understand and reflect on social experiences to guide future interpersonal interaction, attachment style will likely have a strong impact on the establishment of social connections at camp. This is exemplified by portrayal of the role of attachment history as a predictor of social competence and adaptation. Recall that Sroufe et al consistency found that social competence at various life stages was at least partly predicted by early caregiver relationships (2005). In regards to social connections, the desire for and ability to obtain strong

social connections will influence social support at camp as well as engagement with social activities at camp. The desire and ability for social support is closely linked to attachment style as noted previously (Bartholomew & Horowitz, 1991; Bowlby, 1969; Bowlby, 1973; Bowlby, 1980; Hazan & Shaver, 1994). Since attachment style pertains to internal models of social interaction but does not address the social environment directly, the actual social experience must also be taken into consideration to fully understand how attachment style can manifest itself and be influential within the summer camp experience. While desire and ability are theorized to influence social support seeking, actual social connections obtained at camp are critical for an actual social support system; hence, social connections at camp are expected to mediate the relationship between attachment style and developmental outcomes. While it is anticipated that high avoidance and/or high anxiety will reduce the likelihood of having positive outcomes, developing social connections is anticipated to reduce this negative effect and produce positive change because of the supportive nature of relationships and the potential for positive social experiences to reshape maladaptive schemas of self and others.

An important aspect of the social environment at camp is that social connections are comprised of both group connection and individual friendships. Hanna and Berndt found that positive group acceptance was related to positive friendships at camp (1995). Hanna and Berndt propose that group acceptance and friendships are overlapping domains of peer relationships in that both relate to social functioning. However, Hanna and Berndt also noted the importance of differentiating between group acceptance and friendship: friendships being a relationship between two individuals, and peer acceptance being the degree to which an individual is liked by a group of individuals (1995). Hanna and Berndt point out that summer camp is a unique social setting in which friendships and peer group relationships form quickly due to continuous

proximity of the campers (1995). It is also interesting to note that positive peer relationships were correlated between pre-camp and during-camp measures of friendship quality, but positive peer acceptance was not. Additionally, it was found that individuals in friendships with negative qualities were more likely to be viewed as antagonistic by their peers. Hanna and Berndt propose that these findings are related to differences in skills that promote supportive relationships (Hanna & Berndt, 1995). This also shows that group acceptance is less likely to be linked to supportive friendship formation than social skills and previous social experience. These findings, combined with the finding from Sroufe et al (2005), shows that social competence tends to be a trend and the attachment history is influential in the initiation and prediction of this social competence trend. The notion that peer acceptance is not as well associated with the development of friendships at camp is corroborated by a later finding by Hanna that found that peer acceptance prior to camp did not predict friendship quality at camp, but friendship quality prior to camp was able to predict friendship quality at camp (1998). It is also important to note that physical ability and cognitive ability had no significant association with positive friendships or peer group acceptance during camp (Hanna, 1998). These findings indicate that social ability and social acceptance are often linked to individual's socialization trends such as those depicted by attachment history.

Psychosocial influences on how attachment styles manifest themselves in social functioning are not always clear. Fichman et al found that dependency was related to positive social functioning ratings by counsellors (Fichman et al, 1996). While this finding may represent dependent individual's preoccupation with relationship formation and strengthening, it does not appear to take into account the lack of trust, the anxiety producing fears of abandonment, or other often misguided elements of social functioning. Fichman et al propose that dependent

individuals may have developed positive coping mechanisms and are better able to adapt to leaving home (1997) and increased use of peers may result in increased social functioning within peer groups. This may also indicate the potential for attachment to peers to serve as a compensation mechanism for lack of supportive attachment with parents proposed by Nickerson and Nagle (2005) which aligns with Hazan and Shaver's model of how close relationships change over time with a gradual and somewhat universal shift from parents as attachment figures to peers as attachment figures (1994). For those with a history of insecure attachment, the shift from parent to peers as an attachment figure may be beneficial for stress reduction. An undesirable home life experience and resulting insecure attachment history combined with the potential for the summer camp environment to be a supportive environment may allow individuals with an insecure attachment history the unique opportunity to develop more positive coping skills and reshape their schemas to reflect ideal supportive relationships. The combination of new experience and the propensity for dependent attached individuals to nominate peers higher than parents on their attachment hierarchy (Freeman & Brown, 2001) may facilitate comfort in seeking support from peers. By having an affinity towards one's peers, and utilizing a new and more supportive attachment system, summer camp may enable insecure attached individuals the potential for dramatic personal growth. Conversely, since the social functioning measure in the study by Fichman et al was based on popularity, the link between dependency and social functioning may be an artefact based on the overlap of the definitions of each construct combined with the speculative attribution of popularity from the councillor (Fichman et al, 1996). Additionally, avoidant individuals may not have a desire to form close relationships involving trust which may serve as a barrier to formed relationships serving as a secure base/safe haven.

Camper Age.

Camper age is believed to have a strong influence on outcomes, especially in relations to attachment. According to the CSCRP Phase III study by Glover et al (2013), camper age was also found to have a direct influence on summer camp outcomes. As described earlier, age can have a profound influence on attachment in terms of attachment hierarchy and the dynamics within an attachment system. Older campers are hypothesized to be less affected by attachment history than younger campers because of the shift from parents to peers as primary attachment figures, reduced salience of early childhood experiences, and the role of other life-experiences in shaping the individual's social competence (Freeman & Brown, 2001; Hazan & Shaver, 1994; Sroufe et al, 2005). In addition to having a valued attachment figure at camp, felt security also develops more strongly with age which would allow older campers to better adapt to being away from their primary caregiver (Main et al, 1985; Sroufe & Waters, 1977; Schneider & Younger, 1996). However, a reduction in trust and increased likelihood of delinquency with age may reduce the desire or ability of older campers to utilize social supports and or may create an environment that does not support safe exploration (Nickerson & Nagel, 2005).

Returning Camper Status.

Returning camper status may provide influence through pre-established support from previously attained friendship(s) and peer acceptance within the summer camp community. In this case, peer support systems are already established so adaptation can occur more easily which would both reduce separation distress and increase the individual's ability to manage stress. Pre-existing peer support systems may also be further along the transition from proximity seeking to felt security which would allow for a stronger support function than newly developed support systems with incomplete safe haven and felt security functions (Hazan & Shaver, 1994). This is

exemplified in the finding by Hanna and Berndt that those that came to camp with a friend were more likely to rate the camp experience as positive (1995).

Returning camper status may also influence developmental outcomes through a filtering process. Individuals who do not have a positive experience at camp because of high levels of distress or for other reasons are less likely to return to camp (Thurber, 1999). This means that the population of individuals who are returning campers are more likely to have positive experiences and have higher gains either through differential levels of support and distress or other factors that enable them to have a more positive camp experiences in general.

Duration of Summer Camp.

Duration of summer camp also plays a role in the outcomes of summer camp. This may be linked to attachment through increased duration of separation from a primary attachment figure as seen with the differential distress patterns between day-camp campers and residential camp campers found by Fichman et al (1997) which shows a trend for anxious attached individuals to experience more distress with prolonged separation. This makes sense because a longer absence would be more likely to invoke stronger fears of abandonment. Separation distress would be higher for those separated from their primary caregiver for a longer duration unless they are able to develop other effective coping mechanisms. It is also important to note the difference between the day camp setting and the overnight camp setting. In the day camp setting, the campers are not displaced from their primary caregiver for as long as individuals at an overnight camp. Since there is a difference in duration of proximity maintenance barriers, Fichman et al proposed that this difference in distress based on the dependency measure was related to difference in attachment related distress with the most to least distressing situations

being first time overnight summer campers followed by returning overnight campers, and lastly day camp campers (1997).

During a longer camp experience, it is possible that a parent is needed for support in different matters than those that can be resolved using peer supports. For example Weiss found that parents and peers were used to resolve different types of issues: peers were used for distressing day-to-day issues, moral and personal issues, and long-term planning concerns (1991). Additionally, camp duration could influence the strength of social support systems. Like returning camper status, camp duration may allow more time for a support system to establish felt security (Hazan & Shaver, 1994). In general, camp duration may also lead to an increased difference in outcomes between those that have a positive camp experience and those that have a negative camp experience. In this case, for those with a positive camp experience, a longer camp duration would likely be more beneficial and for those with a negative camp experience a longer camp duration would likely be less beneficial.

Research Questions

This study uses secondary survey data to determine the relationship between attachment style and the development of independence and self-confidence at summer camp. To determine the association of attachment style to developmental outcomes of the summer camp experience to following questions will be answered:

1. Are the attachment constructs of avoidance and anxiety associated with developmental outcomes of independence, self-confidence, and emotional well-being?
 - Hypothesis 1: There will be a significant negative association between both of the attachment constructs of avoidance and anxiety, and the developmental outcomes of independence, self-confidence, and emotional well-being. It is hypothesized that individuals with high avoidance and/or anxiety will not develop independence, self-confidence, or emotional well-being as much as those with low anxiety and/or low avoidance.
2. Are social connections at camp and exploration associated with summer camp outcomes?
 - Hypothesis 2: There will be significant associations between both social connections at camp and exploration, and the developmental outcomes of independence and self-confidence. It is hypothesized that developing social connections at camp will be advantageous for both reducing stress to enable a positive experience as well as reforming maladaptive schemas which will lead to gains in both independence and self-confidence. It is also hypothesized that exploration will lead to increases in self-confidence and independence through

engagement in positive experiences leading to increased perceived competence and more positive views of self. It is hypothesized that social connections at camp will be associated with the development of emotional well-being but exploration will not. Emotional well-being is likely to develop through meaningful social interaction by promoting learning through feedback from others as well as gaining experience of emotional understanding and control through dyadic control of emotion.

3. Do social connections at camp and exploration play a mediating role in the relationship between attachment constructs and summer camp outcomes?
 - Hypothesis 3: Adding social connections at camp and exploration to a model of attachment style and developmental outcomes will explain significantly more variance in the developmental outcomes of the summer camp experience. Specifically, developing social connections at camp and increasing exploration will reduce the negative affect of avoidant and anxious individual's developmental trajectories by enabling positive experiences from which to reshape maladaptive schemas.
4. Is there a significant interaction effect between anxious attachment and avoidant attachment that is associated with developmental outcomes of summer camp?
 - Hypothesis 4: There will be a significant interaction effect between anxious attachment and avoidant attachment which predicts developmental outcomes of summer camp. Specifically, high avoidance and high anxiety is proposed to interact negatively leading to individuals with high anxiety and high

avoidance having a less positive experience at camp, thus experiencing less developmental gain from summer camp.

Rationale

This study utilizes data collected from the Phase III CSCRP survey in a unique way that compares attachment style to developmental outcomes of campers' experiences at residential summer camps with no religious affiliation. In particular, the study seeks to explore the role of attachment and related constructs of avoidance and anxiety in the development of independence, self-confidence, and emotional well-being; direct associations of attachment style, significance of interaction between attachment measures, and indirect associations through social connections at camp and exploration will be analyzed. In investigating the role of attachment style in the developmental outcomes of the camp experience, this project fills a data gap in the literature which will help support understanding of attachment theory as well as understanding of the summer camp experience. In particular, the knowledge gained regarding the summer camp experience can be used to inform programming and protocol to maximise the personal growth potential of the summer camp experience.

Since working models of self and others are shaped by various experiences it is important to understand how extreme circumstances, such as leaving a primary caregiver for a prolonged period of time, can shape developmental outcomes (Sroufe, 2005). The data on attachment appears to be most ambiguous for individuals in adolescence. According to Hazan and Shaver this is due to the gradual and unique shift from parents to peers as primary attachment figures (1994). Attachment research in the summer camp context is ideal in two ways: one, it serves as a prolonged, and often first, separation from a primary attachment figure; and two, it serves as a rich social experience with peers that can be influenced by social perceptions and expectations. The combination of the separation from primary caregivers and the peer-based social atmosphere of camp provide a unique opportunity for attachment research. It is possible that the camp

experience can facilitate this shift to peer attachment figures due to the proximity of peers and absence of parents which may contribute to a compensatory support system that is beneficial to development (Nickerson & Nagle, 2005). Since secure attached (low anxious, low avoidant) individuals are at an inherent advantage and likely to benefit most from the summer camp experience, a null finding that shows no differences in developmental gains may signify a compensatory ability of the camp context that reduces the advantage of having a secure history of attachment. Additional research would be required to ensure that this is not simply ceiling effect of secure attached individuals and that a selection bias for secure attached (high social competence) is not occurring. It is also possible that for individuals who are highly avoidant and/or anxious tend to benefit less from the summer camp experience. It is important to understand the individual differences within the summer camp experience to inform how to promote summer camp programming as well as how to develop and tailor summer camp programming to better facilitate growth in all campers. For example, if it is found that individuals who are anxious and/or avoidant do not benefit from camp unless they develop social connections at camp and explore, then efforts could be made to facilitate these experiences/behaviours to better enable a positive experience.

Since the proposed study uses secondary data analysis, this study induces no additional strain to study participants and requires no additional resources for data collection. This drastically reduces the risk of adverse effects within the study population as well as makes efficient use of valuable research resources. Additionally, since the data is from a multi-stage research project designed to increase understanding of the camp experience in the Canadian context, utilizing the data in this way will provide a more detailed understanding of the context specific phenomena.

Methods

This study assesses the direct and indirect associations of attachment style on developmental outcomes. This study utilized the results of the CSCRP phase III survey which assessed the impact of the summer camp experience on the daily lives of campers after returning home from camp. The impacts on family, school, and community life were assessed and background data was also collected to determine factors that lead to variances in the various outcomes. All information was collected through a mixed open- and closed-ended survey delivered to parents. The survey can be found in Appendix A. This study has received clearance from the Office of Research Ethics at the University of Waterloo (ORE#19961).

Dataset

Sample.

Parents of campers from summer camps across Canada were the target population for the CSCRP survey. The CSCRP study sample included 1,405 parents representing various camps across all provinces: note, while it was suggested that parents fill out the survey, it is unknown which parent or whether one parent, both parents, or a non-parent filled out this survey. The sample size is adequate given that outcome measures were found to be significant in the Phase III study report utilizing the same data set (Glover et al, 2013). The mean income of the households represented was \$110,000 to \$119,000 with the majority of households including two parents (80%). The age of campers represented was between 4 and 18 with more campers in the upper age ranges. The types of camps attended were split between residential (40%), day (27%), religious-affiliated (11%), special needs (1%), and speciality (11%) camps (Glover et al, 2013). The study will focus on residential camp specifically since it is proposed that attachment related distress would be highest for this group and the use of alternative social supports would be more

likely to occur in residential camps than in day camps due to the lack of proximity to the individual's primary caregiver without reprieve. Although some differences in support structures exist between religious and non-religious camps which may lead to confounding, the primary reason for excluding religious affiliated camps was to ensure that only residential camps were selected; the religious affiliated camp type does not specify whether it was residential or day camp. The resulting target sample size for this study is 565 campers.

Attachment Style Measure.

The survey used an adaptation to the Relationships Questionnaire developed by Bartholomew & Horowitz. The Relationships Questionnaire presents descriptions of each attachment style and assesses agreement with the fit of that particular attachment style to the individual. For example "It is easy for my child to become emotionally close to others. I am comfortable depending on them and having them depend on me. I don't worry about being alone or having others not accept me." Since the Brennan, Clark and Shaver form of presenting attachment will be used (1998), the attachment styles will be converted from the standard Relationship Questionnaire attachment style output to anxiety and avoidance constructs. The anxiety construct relates positively to preoccupied and fearful attachment and negatively to secure and dismissing attachment, whereas the avoidance construct relates positively to dismissing and fearful attachment and negatively to secure and preoccupied attachment (Griffin & Bartholomew, 1994; Bartholomew, 2005; Brennan et al, 1998). As such, the anxiety construct will be calculated by determining the sum of the positive values of association with preoccupied and fearful attachment and negative values of association with secure and dismissing attachment, whereas the avoidance construct will be calculated by determining the sum of the positive values of agreement with dismissing and fearful attachment individuals and the negative values of

agreement with secure and preoccupied attachment. See Table 1 for a detailed breakdown of how anxiety and avoidance were calculated using the survey responses.

Table 1. Constructs

<u>Variable</u>	<u>Question(s)</u>
Secure attachment	16 – It is relatively easy for my child to become emotionally close to others. My child is comfortable depending on others and having others depend on him/her.
Dismissing attachment	17 – My child is comfortable without close emotional relationships. It is very important to my child to feel independent and self-sufficient, and my child prefers not to depend on others or have others depend on him/her.
Preoccupied attachment	18 – My child wants to be completely emotionally intimate with others, but he/she often finds that other are reluctant to get as close as he/she would like. My child is uncomfortable being without close relationships, but he/she sometimes worries that others do not value him/her as much as he/she values them.
Fearful attachment	19 – My child is somewhat uncomfortable getting close to others. He/she wants emotionally close relationships, but finds it difficult to trust others completely, or to depend on them. My child sometimes worries that he/she will be hurt if he/she allows him/herself to become close to others.
Anxiety Avoidance Social connections at camp	(18+19) – (16+17) or (Preoccupied + Fearful) – (Secure + Dismissing) (17+19) – (16+18) or (Dismissing + Fearful) – (Secure + Preoccupied) The variable was calculated by computing the average of the following: Section A: A – My child has stayed in touch with camp friends. Section A: B – My child has stayed in touch with staff members from camp. Section A: C – When my child talks about camp, it is clear he/she feels a sense of membership or belonging to the camp’s broader community.
Exploration	The variable was calculated by computing the average of the following: Section B: A – My child has demonstrated more interest in outdoor activities and pursuits since leaving camp. Section C: B – My child expresses more interest in trying new things since returning home from camp.
Independence	The variable was calculated by computing the average of the following: Section C: A – My child is able to do more things on his/her own since returning from camp. Section C: D – My child is better able to deal with challenges on his/her own since returning home from camp.

<u>Variable</u>	<u>Question(s)</u>
Self-Confidence	The variable was calculated by computing the average of the following: Section C: C – My child demonstrates increased self-confidence when facing challenges since returning home from camp.
Emotional Well-being	The variable was calculated by computing the average of the following: Section D: A – My child displays more awareness of his/her emotions as he/she experiences them. Section D: B – My child is more likely to share his/her emotions with others. Section D: C – My child has better control over his/her emotions. Section D: D – My child is more sensitive to the feelings and emotions of others.

Outcome Variables.

Outcomes were assessed based on parental perceptions of change. Perceived changes were assessed using a 6-point-Likert-scale that allowed responses of very strongly agree, strongly agree, agree, disagree, strongly disagree, and very strongly disagree (Appendix A). The strength of agreement will be used as a continuous measure of each outcome. A single measure or an average value of combined measures will be used for each variable used in this study. See Table 1 to see which questions were used for each measure in this study. All constructs used within this study had a reliability greater than .60 indicating that there was significant internal consistency for this preliminary exploratory research within the given field (Robinson, Shaver & Wrightsman, 1991). As seen in the proposed study model in Figure 2, social connections at camp and exploration will be used as mediators and independence and self-esteem will be used as the primary outcomes of interest.

Social Connections at Camp. Social connections at camp pertain to the development and maintenance of camp friendships as well as a sense of belonging in the camp community ($\alpha=.70$). See Table 1 for a breakdown of which measures will be used within the social connections at camp construct. Determining the role of social connections at camp will help inform whether or not actual level of social connections at camp influences the role of

attachment style within the camp context. Including social connections at camp in the model will also inform the relationship between attachment style and developing social connections at camp and the link between the social component of camp and the outcomes of interest.

Exploration. The self-confidence and personal development as well as environmental awareness measures are aggregate measures of various items which can be extracted and reconstructed into a measure of exploration; more interest in outdoor activities and pursuits, and more interest in trying new things ($r=.64$, $p<.000$) will be used within the exploration construct. See Table 1 for a breakdown of which measures will be used within the exploration construct. Determining the role of exploration at camp will help inform whether or not exploration (trying new things and engaging in activities) influences the role of attachment style within the camp context. Including exploration at camp in the model will also inform the relationship between attachment style and exploration at camp and the link between exploration and the outcomes of interest.

Independence. Independence will be a composite measure of two questions within the self-confidence and personal development measure: the independence measure addresses ability to do more things on one's own and ability to deal with challenges on one's one ($r=.75$, $p<.000$). See Table 1 for a breakdown of the measures that comprise the independence construct. The potential validity issue of having an indicator of dependence and a measure of independence is addressed later in the limitations section.

Self-Confidence. The self-confidence measure is a single item measure addressing self-confidence when dealing with challenges. See Table 1 for a listing of the question representing this measure.

Emotional Well-being. Emotional well-being will be a composite measure of all the measures within the emotional well-being measure: awareness of emotions, sharing of emotions, control of emotions, and sensitivity to feelings/emotions of others ($\alpha=.93$). See Table 1 for a listing other questions pertaining to this measure.

Control Variables.

Background survey data regarding age, sex, household income, returning camper status, and camp duration will also be used as controls when analyzing direct and indirect effects. These variables will be included to control for confounding by determining if the found affects of attachment style and the proposed mediation pathways are significant when controlling for these other influential factors. These factors were chosen as controls because they were viewed as non-modifiable factors with the exception of camp duration.

Analysis

All statistical analysis will be conducted using IBM SPSS Statistics 21.0 (2012). Descriptive statistics of all variables will be conducted to enable a greater understanding of the data. A Pearson correlation matrix of all variables used in the study will be used to gain a better understanding of the data. Multiple linear regression analysis will be used to examine the association of attachment style with developmental outcomes and the potential role of social connections at camp and exploration as mediators. Two models for each dependent (criterion) variable will be constructed: Model 1 will include the attachment constructs and the controls; and Model 2 will include the attachment constructs, the controls, and the potential mediators. See Table 2 for a breakdown of the study models being tested.

Table 2: Regression Models Testing Significance of Adding Exploration and Social Connections at Camp

<u>Model</u>	<u>Variable Type</u>	<u>Model 1</u>	<u>Model 2</u>
Model A: Independence	Criterion Variable	Independence	Independence
	Focal Variables	Anxiety	Anxiety
		Avoidance	Avoidance
	Mediators	--	Social Connections at Camp
		--	Exploration
	Control Variables	Age	Age
		Sex	Sex
		Household Income	Household Income
		Returning Camper Status	Returning Camper Status
		Camp Duration	Camp Duration
Model B: Self- Confidence	Criterion Variable	Self-Confidence	Self-Confidence
	Focal Variables	Anxiety	Anxiety
		Avoidance	Avoidance
	Mediators	--	Social Connections at Camp
		--	Exploration
	Control Variables	Age	Age
		Sex	Sex
		Household Income	Household Income
		Returning Camper Status	Returning Camper Status
		Camp Duration	Camp Duration
Model C: Emotional Well-Being	Criterion Variable	Emotional Well-Being	Emotional Well-Being
	Focal Variables	Anxiety	Anxiety
		Avoidance	Avoidance
	Mediators	--	Social Connections at Camp
		--	Exploration
	Control Variables	Age	Age
		Sex	Sex
		Household Income	Household Income
		Returning Camper Status	Returning Camper Status
		Camp Duration	Camp Duration

Mediation will be tested using the bootstrapping technique outlined by Hayes (2009), which is based on the mediation model proposed by Baron and Kenny (1986). See Figure 3 for the mediation model being discussed. Baron and Kenny provide a protocol for testing mediation

that requires multiple processes to show statistically significant associations between the focal variable and criterion variable (c path) as well as the focal variable and the mediator (a path), the mediator and the criterion variable (b path), and a reduction in magnitude of the direct association the focal variable and the criterion variable (c' path). A more powerful approach is to use the Sobel test to model the indirect effect based on the product of the a and b paths related to an estimated standard error of ab (Shrout & Bolger, 2002). However, to conform to assumptions of normality, bootstrapping techniques will be used to generate 1000 resamples to allow for the generation of a distribution of ab (Preacher & Hayes, 2004; Hayes, 2009). Calculating a 95% confidence interval of ab can then be used in hypothesis testing to determine whether or not there is a mediation effect; a 95% CI that does not span zero indicates rejection of the null hypothesis (Preacher & Hayes, 2004; Hayes, 2009).

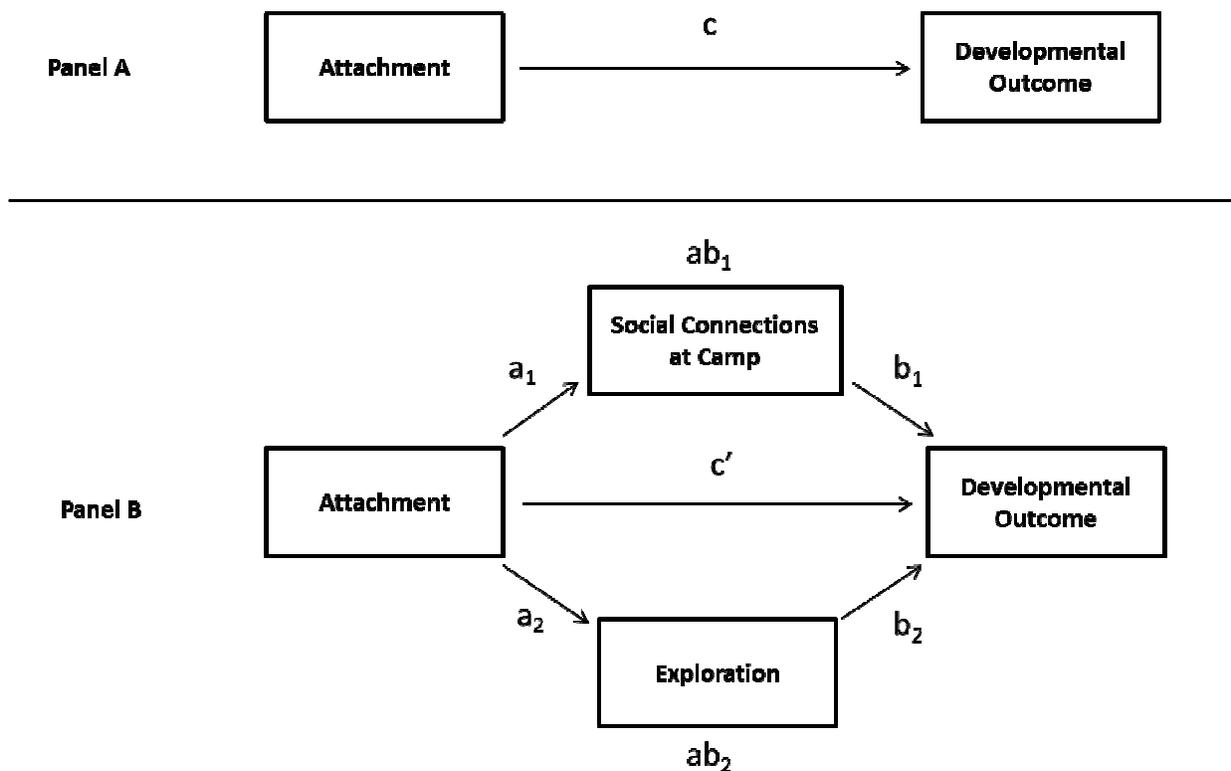


Figure 3: Mediation Model. The above figure shows the general mediation model. Panel A shows the direct effect, and Panel B shows the mediated effect.

The Indirect macro in SPSS will be used to test the mediator models and the nature of these models as depicted in Figure 3 (Preacher & Hayes, 2008). The approach uses bootstrapping to calculate estimates of 95% confidence intervals of the following: the total effect, or c path, which is the association between attachment and developmental outcome; the direct effect, or c' path, which is the association between attachment and developmental outcomes partialling out the mediators; the indirect effect of attachment style on developmental outcomes through the ab_1 path of social connections at camp at a mediator; the indirect effect of attachment style on developmental outcomes through the ab_2 path of exploration as a mediator; and the indirect effect of attachment style on developmental outcomes through the ab path of social connections at camp and exploration combined as mediators.

A test to determine the significance an interaction between anxiety and attachment in predicting the developmental outcomes will also be testing using regression models. First, an interaction term will be constructed by multiplying the anxious and avoidant attachment construct values. Second, two models for each dependent (criterion) variable will be constructed: Model 1 will include the attachment constructs and the controls; and Model 2 will include the attachment constructs, the controls, and the interaction term. See Table 3 for a breakdown of the study models being tested. The Process macro in SPSS will be used to test the nature of the interaction of anxiety and avoidance for each outcome (Hayes, 2013). The nature of the interaction will be tested using the process macro for SPSS which utilizes bootstrapping techniques to determine how the values of the outcomes change in relation to various values of avoidance compared at various levels of anxiety. Simple slopes will be calculated and graphed to interpret the nature of the interaction effect.

Table 3: Regression Models Testing Significance of Adding an Attachment Interaction Term

<u>Model</u>	<u>Variable Type</u>	<u>Model 1</u>	<u>Model 2</u>
Model A: Independence	Criterion Variable	Independence	Independence
	Focal Variables	Anxiety	Anxiety
		Avoidance	Avoidance
	Control Variables	Social Connections at Camp	Social Connections at Camp
		Exploration	Exploration
		Age	Age
		Sex	Sex
		Household Income	Household Income
		Returning Camper Status	Returning Camper Status
		Camp Duration	Camp Duration
Interaction Term	--	Anxiety x Avoidance	
Model B: Self- Confidence	Criterion Variable	Self-Confidence	Self-Confidence
	Focal Variables	Anxiety	Anxiety
		Avoidance	Avoidance
	Control Variables	Social Connections at Camp	Social Connections at Camp
		Exploration	Exploration
		Age	Age
		Sex	Sex
		Household Income	Household Income
		Returning Camper Status	Returning Camper Status
		Camp Duration	Camp Duration
Interaction Term	--	Anxiety x Avoidance	
Model C: Emotional Well-Being	Criterion Variable	Emotional Well-Being	Emotional Well-Being
	Focal Variables	Anxiety	Anxiety
		Avoidance	Avoidance
	Control Variables	Social Connections at Camp	Social Connections at Camp
		Exploration	Exploration
		Age	Age
		Sex	Sex
		Household Income	Household Income
		Returning Camper Status	Returning Camper Status
		Camp Duration	Camp Duration
Interaction Term	--	Anxiety x Avoidance	

Results

Descriptive Statistics

Table 4: Descriptive Statistics of Sample

<u>Variable</u>	<u>Summer Camp Campers</u>		
	<u>M/Percent</u>	<u>SD</u>	<u>N</u>
Gender			
Male	58.6%	--	314
Female	41.4%	--	222
Returning Camper			
Yes	84.5%	--	474
No	15.5%	--	87
Age	9.09	2.46	552
Household Income	13.9 (\$130,000-\$139,999)	6.10 (\$61,000)	499
Camp Duration	3.43	1.86	558
Anxious	-2.06	2.64	489
Avoidant	-1.03	1.84	489
Social Connections at Camp	3.84	1.07	498
Exploration	4.00	.91	496
Independence	4.12	.91	486
Self-Confidence	4.25	.99	486
Emotional Well-Being	3.70	.78	473

Table 4 displays the descriptive statistics of the variables used within the models. There were 58.6% males and 41.4% females within the sample. The majority of campers were returning campers (84.5%) and the average age of the campers was 9 years old (SD=2.46). Campers came from an average household income of \$130,000-\$139,999; average income range was derived from an average household income level of approximately 14, which corresponds to \$130,000-\$139,999. The average anxiety score was -2.06 (SD=2.64). Recall that this construct was the total of the sum of association scores with attachment styles indicative of high anxiety minus the sum of association scores with attachment style indicative of low anxiety. This means that campers tended to be more associated with attachment styles that are indicative of low anxiety. The average avoidance score was -1.03 (SD=1.84).). Recall that this construct was the

sum of the sum of association scores with attachment styles indicative of high avoidance minus the sum of association scores with attachment style indicative of low avoidance. This means that campers tended to be more associated with attachment styles that are indicative of low avoidance. For social connections at camp, exploration, independence, self-confidence, and emotional well-being the average scores were 3.84 (SD = 1.1), 4.00 (SD=0.91), 4.12 (SD=0.91), 4.25 (SD=0.99), and 3.7 (SD=.78) respectively. This means that the average for these constructs was that parents agreed that campers experienced a gain within these constructs; category 4 represents agree.

Correlations*Table 5: Correlation Matrix*

	<u>1.</u>	<u>2.</u>	<u>3.</u>	<u>4.</u>	<u>5.</u>	<u>6.</u>	<u>7.</u>	<u>8.</u>	<u>9.</u>	<u>10.</u>	<u>11.</u>
1. Anxiety	--										
2. Avoidance	.273**	--									
3. Social Connections at Camp	-.186**	-.236**	--								
4. Exploration	-.119**	-.154**	.400**	--							
5. Independence	-.117*	-.180**	.422**	-.719**	--						
6. Self Confidence	-.111*	-.154**	.422**	.772**	.876**	--					
7. Emotional Well-Being	-.032	-.177**	.473**	.594**	.684**	.635**	--				
8. Age	-.047	.092*	.296**	.000	.052	.067	.134**	--			
9. Sex	.035	-.062	.025	-.104*	-.105*	-.109*	-.049	.054	--		
10. Household Income	-.227**	-.084	.081	.009	.064	.069	-.033	.087	-.134**	--	
11. Returning Camper Status	-.092*	.003	.190**	.050	.095*	.092*	.128**	.227**	.017	.169**	--
12. Camp Duration	-.136**	-.091*	.370**	.105*	.198**	.198**	.195**	.195**	-.223**	.352**	.263**

*Note: * $p < 0.05$, ** $p < 0.01$*

Table 5 depicts the relationship between the variables used in within the study models. All dependent and independent variables (anxiety, avoidance, social connections at camp, exploration, independence, and self-confidence) are all significantly inter-related with the exception of anxiety and emotional well-being. Higher anxiety levels tend to be associated with high levels of avoidance. Both high anxiety and high avoidance were associated with lower levels of social connections at camp, exploration, independence, and self-confidence. High avoidance is also associated with higher emotional well-being. Developing social connections at

camp was positively associated with exploration, independence, self-confidence, and emotional well-being. Exploration was negatively associated with independence and positively associated with self-confidence and emotional well-being. Independence, self-confidence, and emotional well-being were all positively associated.

While camp duration is significantly associated with all dependent and independent variables, age, sex, household income, and returning camper status were not significantly associated with all independent and dependent variables: age was associated with avoidance and social connections at camp; sex was associated with independence, exploration, self-confidence, and emotional well-being; household income was associated with avoidance; and returning camper status was associated with avoidance, social connections at camp, exploration, self-confidence, and emotional well-being.

Direct Effects

Table 6. Regression Models Testing Significance of Adding Exploration and Social Connections at Camp

		<u>Reduced Model</u>		<u>Full Model</u>	
		<u>β</u>	<u>SE</u>	<u>β</u>	<u>SE</u>
Model A – Independence	Anxiety	-.014	.018	.010	.011
	Avoidance	-.065**	.025	-.018	.016
	Social Connections at Camp	--	--	.060	.032
	Exploration	--	--	.747**	.033
	Age	-.001	.020	.010	.013
	Sex	-.137	.094	-.018	.059
	Household Income	-.007	.008		
	Returning Camper Status	.205	.008	.082	.081
	Camp Duration	.090**	.131	.052**	.019
	Adjusted R ²	.051	.866	.640	.533
	Residual Sum of Squares	281.1		105.9** ¹	
	Residual Mean Square	.750		.284	
	F(df)	2,7		2,9	
	F	4.39**		85.79**	

Attachment and Development at Camp

		Reduced Model		Full Model	
		β	β	β	
Model B –Self-Confidence	Anxiety	-.013	.020	.013	.013
	Avoidance	-.066*	.027	-.015	.018
	Social Connections at Camp	--	--	.084*	.038
	Exploration	--	--	.780**	.039
	Age	.000	.022	.011	.015
	Sex	-.177	.104	-.015	.070
	Household Income	-.007	.009		
	Returning Camper Status	.147	.145	.005	.096
	Camp Duration	.108**	.031	.065**	.022
	Adjusted R ²	.053	.954	.593	.625
	Residual Sum of Squares	341.5		145.9** ²	
	Residual Mean Square	.911		.391	
	F(df)	2,7		2,8	
	F	4.18**		70.50**	
Model B – Emotional Well-Being	Anxiety	-.005	.015	.014	.012
	Avoidance	-.069**	.021	-.027	.017
	Social Connections at Camp	--	--	.178**	.035
	Exploration	--	--	.436**	.036
	Age	.022	.017	.019	.013
	Sex	-.027	.081	.025	.064
	Household Income	-.018**	.007	-.010	.005
	Returning Camper Status	.206	.112	.105	.087
	Camp Duration	.101**	.024	.042*	.020
	Adjusted R ²	.099		.451	
	Residual Sum of Squares	200.7		121.5	
	Residual Mean Square	.540		.328	
	F(df)	2,7		2,8	
	F	6.92**		35.61**	

Note: * $p < 0.05$, ** $p < 0.01$, ¹Nested model $F(2,372)=308.4$, ²Nested model $F(2,372)=250.1$, ³Nested model $F(2,370)=241.5$

Table 6 depicts the models testing the direct effects of anxiety, avoidance, social connections at camp, and exploration on independence in Model A, self-confidence in Model B, and emotional well-being in Model C. In Model A, which predicts independence, avoidance and camp duration were significant predictors in the Reduced Model ($R^2=.051$, $F(2,7)=4.39$, $p < .01$), and exploration and camp duration were significant predictors in the Full Model ($R^2=.640$, $F(2,8)=85.79$, $p < .01$). In the Reduced Model, individuals with higher levels of avoidance experienced less gain in independence ($\beta = -.065$, $p < .01$) and individuals attending camp for a

longer duration had higher levels of independence acquired ($\beta=.090$, $p<.01$). In the Full Model, individuals with high levels of exploration acquired more independence ($\beta=.747$, $p<.01$) and individuals attending camp for a longer duration also had higher levels of independence acquired ($\beta=.052$, $p<.01$). When comparing the Reduced Model and the Full Model for Model A, the Full Model explained more variance (64.0%) than the Reduced Model (5.1%); this difference was shown to be significant in the nested model F-test ($F(2,372)=308.45$, $p<.01$).

In Model B, which predicts self-confidence, avoidance and camp duration were significant predictors in the Reduced Model ($R^2=.053$, $F(2,7)=4.18$, $p<.01$), and social connections at camp, exploration, and camp duration were significant predictors in the Full Model ($R^2=.593$, $F(2,8)=70.50$, $p<.01$). In the Reduced Model, individuals with higher levels of avoidance experienced less gain in independence ($\beta=-.066$, $p<0.05$) and individuals attending camp for a longer duration had higher levels of independence acquired ($\beta=.108$, $p<0.01$). In the Full Model, individuals with high levels of social connections at camp and/or exploration acquired more independence ($\beta=.084$, $p<0.05$ and $\beta=.780$, $p<0.01$) and those attending camp for a longer duration also had higher levels of independence acquired ($\beta=.065$, $p<0.01$). When comparing the Reduced Model and the Full Model for Model B, the Full Model explained significantly more variance (59.3%) than the Reduced Model (5.3%); this difference was shown to be significant in the nested model F-test ($F(2,372)=250.13$, $p<.01$).

In Model C, which predicts emotional well-being, avoidance, household income and camp duration were significant predictors in the Reduced Model ($R^2=.099$, $F(2,7)=6.92$, $p<.01$), and social connections at camp, exploration, and camp duration were significant predictors in the Full Model ($R^2=.451$, $F(2,8)=35.61$, $p<.01$). In the Reduced Model, individuals with higher levels of avoidance experienced less gain in emotional awareness ($\beta=-.069$, $p<0.01$), individuals

from higher household income had lower levels of emotional awareness acquired ($\beta = -.018$, $p < 0.01$), and individuals attending camp for a longer duration had higher levels of emotional awareness acquired ($\beta = .101$, $p < 0.01$). In the Full Model, individuals with higher levels of social connections at camp and/or exploration acquired more emotional well-being ($\beta = .178$, $p < 0.01$ and $\beta = .436$, $p < 0.01$) and those attending camp for a longer duration also had higher levels of emotional well-being acquired ($\beta = .065$, $p < 0.01$). When comparing the Reduced Model and the Full Model for Model C, the Full Model explained significantly more variance (45.1%) than the Reduced Model (9.9%); this difference was shown to be significant in the nested model F-test ($F(2,372) = 250.1$, $p < .01$).

Indirect Effects*Table 7. Indirect Effect Bootstrapping-based Mediation Test*

	<u>Mediation Effects</u>	<u>Estimate</u>	<u>SE</u>	<u>Lower Limit CI</u>	<u>Upper Limit CI</u>
Anxiety and Independence	Total Effect	-.0145	.0179	-.0497	.0207
	Direct Effect	.0103	.0112	-.0117	.0323
	M1: Social Connections at Camp	-.0020	.0018	-.0076	.0002
	M2: Exploration	-.0227	.0145	-.0505	.0052
	M1+M2	-.0248	.0149	-.0532	.0037
Anxiety and Self-Confidence	Total Effect	-.0134	.0198	-.0647	.0379
	Direct Effect	.0128	.0131	-.0130	.0386
	M1: Social Connections at Camp	-.0027	.0022	-.0088	.0003
	M2: Exploration	-.0234	.0150	-.0538	.0050
	M1+M2	-.0262	.0157	-.0583	.0030
Anxiety and Emotional Well- being	Total Effect	-.0055	.0155	-.0359	.0249
	Direct Effect	.0141	.0121	-.0096	.0378
	M1: Social Connections at Camp	-.0063	.0038	-.0151	.0004
	M2: Exploration	-.0133	.0082	-.0291	.0022
	M1+M2	-.0196 *	.0098	-.0379	-.0010
Avoidance and Independence	Total Effect	-.0648 *	.0248	-.1136	-.0160
	Direct Effect	-.0179	.0157	-.0488	.0130
	M1: Social Connections at Camp	-.0065	.0044	-.0174	.0001
	M2: Exploration	-.0405 *	.0221	-.0884	-.0026
	M1+M2	-.0470 *	.0233	-.0991	-.0050
Avoidance and Self-Confidence	Total Effect	-.0656 *	.0273	-.1193	-.0012
	Direct Effect	-.0150	.0184	-.0512	.0212
	M1: Social Connections at Camp	-.0088 *	.0051	-.0216	-.0014
	M2: Exploration	-.0417	.0237	-.0919	.0025
	M1+M2	-.0506 *	.0251	-.1058	-.0038
Avoidance and Emotional Well-being	Total Effect	-.0686 *	.0014	-.0713	-.0659
	Direct Effect	-.0268	.1144	-.2510	.1974
	M1: Social Connections at Camp	-.0177 *	.0064	-.0341	-.0071
	M2: Exploration	-.0240 *	.0131	-.0532	-.0010
	M1+M2	-.0418 *	.0162	-.0752	-.0131

Note: lower limit and upper limit denote the boundary of a 95% Confidence Interval (CI),

**p<0.05, M1=Social Connections at Camp, M2=Exploration*

Table 7 depicts the mediation model statistics using bootstrapping resampling (n=1000). Mediation analysis reveals significant mediation of the affect of avoidance on the development of independence, self-confidence, and emotional well-being, and no significant mediation of the affect of avoidance on the development of independence, self-confidence, and emotional well-

being. See figure 4 for more details regarding the relationship of the variables within the mediation model for anxiety on the development of independence, figure 5 for more details regarding the relationship of the variables within the mediation model for anxiety on the development of self-confidence, and figure 6 for more details regarding the relationship of the variables within the mediation model for anxiety on the development of emotional well-being

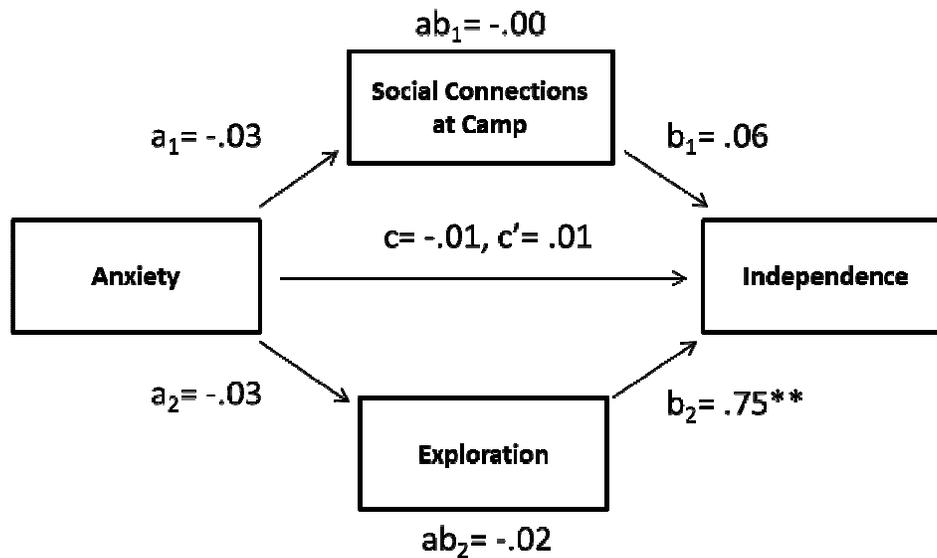


Figure 4: Mediation Model for the Relationship between Anxiety and Independence. The above figure shows the relationships depicted in the *a*, *b*, and *ab* paths for social connections at camp and exploration as well as the direct (*c*) and total effects (*c'*) for the relationship between avoidance and development of independence considering social connection at camp and exploration as mediators. The figure shows that only the *b* path of exploration is significant ($b=.75, p<.05$).

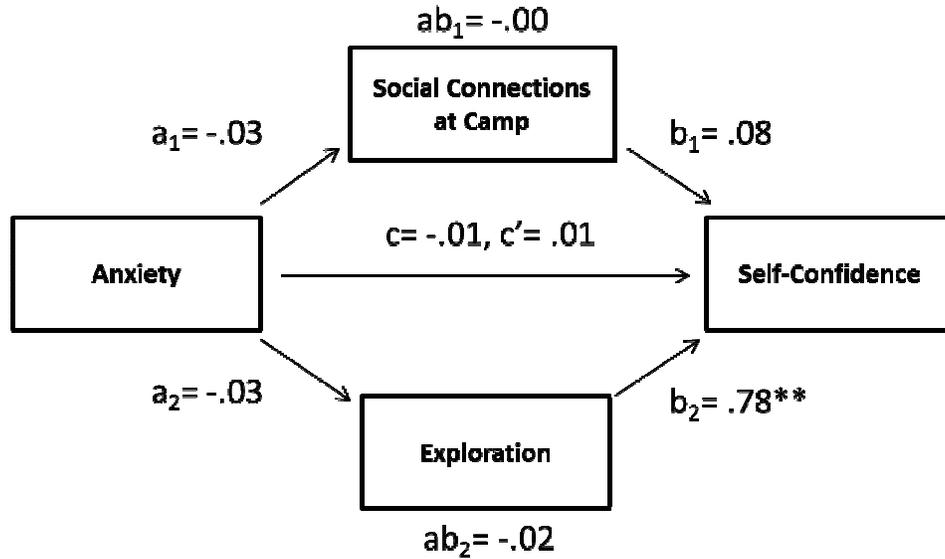


Figure 5: Mediation Model for the Relationship between Anxiety and Self-Confidence. The above figure shows the relationships depicted in the a , b , and ab paths for social connections at camp and exploration as well as the direct (c) and total effects (c') for the relationship between anxiety and development of self-confidence considering social connection at camp and exploration as mediators. The figure shows that only the b path of exploration is significant ($b=.78, p<.01$).

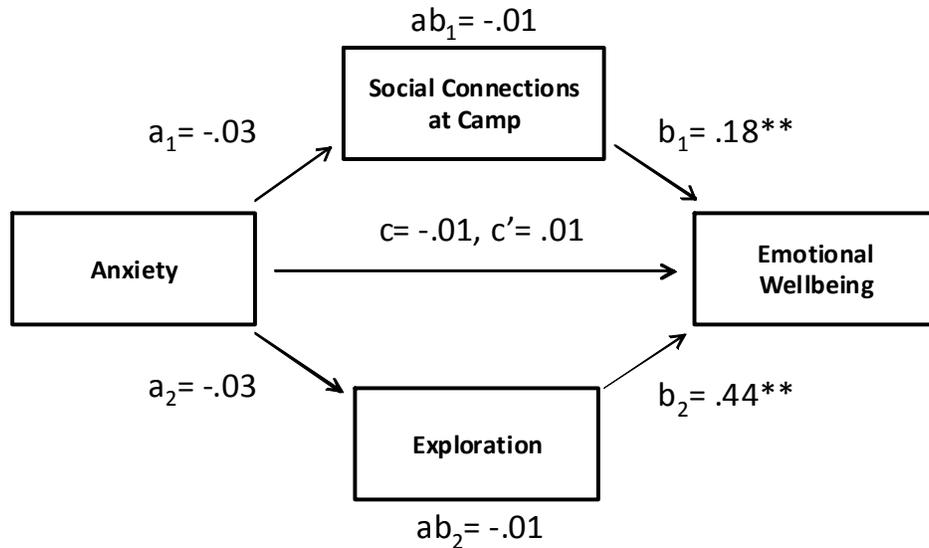


Figure 6: Mediation Model for the Relationship between Anxiety and Emotional Well-Being. The above figure shows the relationships depicted in the a , b , and ab paths for social connections at camp and exploration as well as the direct (c) and total effects (c') for the relationship between anxiety and development of emotional well-being considering social connection at camp and exploration as mediators. The figure shows that only the b paths of exploration and social connections at camp are significant ($b=.44, p<.01$; $b=.18, p<.01$).

Mediation analysis reveals that the mediation pathway is significant for both social connections at camp and exploration together (95% CI [-.005, -.099]) and for exploration only (95% CI [-.003, -.088]) within a model explaining the relationships between avoidance and the development of independence. See Figure 7 for more details regarding the relationship between the variables within the mediation model.

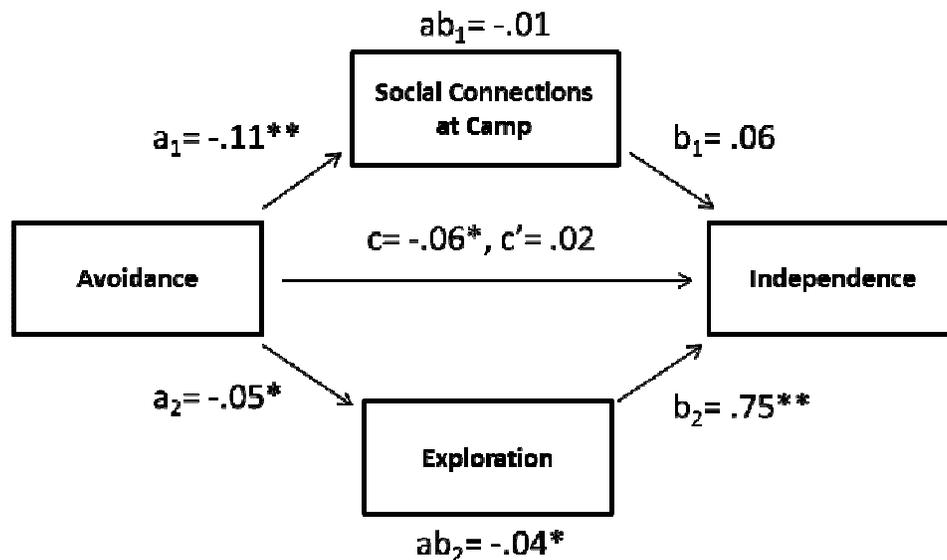


Figure 7: Mediation Model for the Relationship between Avoidance and Independence. The above figure shows the relationships depicted in the a , b , and ab paths for social connections at camp and exploration as well as the direct (c) and total effects (c') for the relationship between avoidance and development of self-confidence considering social connection at camp and exploration as mediators. The figure shows that the direct effect of avoidance is significant ($c = -.06, p < .05$), that only the a path of social connections at camp is significant ($a = -.11, p < .01$), that the a , b , and ab paths are significant for exploration ($a = -.05, p < .05$; $b = .75, p < .01$; $ab = -.04, p < .05$).

Mediation analysis reveals that the mediation pathway is significant for both social connections at camp and exploration together (95% CI [-.004, -.106]) and for social connections at camp only (95% CI [-.001, -.022]) within a model explaining the relationships between avoidance and the development of self-confidence. See Figure 8 for more details regarding the relationship between the variables within the mediation model.

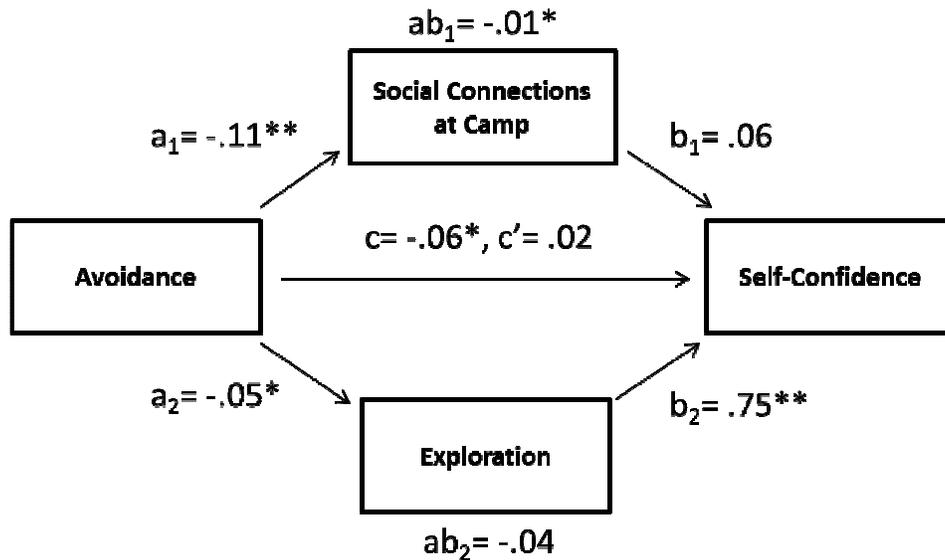


Figure 8: Mediation Model for the Relationship between Avoidance and Self-Confidence. The above figure shows the relationships depicted in the a , b , and ab paths for social connections at camp and exploration as well as the direct (c) and total effects (c') for the relationship between avoidance and development of self-confidence considering social connection at camp and exploration as mediators. The figure shows that the direct effect of avoidance is significant ($c = -.06$, $p < .05$), that only the a path of social connections at camp is significant ($a = -.11$, $p < .01$), that the a , b , and ab paths are significant for exploration ($a = -.05$, $p < .05$; $b = .75$, $p < .01$; $ab = -.04$, $p < .05$).

Mediation analysis reveals that the mediation pathway is significant for both social connections at camp and exploration together (95% CI [-.0379, -.0010]) as well as social connections at camp and exploration independently within a model explaining the relationships between avoidance and the development of independence. See Figure 9 for more details regarding the relationship between the variables within the mediation model.

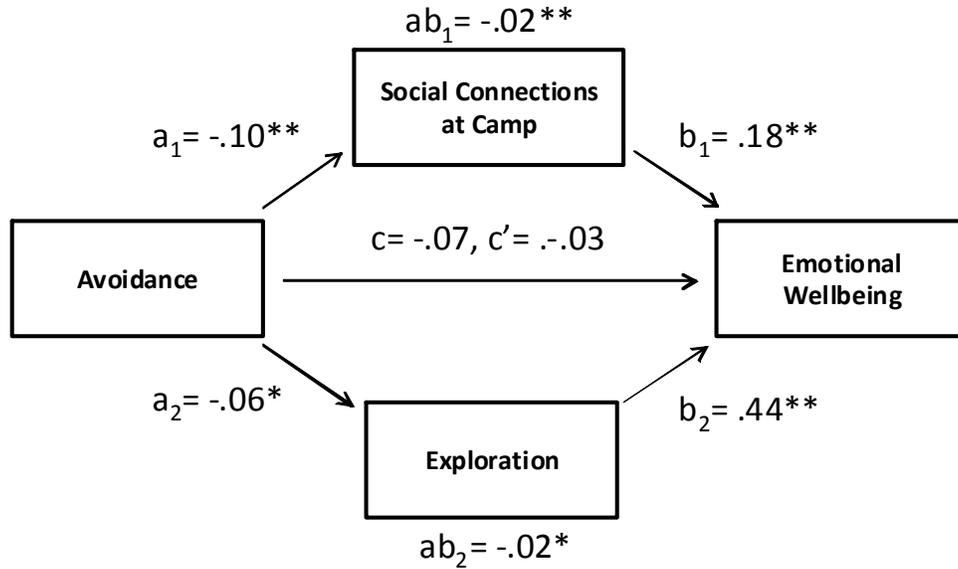


Figure 9: Mediation Model for the Relationship between Avoidance and Emotional Well-Being. The above figure shows the relationships depicted in the a , b , and ab paths for social connections at camp and exploration as well as the direct (c) and total effects (c') for the relationship between avoidance and development of emotional well-being considering social connection at camp and exploration as mediators. The figure shows that the direct effect of avoidance is significant ($c = -.06$, $p < .05$), that the a , b , and ab paths are significant for social connections at camp ($a = -.10$, $p < .01$; $b = .18$, $p < .01$; $ab = -.02$, $p < .01$), that the a , b , and ab paths are significant for exploration ($a = -.06$, $p < .05$; $b = .44$, $p < .01$; $ab = -.02$, $p < .05$).

Interaction between Anxiety and Avoidance*Table 8. Direct Effect Testing Significance of Adding Attachment Interaction Term*

		<u>Reduced Model</u>		<u>Full Model</u>	
		<u>β</u>	<u>SE</u>	<u>β</u>	<u>SE</u>
Model A – Independence	Anxiety x Avoidance	--		-.025**	.009
	Anxiety	-.014	.018	.128*	.078
	Avoidance	-.065**	.025	.212	.089
	Age	-.001	.020	.007	.020
	Sex	-.137	.094	-.137	.093
	Household Income	-.007	.008	-.007	.008
	Returning Camper Status	.205	.131	.205	.130
	Camp Duration	.090**	.028	.094**	.028
	Adjusted R ²	.065		.080	
	Residual Sum of Squares	276.1		271.1* ¹	
	Residual Mean Square	.727		.738	
	F(df)	2,7		2,8	
	F	4.80**		5.12**	
Model B –Self- Confidence	Anxiety x Avoidance	--		-.027*	.010
	Anxiety	-.013*	.020	.232*	.097
	Avoidance	-.066**	.027	.144	.086
	Age	.000	.022	.008	.022
	Sex	-.177	.104	-.179	.103
	Household Income	-.007	.009	-.008	.009
	Returning Camper Status	.147	.145	.151	.144
	Camp Duration	.108**	.031	.112**	.031
	Adjusted R ²	.065		.079	
	Residual Sum of Squares	336.3		330.4* ²	
	Residual Mean Square	.899		.899	
	F(df)	2,7		2,8	
	F	4.81**		5.10**	
Model B – Emotional Well- being	Anxiety x Avoidance	--		-.025**	.008
	Anxiety	-.005	.015	.212*	.067
	Avoidance	-.069**	.021	.128	.076
	Age	.022	.017	.007	.024
	Sex	-.027	.081	-.137	.111
	Household Income	-.018**	.007	-.007	.007
	Returning Camper Status	.206	.112	.205	.080
	Camp Duration	.101**	.024	.094	.017
	Adjusted R ²	.065		.080	
	Residual Sum of Squares	276.1		271.1*	
	Residual Mean Square	.738		.727	
	F(df)	2,7		2,8	
	F	4.80**		5.12**	

*Note: * $p < 0.05$, ** $p < 0.01$, ¹Nested model $F(2,373)=6.78$, ²Nested model $F(2,373)=6.56$, ³Nested model $F(2,371)=6.78$*

Table 8 depicts the models testing the direct effects of anxiety, avoidance, and an interaction term of the product of anxiety and avoidance on independence in Model A, self-confidence in Model B, and emotional well-being in Model C. The reduced models are the same reduced models presented in the direct effect analysis; refer back to the direct effects subsection within results for further details of these models. In the full models for Model A, Model B, and Model C, the interaction term is significant; the interaction between anxiety and avoidance was associated with decreased development of independence ($\beta = -.025$, $p < .01$), decreased development of self-confidence ($\beta = -.027$, $p < .01$), and decreased development of emotional well-being ($\beta = -.025$, $p < .01$).

The analysis of the nature of the interaction effect reveals that, for predicting independence, there is an interaction effect. The interaction predicts that those with both high avoidance and high anxiety will have the least development of independence. Specifically, the simple slopes of high and low anxiety intersect and have different slopes that the simple slope of high anxiety is a negative slope ($b = -.1468$, $se = .0399$, $t = -3.6796$, $p = .0003$), and the simple slope of low anxiety is a positive slope ($b = .0300$; $se = .0439$, $t = .6831$, $p = .4950$). See Figure 10 for a representation of this effect.

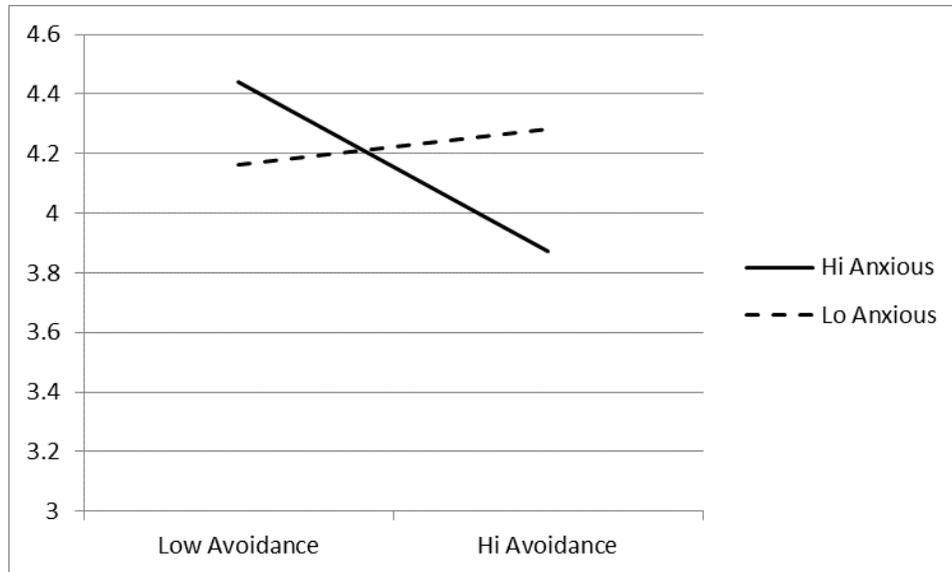


Figure 10: Interaction Plot A – Effect of Avoidance on Independence at Various Levels of Anxiety. The above figure depicts the interaction effect of avoidance and anxiety when predicting development of independence. The figure shows that the simple slopes of high and low anxiety intersect and are opposite in that the simple slope of high anxiety is a negative slope ($b=-.1468$, $se=.0399$, $t=-3.6796$, $p=.0003$), and the simple slope of low anxiety is a positive slope ($b=.0300$; $se=.0439$, $t=.6831$, $p=.4950$).

The analysis of the nature of the interaction effect reveals that, for predicting self-confidence, there is minimal to no interaction effect. The interaction predicts that those with high avoidance and low anxiety are least likely to develop self-confidence. Specifically, the simple slopes of high anxiety ($b=-.1419$, $se=.0384$, $t=-3.6922$, $p=.0003$) and low anxiety ($b=-.0300$, $se=.0439$, $t=-.6831$, $p=.4950$) do not intersect and are both negative slopes. See Figure 11 for a representation of this effect.

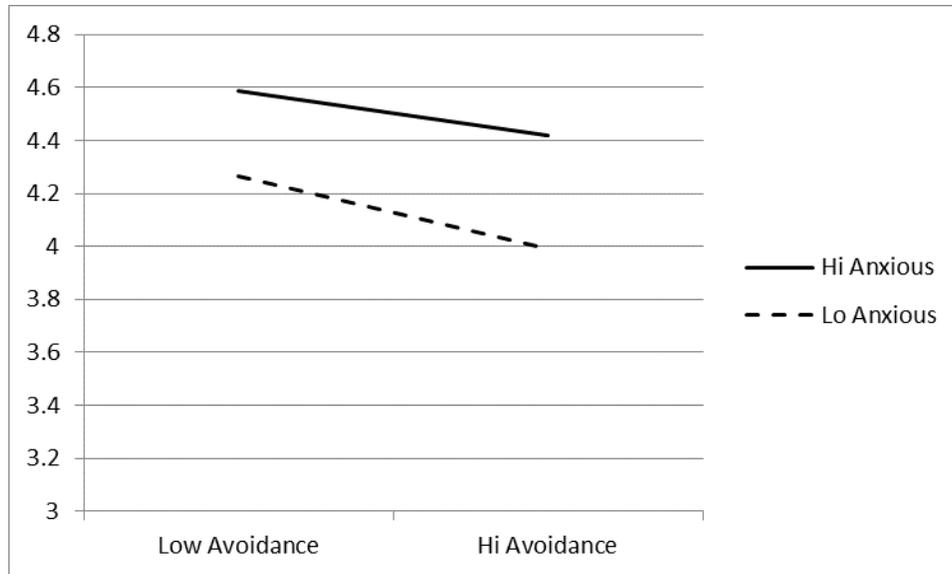


Figure 11: Interaction Plot B – Effect of Avoidance on Self-Confidence at Various Levels of Anxiety. The above figure depicts the interaction effect of avoidance and anxiety when predicting development of self-confidence. The figure shows that the simple slopes of high anxiety ($b=-.1419$, $se=.0384$, $t=-3.6922$, $p=.0003$) and low anxiety ($b=-.0300$, $se=.0439$, $t=-.6831$, $p=.4950$) do not intersect and are both negative slopes.

The analysis of the nature of the interaction effect reveals that, for predicting emotional well-being, there is an interaction effect. The interaction predicts that those with both high avoidance and high anxiety will have the least development of independence. Specifically, the simple slopes of high and low anxiety intersect and are opposite in that the simple slope of high anxiety is a negative slope ($b=-.1245$, $se=.0339$, $t=-3.6724$, $p=.0003$), and the simple slope of low anxiety is a positive slope ($b=-.0021$, $se=.0379$, $t=-.0554$, $p=.9558$). See Figure 12 for a representation of this effect.

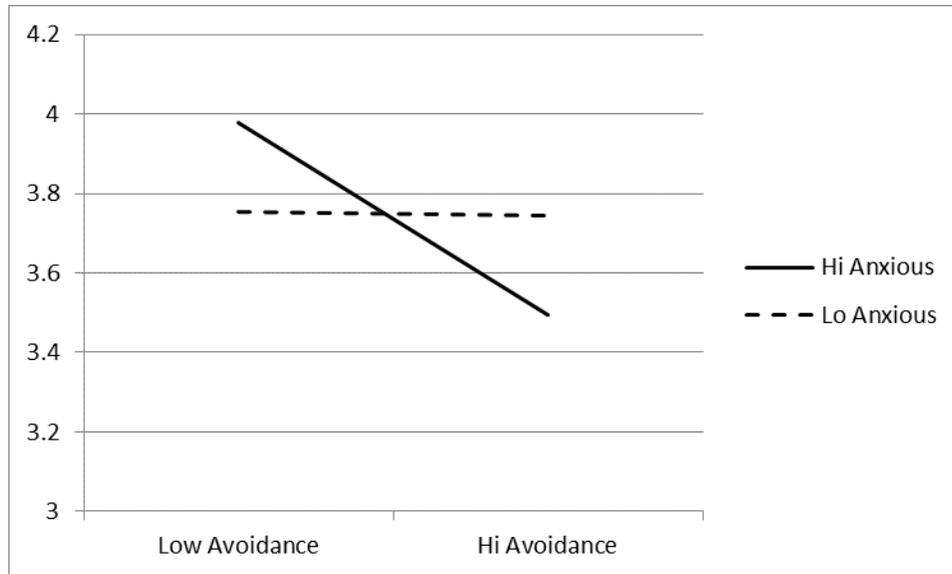


Figure 12: Interaction Plot C – Effect of Avoidance on Emotional Well-Being on Various Levels of Anxiety. The above figure depicts the interaction effect of avoidance and anxiety when predicting development of Emotional Well-Being. The figure shows that the simple slopes of high and low anxiety intersect and are opposite in that the simple slope of high anxiety is a negative slope ($b=-.1245$, $se=.0339$, $t=-3.6724$, $p=.0003$), and the simple slope of low anxiety is a positive slope ($b=-.0021$, $se=.0379$, $t=-.0554$, $p=.9558$).

Discussion

The summer camp experience provides a unique setting for attachment research. As noted previously, the summer camp experience takes place in a highly social learning environment and is associated with developmental outcomes (Henderson et al, 2007; Glover et al, 2013). As seen in the attachment literature, working models of self and others can influence how individuals engage in social activity and attachment systems can enable exploration (Bartholomew & Horowitz, 1991; Bowlby, 1969; Bowlby, 1973; Bowlby, 1980; Hazan & Shaver, 1994). While previous research indicates that the summer camp experience fosters development, this study helps to understand the mechanism of this association by analyzing the direct effect of attachment style on developmental outcomes and indirect effects of attachment on developmental outcomes working through social connections at camp and exploration. Social connections at camp and exploration were analyzed because it is proposed that among the variables available in the dataset, these factors can be targeted for specific camp programming and protocol. Additionally, because of the reciprocal nature of schemas of self and others as well as attachment styles representing a combination of anxiety and avoidance reported in the literature, the effect of the interaction of avoidance and anxiety was also assessed.

Direct Effects of Attachment

The data indicated that avoidance but not anxiety was most predictive of developmental outcomes within the summer camp context. Although in regression modelling, anxiety was not predictive of developmental outcomes of independence, self-confidence and wellbeing, correlation analysis revealed that anxiety was negatively correlated with development of both independence ($r=-.117, p<.05$) and self-confidence ($r=-.111, p<.05$). This indicates that while

there may be a direct association, only avoidance is likely to have a significant direct influence on developmental outcomes within the summer camp context for this population.

While the effect of avoidance was expected, and the null effect of anxiety was not expected, the relative lack of effects of anxiety compared to avoidance seem counter-intuitive when tendencies in coping strategies are considered. Recall that avoidant attached individuals have been shown to use emotional detachment and selective recall as a coping strategy more commonly than anxious individuals (Pietromonaco & Feldman Barret, 1997; Mikulincer, 1995; Mikulincer, 1998a; Mikulincer, 1998b). It would be assumed that this protective effect utilized by avoidant individuals would allow them to have more positive outcomes and have less inequitable outcomes than anxious individuals that are emotionally charged and more easily distressed (Pietromonaco & Feldman Barret, 1997; Shaver & Brennan, 1992).

Anxiety.

It is surprising that anxiety did not have a significant direct effect on developmental outcomes since it is theorized that being sent away from one's primary caregiver would be distressing for individuals with higher fear of abandonment (Bowlby, 1969, Thurber, 1995), and that individuals with high anxiety would have maladaptive schemas of self and others (Bowlby, 1969) that would limit their social competence and thus also adaptation to and performance within a social environment (Sroufe et al, 2005). While these assumptions appear to have held true in that anxious individuals experienced less exploration ($r = -.119, p < .01$) which is a sign of distress, and gained less social connections at camp ($r = -.186, p < .01$), the effect of anxiety was not influential enough to be significant when other explanatory variables were added to prediction models of developmental outcomes.

Three possible explanations exist for this null direct effect of anxiety: one, there is a protective effect of the camp environment that enables highly anxious individuals to function the same as low anxiety individuals; two, the effect of anxiety is being explained by other variables within the model; or three, the sample bias reduces the measurable effect of anxiety. It is possible that the theoretical negative influence of anxiety was minimized by the camp environment which is designed to be a socially, physically, and psychologically safe environment (Collins, 2006). It is also possible that the developed schemas of these anxious individuals were primary caregiver specific in that not having the primary caregiver present at camp reduced the salience of negative associations of others leading to distrust and fear of abandonment. However, as mentioned previously, the association of high anxiety with low exploration and low social connections at camp minimizes the potential of this effect. Furthermore, the literature shows that anxious individuals have poorer adaptation and social functioning (Sroufe et al, 2005), anxious individuals experience more distress within the summer camp environment (Fichman et al, 1997; Thurber, 1995).

Other variables that may have masked the effect due to statistically significant associations include: avoidance ($r=.273$, $p<0.01$), household income ($r=-.227$, $p<.01$), returning camper status ($r=-.092$, $p<0.05$), and camp duration ($r=.136$, $p<.05$). Since bivariate analysis revealed that anxiety was associated with the independence ($r=-.117$, $p<.05$) and self-confidence ($r=-.111$, $p<.05$) it is likely that an associated variable explained some variance explained by anxiety and, thus, masked the effect of anxiety within the models. Note that no correlation was found between anxiety and emotional well-being. It was found that anxiety and avoidance were positively related. This means that individuals who are anxious are also more likely to be avoidant. This corresponds to the attachment literature in that those growing up in an

unsupportive environment are likely to form negative working models of self and others simultaneously to explain the behaviours within the relationship (Bowlby, 1969). In regards to the predictive ability of each of the constructs, it is possible that the avoidance construct explained the same variance explained by the anxiety construct. An example of an overlapping measure of anxiety and avoidance related to working models of self is self-criticism. Recall that self-criticism was associated with a basal level of distress at summer camp (Fichman et al, 1996) which may incur an overlapping domain of anxiety and avoidance leading to both constructs explaining the same variance in developmental outcomes within the models. The results of the analysis of the interaction effect between avoidance and anxiety will be discussed in a later section.

The link to household income would likely have minimal direct influence within the camp environment because of equal shelter, food, and opportunity within the camp environment. For this reason, the link between anxiety and household income may indicate a different distribution of anxious attachment within more vulnerable populations. This effect was analyzed by Huth-Bocks et al and was found that there was a tendency for less secure attachment in lower SES populations (2004). The theoretical effect of SES is also reported in other works and theorized to occur through lower SES populations having less access to support and having additional stressors to cope with which can tax the child-caregiver relationship leading to less favourable levels of overall support (Bowlby, 1969; Goerge & Solomon, 1996; Huth-Bocks et al, 2004; Sroufe, 2005;). In regards to findings being used to promote summer camp through subsidies, this finding indicates that the effect of anxiety would be important for more vulnerable populations since this study indicates that those from lower SES families are more likely to be anxiously attached. It is possible that anxiety would have a stronger effect in a more anxious

population. Therefore, although this study did not find any significant direct effect of anxiety when controlling for other variables, further research is required with a lower income populations in order to make conclusions applicable to a more inclusive population.

Returning camper status may also influence the affect of anxiety as well as the generalization of the findings, individuals who have highly anxious attachment are more likely to experience homesickness and distress at camp and are both less likely to attend camp and unlikely to return to camp following a negative experience (Thurber, 1995; Thurber, 1999; Gillard et al, 2009). This trend is supported by the data in that those with higher anxious attachment were less likely to be a returning camper ($r=-.092$, $p<.05$) and the sample in general had a low mean anxiety rating of -2.06 ($SD=2.64$) which may indicate that there are few anxious individuals attending camp. In addition, because of the tendency for anxious individuals to not attend or not return to camp it could be that these anxious individuals have established supports through a fellow camper attending camp or through an alternative coping mechanism. This indicates that the sample may be biased towards low anxiety individuals and/or high functioning anxious individuals which would reduce the overall effect of anxiety. This also provides additional justification for further research with a more anxious population.

Camp duration may also have overlapping explanatory variance with anxiety. Not only were these constructs found to be associated within the data set but Fichman et al also found that those with high anxiety experienced significantly more distress in residential camp settings as opposed to day camp settings (1997). This indicates a dose response for anxious individuals at camp with longer camp durations invoking more distress. Since anxiously attached individual's anxiety stems from fear of abandonment, this makes sense that the longer an anxiously attached individual is displaced from their caregiver the more distress (anxiety) they would experience

(Brennan et al, 1998). Since this is likely the mechanism of action, camp duration may be explaining too much of the variance associated with the anxious attachment construct for the construct to be significant.

While it is strongly encouraged that results of this study be verified and explored further in a more anxious population, it appears that there is not a significant effect of anxiety. In this regard, individuals that are highly anxious do not benefit from camp differently than those that are not highly anxious and no special considerations should be made specific to anxious individuals in regards to programming tailored to promote social connections at camp and/or exploration.

Avoidance.

The finding that there is a negative direct association between avoidance and the developmental outcomes is expected since those that are avoidant are less likely to engage in the social aspects of summer camp, are less likely to possess or develop a secure based and safe haven for exploration purposes, and are less likely to reflect on experiences in a meaningful way (Bowlby, 1988; Sroufe, 2005; Hazan & Shaver, 1994; Feeney, 1995; Mikulincer & Orbach, 1995). The finding that avoidance is negatively associated with independence ($r=-.119$, $p<.01$) is also an indicator that there is not a response bias in the response for growth in independence due to cognitive dissonance and that the independence and avoidance measures are measuring what they intend to measure. It is a sign that the measures are indeed measuring what they intend to measure because the two variables are semantically different: avoidance is primarily a function of association with distrust, low utility, and low value of others, whereas independence is more of a function of personal ability and self-confidence.

Indirect Effects of Attachment

In addition to the direct effects assessed, the potential mediation of social connection at camp and exploration was analyzed. It was found that there was no indirect effect of anxiety on developmental outcomes. This may be due to the low predictive ability of anxiety as noted in the null direct finding in regression modelling; it is theoretically impossible to have a mediation effect if there is no significant direct effect to mediate. Additionally, anxiety may not be mediated by established social connections because anxious individuals have high levels of distrust and are both unlikely to utilize social supports and/or perceive others as being supportive (Bowlby, 1969; Bartholomew & Horowitz, 1991; Hazan & Shaver, 1994; Sroufe et al, 2005). This anxiety and distrust likely will influence the ability to form positive associations with others. Anxious individuals also tend to not want to attend camp in the first place (Thurber, 1990). This means that anxious individuals will likely enter camp feeling amotivated or otherwise externally motivated (Thurber, 1999). Being amotivated about the camp environment, they are less likely to be attending camp with the intention to try new things (Gillard et al, 2009). The combination of low potential for exploration and low likelihood for support and/or perceived support decrease the potential that these individuals will have needs of both relatedness and competence met through camp which reduces the likelihood to develop positive views of self and thus influence self-confidence and independence (Ryan & Deci, 2000; Gillard et al, 2009). While actual exploration and/or established social connections may help reduce this tendency, anxious individuals tend to experience more distress at camp which may not be able to be overcome by social supports, especially since these individuals tend to have maladaptive means of utilizing social supports (Thurber, 1995; Fichman et al 1996, Fichman et al, 1997). One important difference between anxious and avoidance attachment is that avoidant individuals tend to avoid

social support and anxious individuals attempt to use social supports but maladaptive schemas reduce the potential of these social supports functioning as desired (Bowlby, 1969; Bartholomew & Horowitz, 1991; Hanna & Berndt, 1995). Although the above tendencies are present in those that are anxiously attached, within the camp setting these tendencies did not appear significant because there was no direct effect of anxiety on camp outcomes. As noted previously, although the anxiety findings of this study are not significant they are also inconclusive due to potential confounding. Further research is required in a more anxious population to determine/verify the role of anxiety within the summer camp context.

Although there was not an indirect effect of anxiety found in this study, an indirect effect of avoidance on developmental outcomes was found. For the development of independence, a mediating effect of avoidance was found to occur through exploration alone and social connections at camp combined with exploration. It is also important to note that there is a significant negative direct effect of avoidance on development of independence, but exploration and social connections at camp eliminate the significance of this effect. For the development of self-confidence, a mediating effect of avoidance was found to occur through social connections at camp and social connections at camp combined with exploration. It is also important to note that there is a significant negative direct effect of avoidance on development of self-confidence, but exploration and social connections at camp eliminate the significance of this effect. For the development of emotional well-being, a mediating effect of avoidance was found to occur through social connections at camp combined with exploration. It is also important to note that there is a significant negative direct effect of avoidance on development of emotional well-being, but exploration and social connections at camp eliminate the significance of this effect.

It should also be noted that anxiety and avoidance were both negatively correlated with social connections at camp ($r=-.186$, $p<.01$ and $r=-.246$, $p<.01$) and exploration ($r=-.119$, $p<.01$ and $r=-.154$, $p<.01$). This is the anticipated effect of anxious and avoidant attachment since these individuals are more likely to have negative views of others (low trust and/or low perceived potential for others to be supportive), have negative views of self (low perceived value and/or low perceived self-efficacy), and lack an effective attachment system due to their attachment histories (Bowlby, 1969; Bartholomew & Horowitz, 1991; Hazan & Shaver, 1994; Sroufe et al, 2005). Although the mediation models were not significant for anxiety, the negative correlation of these mediators with the two attachment constructs signifies anxious and avoidant attachment styles reduce the potential for exploration and development of social connections at camp. For avoidant attached individuals, the significant mediation effects of social connections at camp and exploration means that while avoidant individuals are unlikely to develop social connections at camp, avoidant individuals who are able to develop social connection benefit from the development of those social connections. Likewise, avoidant attached individuals who do explore benefit from their exploration behaviours. Explanations of the found mediation effects of social connections at camp and exploration for avoidant attached individuals are presented below.

Social Connections at Camp and Developmental Outcomes.

The social connections at camp construct was positively correlated with the development of independence ($r=.422$, $p<.01$), self-confidence ($r=.422$, $p<.01$), and emotional well-being ($r=.473$, $p<.01$), but in regression analysis the social connections at camp variable was only significant in the models predicting self-confidence ($\beta=.084$, $p<0.05$) and emotional well-being ($\beta=.178$, $p<0.05$). Additionally, the b path was only significant for the mediation model

predicting emotional well-being from avoidance ($b=.18, p<.01$). Since social connections at camp is a construct of available social supports and independence is a measure of ability to function without social support, an intermediate step is likely required for social connections at camp to lead to development of independence. From an attachment standpoint, the link between social connections at camp and development of self-confidence and/or independence occurs through a reshaping of schemas of self to include more positive associations (Bowlby, 1969). Mikulincer and Shaver report that simply augmenting an individual's attachment security through security priming can reduce feelings of self-doubt and increase self-confidence (2007). It is likely that development of social connections at camp is able to increase a camper's feeling of security. Recall that social connections at camp are likely to contribute to a positive camp experience overall (Hanna & Berndt, 1995) even in those that were not internally motivated to attend camp (Gillard et al, 2009). This indicates the supportive nature of social connections at camp. Since, these relationships are proposed to be supportive, social connections at camp can promote positive associations within working models of self and others (Bowlby, 1969; Hazan & Shaver, 1994). Self-determination theory also helps to explain this effect by proposing that social support can meet competence needs which is a pathway to the development of positive views of self (Ryan & Deci, 2000). While the data corroborates this pathway within bivariate analysis and in regression analysis for the development of self-confidence, the development of independence through social connections was not significant in regression modelling or mediation testing. This is likely due to a difference in semantics between the independence and self-confidence constructs. Both are similarly related to positive views of self, however, independence also implies that social supports are not required and/or not being used. Gillard et al suggest that social connections at camp were important for building skills and coping with difficulties.

Additionally they propose that while competence needs were met through these social connections, social connections also functioned to meet relatedness needs (Gillard et al, 2009). It is possible that social connections at camp acted more significantly through meeting relatedness needs than through meeting competence needs and, as such, positive views of self obtained from social connections at camp did not pertain as strongly to competencies. The lower potential for affirming competencies may explain the limited development of independence through social connections at camp.

From a developmental standpoint, independence is important, but from an attachment theory standpoint, the primary concern is the development of positive schemas of self and others as well as specific associations within the schemas that promote social competence and successful adaptation (Bowlby, 1969; Sroufe et al, 2005). In this regard, social connections at camp are serving to promote positive views of self but appear to be insufficient in developing adaptation skills that eliminate the need for social support. The transition from positive views of self to the ability to be independent may represent a more positive and functional component of positive views of self or that independence requires the absence of social supports. It is also possible that camp programming is not long enough to allow the development of independence through social connections by way of modifying schemas of self. As noted previously, further research should aim to better understand the role of camp duration.

Within the mediation model of avoidance predicting emotional well-being, all relationships within the model were significant, and there was significant mediation found for exploration, social connections at camp, and exploration and social connections at camp combined. It is proposed that social connections at camp allowed for an attachment system to be utilized. Recall that utilizing an attachment system is a dyadic system for controlling emotion

(Bowlby, 1969). It is proposed that this dyadic control of emotion allowed the avoidant individuals to better understand and control their emotions. Additionally, it also allowed for individuals to be less distressed and require less use of emotional avoidance. Since avoidant individuals tend to be more emotionally detached and cope with by avoiding negative emotions (Pietomonaco & Feldman Barret, 1997; Mikulincer, 1995; Mikulincer, 1998a; Mikulincer, 1998b), the social connections at camp are proposed to reduce the need for avoidance of emotion by being able to use social support to cope with negative emotion and having a pathway of expressing emotion that leads to positive outcomes. This reduced dampening of emotionality may attribute to gains in emotional awareness experienced by avoidant individuals who establish social connections at camp.

Exploration and Developmental Outcomes.

Exploration was positively correlated with development of independence ($r=-.719$, $p<.01$), self-confidence ($r=.772$, $p<.01$), and emotional well-being ($r=.594$, $p<.01$), but in regression analysis the social connections at camp variable was significant in the models predicting independence ($\beta=.747$, $p<0.01$), self-confidence ($\beta=.780$, $p<0.01$) and emotional well-being ($\beta=.436$, $p<0.05$). However, mediation analysis revealed only a significant mediation effect for the development of independence and well-being in avoidant attached individuals. These associations indicate that those who were willing to engage in camp activities were most likely to benefit from the camp experience. Exploration is an important component of the camp experience. As noted by Gillard et al, there is a tendency for campers to attend camp with the purpose of trying new things and that this motivation also fosters greater interest and engagement within in the camp experience as a whole (2009). Not only is exploration important to campers, from a working models of self and others perspective, exploration allows for reshaping and

refinement of associations to fit new experiences (Bowlby, 1969). Gillard et al illuminate the unique ability for exploration at camp to foster positive associations of competence (2009). Gillard et al note that activities exist which allow for skill development and involvement in the activities allows for a personal sense of causation of competence which is supported through reinforcement from the positive social environment (2009). The explanation that exists through self-determination theory through competence can also be explained by the development of self-efficacy. Although the reasoning is similar, development of self-efficacy primarily pertains to desires and beliefs about new experiences rather than meeting a need for competence. Positive desires and beliefs about new experiences would then lead to self-efficacy regarding exploration and, thus, promote independence (Bandura, 1982). From this standpoint, exploration is strongly linked to generating positive views of self whether it is through associating the self with competence in general or through competence regarding new experiences.

Furthermore, while social connections at camp were also theorized to develop positive views of self, exploration does not necessarily require the use of social supports. Since social support is not necessary in the development of positive views of self via exploration, this may offer an explanation as to why exploration was associated with the development of independence but social connections at camp was not.

In the development of via competence

Within the mediation model of avoidance predicting emotional well-being, all relationships within the model were significant, and there was significant mediation found for exploration, social connections at camp, and exploration and social connections at camp combined. It is proposed that exploration allowed for the development of self-confidence as described previously. It is proposed that this gain in self-confidence allowed for reduced needs

use emotional avoidance. Since avoidant individuals tend to be more emotionally detached and cope with by avoiding negative emotions (Pietomonaco & Feldman Barret, 1997; Mikulincer, 1995; Mikulincer, 1998a; Mikulincer, 1998b), the exploration at camp is proposed to reduce the need for avoidance of emotion by being more self-confident. This reduced dampening of emotionality may attribute to gains in emotional awareness experienced by avoidant individuals who establish social connections at camp.

Interaction between Anxiety and Avoidance

The interaction term of anxiety and avoidance was found to be significant for predicting the development of independence, self-confidence, and emotional well-being. It is not surprising that there was an interaction between anxiety and avoidance, since an interaction between anxiety and avoidance is proposed in the literature to be an attachment style of its own (fearful attachment) with known personal and social implications (Bartholomew & Horowitz, 1991). It is proposed that those with high anxiety and high avoidance have negative models of self as well as negative models of others. Specifically, they are known to be fearful of intimacy and be socially avoidant (Bartholomew & Horowitz, 1991). This means that these individuals are less likely to engage in both the social aspects of camp and the camp activities due to a fear of conflict when interacting with others, and a low sense of worth likely contributing to low confidence. While these individuals have the most potential to experience gains in independence, self-confidence, and emotional well-being due to low baseline levels of the aforementioned characteristics, they are also least likely to experience gains due to strong perceptions of adverse effects of social connections and exploration as well as maladaptive schemas that do not enable engagement in the camp experience as well as potentially misconstruing an experience as a negative due to previously developed schemas. These individuals are the most at risk at the onset and are the

most difficult to reach with camp programming. This finding provides additional evidence of programming tailored to reduce inequities stemming from individual differences.

Conclusion

Within the CSCRP study series, this study provides valuable insights. Keeping in mind that there are general tendencies for individuals to develop social connections at camp and explore as well as develop a sense of independence and self-confidence, the findings generated from this study provide valuable insights into who is unlikely to develop social connections at camp and to explore within the camp context as well as providing insights into how these differences effect outcomes of the summer camp experience. While it was found that avoidance was a significant predictor of developmental outcomes of self-confidence and independence both directly and indirectly, further research is required to assess the role of anxiety in those that attend summer camp and those with unfavourable developmental trajectories that could benefit from attending summer camp. The findings also suggest that the development of meaningful social connections as well as the ability to try and learn new things should be a focus of summer camp programming and supportive policy and protocol. The findings also suggest that while social connections at camp and exploration should be a focus of programming/protocol considerations, not all may benefit from these camp components in the same way so an enabling approach rather than a forced approach should be considered as to not inadvertently create other inequities. Although the study suggests that household income and anxiety had no meaningful influence on developmental outcomes, further research is required to determine the effect of summer camp and special considerations for vulnerable populations to overcome potential biases of the sample within this study.

Recommendations

It is recommended that the role of anxiety be further explored in a more representative sample of individuals to allow for more distribution of SES and anxiety. Within a more representative sample, it is also recommended that the moderating interaction effect of anxiety and avoidance undergo further testing through a moderated mediation model.

It is also recommended that the results of this study be used for consideration in camp programming/protocol. Because avoidant, and anxious avoidant individuals tend to have less positive outcomes than more secure individuals it is recommended that special consideration be given to these individual characteristics. While it was not found that both anxious and avoidant individuals can benefit from generated social connections at camp or exploration (only avoidant were shown to benefit from exploration and social connections), it is recommended that protocols addressing these camp components be initiated. However, the purpose of the protocol should be to enhance the experience for all without adversely affecting any one group to ensure that inequities are not generated and known inequities can be reduced. For this reason protocol and programming considerations should aim to enable social connections at camp and exploration but not force individuals to establish social connections and/or explore. It is proposed that exploration and social connections at camp should be undertaken in a way that is perceived as safe to the individual. While establishing connections and/or exploring was not significant for promoting development in anxious individuals it would likely be the case that forcing anxious individuals into a situation that they are not comfortable with could have adverse effects. Additionally, forcing an avoidant individual into a situation that they are not comfortable with may activate avoidant coping mechanisms and not allow them to fully engage in the experience and/or recall the experience in a meaningful way. Methods in which social connections at camp

can be enabled but not forced could be reducing activity and cabin group sizes to reduce the potential of individuals who are not likely to engage in social interaction to be allowed to isolate themselves from the group. During social activities or free time between programs, these campers should be encouraged to maintain proximity with other campers and/or a liked staff member to enable the individual to feel socially engaged without forcing interaction beyond the individual's comfort level and/or creating a social divide that would potential social interaction as the camp days progress. While smaller cabin/activity group sizes may improve the potential for social interaction, there may also be potential for interpersonal conflict to be more invasive. In this case, continuity of staffing would be important to ensure that conflict is resolved and/or kept below a threshold that would invoke distress. Again, this would also be important for both identifying individuals that are not comfortable in social situations and gaining report with campers to allow for ongoing social interaction that is perceived as safe.

Similarly to social connections at camp, exploration should also be enabled but not forced. One method for enabling exploration is to allow activity groups to select which activities that they would like to participate in. If scheduling issues arise, camp staff could create a mix of programs and get the activity group to agree to participate in a lesser enjoyed activity if they are able to participate in activity that they really enjoy. Within the given activities, participation should also be promoted and tailored to the individual's comfort level. For example, while not all individuals will feel safe climbing to the top of a climbing structure, they may feel comfortable taking one step off the ground and/or putting on a harness to be ready to climb. For these individuals, small step-wise goals should be created one at a time to promote feelings of accomplishment and potentially meaningful progression throughout the duration of camp. This approach not only allows the individuals some control in the activities that they participate in,

but also would promote trying new things without the feeling of being forced into participating in an activity without any perceived personal benefit and with high perception of risk. While this is not intended to be an exhaustive list of recommended programming/protocol considerations, this gives an example of how to be inclusive and promote engagement in the social environment and camp activities to reduce potential outcome inequities.

Limitations

Dataset

The original intent of the dataset was to support summer camp programming and was not intended for developmental research. The dataset was also part of a larger multiphase study; the Phase III dataset was intended to be an extension of the Phase II study to assess whether or not outcomes translate into everyday lives of campers post-camp. The Phase III study was therefore based on the assumption that the Phase II data was accurate and that the outcomes are positively associated with the summer camp experience. The assumption is noted in the framing of the outcome questions that measure the strength of association with positive development but did not allow for a negative outcome in any of the domains. The study contained only a single measure as opposed to pre- and post-testing which allows comparison to a baseline measure. Additionally, no control group was used for the study which leads to a potential threat to validity through confounding by maturation.

The dataset also only allows for one perspective of psychosocial development to be analyzed. Only attachment history was present in the dataset. Attachment theory, while predicting that schemas of self and others developed from early interactions with one's mother or alternative, theorizes that working model of self and other's can change based on various experiences (Bowlby, 1969; Sroufe et al, 2005). With the data available it is unclear what specific changes within the working models occurred during the camp experience. Alternative explanations using other various theories could exist but the data does not allow a direct analysis of these potential effects. For example, self determination theory and social cognitive theory offer mechanisms for change within a social environment which could be alluded to but not directly tested using this dataset (Ryan & Deci, 2000; Bandura, 1977).

Measures

The measure of attachment is also subject for debate. The original Relationships Questionnaire assesses which attachment style the subject most assimilates with, and then subsequently determines the degree to which the participant agrees to each individual attachment style. However, the CSCRP Phase III survey only includes an agreement scale and does not include a forced choice top rank, which is suggested by Bartholomew to reduce the ordering effect when participants assess agreement to each type (2005).

The attachment style classification in the Phase III CSCRP study used parental perceptions of dependency and avoidance (Glover et al, 2013). Using parental perceptions may lead to a response bias. The response bias may be due to the fact that a parent may not want to admit to their child's lack of social ability or discomfort in social situations. There may also be a recall bias in the parent's perceptions of their child's behaviours. However, the timing of the survey may be beneficial. Assessing attachment style after camp allows the most salient recollection of behavioural trends whether that is historical trends in behaviour or current behaviours. According to Kerns et al, although assessing attachment style prior to camp is a better measure of attachment history, assessing attachment style during or post camp may be the most accurate to assess association between attachment style and the camp experience because it is a more accurate estimation of attachment style as a developmental trajectory (2008). See Table 1 to determine which questions are associated with each attachment construct.

The outcome measures were also assessed using parental perceptions. The American Camps Association (ACA) conducted a major research project including both parent and camper perceptions of outcomes and the study found that the parent and child responses were significantly correlated with parents indicating a more positive change than the campers

(Henderson et al, 2007). This indicates that parents are good predictors of camper outcomes, however it also indicates that there may be a response bias from parents. Henderson et al also point out that this differing effect could be due to a response bias with dissonance between choosing the camp as a positive place to send their child and their actual perceived outcomes of the camp being a motivator to respond positively about the camp experience (2007). Although there is evidence that parental perceptions are related to camper perceptions, care will be taken when analysing the phase III data to ensure findings are interpreted within the scope of the data.

The use of the 6-point-Likert-scale to assess outcomes may also lead to potential bias. The Likert-scale used contained no neutral and/or unknown category which may lead to bias because of the forced choice nature of the close-ended question. Questions were also framed in a way that asked if there was an increase in a given ability/component (Appendix A). This may also contribute to a response bias in that the question is leading towards a given response by not allowing a response specific to negative change. In addition, since the questions were assessing recollections of previous behaviour and comparing to perceived current behaviour, the responses are also susceptible to recall bias. In addition to the close-ended questions there was also a section allowing for an open ended response for the parent to provide additional information for their given observation/assessment within a given outcome category. This may help reduce recall bias because participants are encouraged to reflect more deeply about the specific behavioural changes. Outcomes of the summer camp experience may also be subject to confounding by maturation. Since this study uses secondary data and there is no data on a suitable control group, this potential confounding will be a limitation of this study.

Additionally, since attachment style measures ask about trends in dependency/independence as an element of attachment style and independence was a dependent

variable being assessed, there is potential for a threat to internal validity. Similarly, having two questions that measure a related construct in two different ways may also lead to a response bias. Responding in different ways to two similar questions may create dissonance and lead to a response favouring the previous response. However, since one question seeks level of independence and the other seeks change in level of independence valuable insight can be gained from analysing these two variables. Additionally, it was also found that avoidance, which is conceptually linked to independence, was negative associated with independence within the data set. This indicates that it is unlikely that having independence as a component of the attachment measure confounded the results.

The emotional well-being scale had low continuity in the measures used throughout the CSCRP phases, and higher validity issues are anticipated with the components of this scale than the other scales within the study. Emotional well-being was not the original intent of the CSCRP Phase III Survey. The CSCRP aimed to determine emotional intelligence. Emotional intelligence (EI) was used in this study to determine whether or not an individual is able to develop emotion related abilities. The literature has two different theories of EI: a trait based EI, which is based one EI being an inherent ability; and an ability based EI, which is based on the notion that EI is a learned ability (Kafetsios, 2004). Since the CSCRP aimed to assess change in emotional intelligence, it is assumed that emotional intelligence is an ability not a trait and, thus, can be learned. EI is based on perception, facilitation, management, and understanding of emotion. According to Kafetsios, emotion perception is the ability to comprehend emotion in one's self and others based on specific sensory stimuli, emotional facilitation is the ability to use emotion to trigger cognitive ability that is beneficial to a given task, emotion understanding is the ability to differentiate between emotions and understand how certain emotions are linked to one another

as well as how emotions develop, and emotion management is the ability to regulate emotion in one's self and others (2004). To determine development of EI abilities, questions pertaining to awareness of emotions, willingness to sharing emotions, emotional control, and sensitivity to the emotions of others were utilized in the CSCRP Phase III survey. Although the Phase III study aims to determine if the established Phase II outcomes have any carryover into life outside of camp, the scale has changed dramatically between Phases having moved from a 10 item scale to a 4 item scale. The Phase II design also developed incorporating questions from a scale developed by Shutte, Malouff, Hall, Haggarty, Cooper and Golden (1998), but that particular scale was validity tested as a 33 item scale not a 10 item scale. In addition, the literature, as noted by Kafetsios, implies that emotional intelligence refers to purposive utilization of emotion in self and others as well as simply perceiving and understanding emotion (2004); this is evident in the two-factor model which specifies that perception and facilitation correspond to an experiential area of abilities and understanding and management of emotion correspond to a strategic area of abilities (Mayer, Salovey & Caruso, 2002). However, since the Phase III survey uses parental perceptions, it would be difficult to draw meaningful determination of purposive utilization as well as internal experiences (i.e. what is and is not being expressed). Although skills regarding emotion are of developmental significance, and relate to attachment quite strongly the validity of parents' response as well as the incomplete scale used limits the utility of the findings for use beyond exploratory analysis. However, the limitation of the emotional awareness scale also applies to the other developmental outcome scales with the same low rigour of response options and scale validation.

Another limitation is the potential confounding of camper's individual physical ability. Physical ability may also play a role in summer camp dynamics. An interesting finding from

Hanna was that self-perception of athletic and cognitive ability was not associated with peer group acceptance or friendship quality (1998). Hanna attributes this to the reduced salience of abilities compared to the school setting in three ways: one, individuals are graded on their abilities more frequently and more intensely in the school setting than at camp; two, camp activities are often simple; and three, competitive pressure at camp is perceived to be stronger for individuals with a high level of skill (1998). However, Fichman, Koestner, and Zuroff found that self-critics judged themselves very harshly on athletic ability which gives reason to believe that individuals may view athletics differently based on their working model of self and not just level of skill or salience of external judgement (1996). The study also found that self-criticism was more associated with negative self-ratings of self-esteem in general and that self-critics exaggerated their weakness in social and athletic functioning when compared to councillors' ratings (Fichman et al, 1996). Since the CSCRP phase III survey used parent reports, this self-criticism exaggeration effect should be reduced. Unless of course, the parent is highly critical which is what led to the child's self-criticism in the first place. Fichman et al also point out that whereas the school environment focuses on achievements in academics, the focus of achievement at summer camp is athletics and other activity based skills. Therefore, the influence of self-criticism on sports achievement should not be disregarded because sport domains are the most salient rating of achievement at summer camp, and thus can influence summer camp outcomes (Fichman et al., 1996). Although it is hypothesized that physical ability may play a role in outcomes of summer camp, a specific physical ability construct was not measured in the CSCRP phase III survey and thus is not within the scope of this study.

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Appendix A – CSCR Phase III Survey

Canadian Summer Camp Research Project

CANADIAN SUMMER CAMP RESEARCH PROJECT

Thank you for volunteering to complete our online survey regarding the impact of your child's participation at camp last summer.

With this survey, we are aiming to understand the impact of your child's summer camp experience on his or her behaviour since leaving camp. When reflecting on any change in your child's behaviour, please consider his or her current behaviour and compare it to what he or she was like prior to attending camp this past summer. In other words, have you witnessed a difference in your child's behaviour since he or she attended camp this past summer?

Please read each question carefully and select the answer that best represents the degree to which you agree with each statement. The survey will take approximately 15 minutes to complete.

Participation in the online survey is voluntary. You are welcome to skip any question you do not wish to answer and you are free to withdraw your participation at any time by simply closing your web browser or navigating away from this website. The data collected with this survey will initially be stored on a secure server and, once the study is completed, will be stored on a secure hard drive indefinitely which is accessible only to the research team.

Your login id is in no way linked to your email address, your identity, or that of your child in any way. It is simply our way of inviting you into the survey site and ensuring that someone randomly finding this site while surfing the internet cannot complete the survey erroneously.

The findings of this and the other phases of our study can be found at <http://healthycommunities.uwaterloo.ca/camp/> so please visit this address for the latest updates.

If you have any questions or comments regarding this study, you are welcome to contact the research team at any time through email alcarrut@uwaterloo.ca or by phone (519)-888-4567 ext. 33097. This project has been reviewed by, and received clearance through, the Office of Research Ethics at the University of Waterloo. If you have any questions or concerns resulting from your participation in this online survey, please contact this office at (519)-888-4567 ext. 36005.

Canadian Summer Camp Research Project

Information about you and your child:

Before getting into the survey we would like to ask you for some basic information regarding your child and his/her attendance at camp last summer.

1. My child is ___ years old.

2. In what province does your child live?

- | | |
|--|---|
| <input type="radio"/> a. PEI | <input type="radio"/> g. Manitoba |
| <input type="radio"/> b. Nova Scotia | <input type="radio"/> h. Saskatchewan |
| <input type="radio"/> c. New Brunswick | <input type="radio"/> i. Alberta |
| <input type="radio"/> d. Newfoundland | <input type="radio"/> j. British Columbia |
| <input type="radio"/> e. Quebec | <input type="radio"/> k. The Territories |
| <input type="radio"/> f. Ontario | |

3. In what province did your child attend camp last summer?

- | | |
|--|---|
| <input type="radio"/> a. PEI | <input type="radio"/> g. Manitoba |
| <input type="radio"/> b. Nova Scotia | <input type="radio"/> h. Saskatchewan |
| <input type="radio"/> c. New Brunswick | <input type="radio"/> i. Alberta |
| <input type="radio"/> d. Newfoundland | <input type="radio"/> j. British Columbia |
| <input type="radio"/> e. Quebec | <input type="radio"/> k. The Territories |
| <input type="radio"/> f. Ontario | |

Canadian Summer Camp Research Project

4. What sex is your child?

- a. Male
- b. Female

5. What is your approximate household yearly income?

- | | |
|---|---|
| <input type="radio"/> a. Under \$10,000 | <input type="radio"/> l. \$110,000 to \$119,999 |
| <input type="radio"/> b. \$10,000 to \$19,999 | <input type="radio"/> m. \$120,000 to \$129,999 |
| <input type="radio"/> c. \$20,000 to \$29,999 | <input type="radio"/> n. \$130,000 to \$139,999 |
| <input type="radio"/> d. \$30,000 to \$39,999 | <input type="radio"/> o. \$140,000 to \$149,999 |
| <input type="radio"/> e. \$40,000 to \$49,999 | <input type="radio"/> p. \$150,000 to \$159,999 |
| <input type="radio"/> f. \$50,000 to \$59,999 | <input type="radio"/> q. \$160,000 to \$169,999 |
| <input type="radio"/> g. \$60,000 to \$69,999 | <input type="radio"/> r. \$170,000 to \$179,999 |
| <input type="radio"/> h. \$70,000 to \$79,999 | <input type="radio"/> s. \$180,000 to \$189,999 |
| <input type="radio"/> i. \$80,000 to \$89,999 | <input type="radio"/> t. \$190,000 to \$199,999 |
| <input type="radio"/> j. \$90,000 to \$99,999 | <input type="radio"/> u. \$200,000 and over |
| <input type="radio"/> k. \$100,000 to \$109,999 | |

Canadian Summer Camp Research Project

6. Please describe your household family structure:

- a. Single parent
- b. Two parents
- c. Non-parental caregiver (i.e. other relative, foster-parent)
- d. Blended family (i.e. step parents)
- e. Other (please describe):

7. Had your child attended camp before this past summer?

- a. Yes
- b. No

8. If so, has your child always attended the same camp(s)?

- a. Yes
- b. No

9. My child attended _____ different camps last summer.

10. Which camp did your child attend the longest last summer?

Canadian Summer Camp Research Project

Please answer the next 5 questions (11 a-e) based on your response to the previous question.

11. a. What type of program was offered at this camp?

- Residential camp
- Day camp
- Religiously affiliated camp
- A camp designed primarily for children with special needs
- Specialty camp (i.e. science, language, music, sports)

b. Was this your child's first time attending this type of camp program?

- Yes
- No

If 'no', how many times has he/she attended similar programs?

c. Was this your child's first time attending this camp?

- Yes
- No

If 'no' how many times has he/she attended these camps?

d. How many sessions did your child attend at this camp this past summer?

e. How long was the session that your child attended at this camp? (In weeks.)

Canadian Summer Camp Research Project

12. Did your child participate in other recreational, cultural or educational programs last summer?

- a. No
 b. Yes

If "yes" please describe:

13. What is your child's first language?

- a. French
 b. English
 c. Other:

14. What is your child's cultural background?

15. Does your child have any special needs that may have impacted his/her participation at camp?

- a. No
 b. Yes

If "yes", please explain:

Canadian Summer Camp Research Project

For Questions 16 through 19, please read the paragraphs and rate the degree to which you agree that each paragraph describes your child.

16. It is relatively easy for my child to become emotionally close to others. My child is comfortable depending on others and having others depend on him/her. My child doesn't worry about being alone or having others not accept him/her.

- a. Very Strongly Disagree
- b. Strongly Disagree
- c. Disagree
- d. Agree
- e. Strongly Agree
- f. Very Strongly Agree

17. My child is comfortable without close emotional relationships. It is very important to my child to feel independent and self-sufficient, and my child prefers not to depend on others or have others depend on him/her.

- a. Very Strongly Disagree
- b. Strongly Disagree
- c. Disagree
- d. Agree
- e. Strongly Agree
- f. Very Strongly Agree

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18. My child wants to be completely emotionally intimate with others, but he/she often finds that other are reluctant to get as close as he/she would like. My child is uncomfortable being without close relationships, but he/she sometimes worries that others do not value him/her as much as he/she values them.

- a. Very Strongly Disagree
- b. Strongly Disagree
- c. Disagree
- d. Agree
- e. Strongly Agree
- f. Very Strongly Agree

19. My child is somewhat uncomfortable getting close to others. He/she wants emotionally close relationships, but finds it difficult to trust others completely, or to depend on them. My child sometimes worries that he/she will be hurt if he/she allows him/herself to become too close to others.

- a. Very Strongly Disagree
- b. Strongly Disagree
- c. Disagree
- d. Agree
- e. Strongly Agree
- f. Very Strongly Agree

Canadian Summer Camp Research Project

The Survey:

In each section of the survey we will ask you to rate the degree to which you agree or disagree with several statements as they relate to your child's behaviour after he/she attended camp last summer. After the statements, we will provide you with a space in which you can describe any other observations you may have about any changes you have witnessed in your child's behaviour since last summer relating to that topic area.

Section A: Social Connections at Camp

In this section of the survey we are asking you about the sustainability of the relationships your child forged at camp during the past summer, as well as other elements of the social connections he or she might have experienced.

Since returning from camp, please indicate the extent to which you agree with the following statements:

	Very Strongly Disagree	Strongly Disagree	Disagree	Agree	Strongly Agree	Very Strongly Agree
A. My child has stayed in touch with camp friends.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
B. My child has stayed in touch with staff members from camp.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
C. When my child talks about camp, it is clear he/she feels a sense of membership or belonging to the camp's broader community.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Can you offer us any other description of your child's behaviour that would further our understanding of their development in this area since leaving camp?

Canadian Summer Camp Research Project

Section B: Environmental Awareness

In this section, we are trying to explore your child's awareness of environmental issues and his/her impact on the environment since leaving camp this past summer.

Since returning from camp, please indicate the extent to which you agree with the following statements:

	Very Strongly Disagree	Strongly Disagree	Disagree	Agree	Strongly Agree	Very Strongly Agree
A. My child has demonstrated more environmentally friendly behaviours since leaving camp.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
B. My child has demonstrated more interest in outdoor activities and pursuits since leaving camp.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Can you offer us any other description of your child's behaviour that would further our understanding of their development in this area since leaving camp?

Canadian Summer Camp Research Project

Section C: Self Confidence and Personal Development

In this section we are exploring the degree of personal growth and self confidence your child has displayed since his or her attendance at camp.

Since returning from camp, please indicate the extent to which you agree with the following statements:

	Very Strongly Disagree	Strongly Disagree	Disagree	Agree	Strongly Agree	Very Strongly Agree
A. My child is able to do more things on his/her own since returning home from camp.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
B. My child expresses more interest in trying new things since returning home from camp.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
C. My child demonstrates increased self-confidence when facing challenges since returning home from camp.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
D. My child is better able to deal with challenges on his/her own since returning home from camp.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Can you offer us any other description of your child's behaviour that would further our understanding of their development in this area since leaving camp?

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Section D: Emotional Well-being

In this section, we are interested in the extent to which your child's understanding of his/her own emotions as well as those of others around him/her may have changed after participating in the camp program.

Since returning from camp, please indicate the extent to which you agree with the following statements:

	Very Strongly Disagree	Strongly Disagree	Disagree	Agree	Strongly Agree	Very Strongly Agree
A. My child displays more awareness of his/her emotions as he/she experiences them.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
B. My child is more likely to share his/her emotions with others.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
C. My child has better control over his/her emotions.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
D. My child is more sensitive to the feelings and emotions of others.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Can you offer us any other description of your child's behaviour that would further our understanding of their development in this area since leaving camp?

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Section E: Physical Activity

In this final section we are hoping to gain an understanding of any change you may have seen in your child's level of participation in physically active activities since attending camp this past summer.

Since returning from camp, please indicate the extent to which you agree with the following statements:

	Very Strongly Disagree	Strongly Disagree	Disagree	Agree	Strongly Agree	Very Strongly Agree
A. My child participates in more physically active activities at home since returning from camp.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
B. My child participates in more physically active pursuits at school since returning home from camp.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
C. My child participates in more physically active extra curricular activities since returning home from camp.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Can you offer us any other description of your child's behaviour that would further our understanding of their development in this area since leaving camp?

Canadian Summer Camp Research Project

CANADIAN SUMMER CAMP RESEARCH PROJECT

Thank you for volunteering to complete our online survey regarding the impact of your child's participation at camp last summer.

The findings of this and the other phases of our study can be found at <http://healthycommunities.uwaterloo.ca/camp/> so please visit this address for the latest updates.

If you have any questions or comments regarding this study, you are welcome to contact the research team at any time through email alcarrut@uwaterloo.ca or by phone (519)-888-4567 ext. 33097. This project has been reviewed by, and received clearance through, the Office of Research Ethics at the University of Waterloo. If you have any questions or concerns resulting from your participation in this online survey, please contact this office at (519)-888-4567 ext. 36005.