

Specialized Summer Camp for Children and Adolescents with Learning Disabilities:
A Naturalistic Context for Enhancing Social Competence, Friendship, and Self-Concept

by

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Abstract

Social competence and positive self-concept are essential to future adaptive outcomes and overall well-being; but children and adolescents with learning disabilities (LD) frequently struggle in these domains. This dissertation examined changes in the social competence and self-concept of campers with learning disabilities (LD), within a specialized summer camp, with particular focus on friendship development. The dissertation is presented in two manuscripts, which will be submitted for publication.

The objective of the first manuscript was to examine changes in campers' social skills, social acceptance, self-worth, and self-esteem, within the context of summer camp, as reported by parents and campers. Parental reports indicated small gains in social skills, social acceptance, and self-worth from the beginning to the end of camp; with gains in social acceptance and self-worth maintained four to five months later. Campers did not report changes in any domains. Parents and campers reported declines in camper self-esteem at follow-up. In general, campers with LD+ADHD exhibited smaller gains in social competence and self-concept, than those with LD. Results are discussed in relation to theoretical frameworks and existing camp and LD research.

The objective of the second manuscript was to investigate campers' friendship development, within the summer camp context. Many campers reported having high-quality, reciprocal friendships at the beginning of camp. Campers reported more reciprocal friendships

after camp, but these were not maintained at follow-up. Campers also reported having a best camp friend by the end of camp, and this relationship was maintained at follow-up. In terms of friendship quality, campers reported increased closeness by the end of camp and conflict ratings were low, overall. This study examined factors predicting changes in social competence. High-quality, reciprocal friendships predicted changes in campers' social acceptance, according to parents. Similarly, reciprocal friendships predicted changes in camper reported social acceptance. These results highlight the inter-connections between friendship and aspects of social competence. Camp attendance was found to be a relevant factor in friendship development and quality.

The concluding chapter discusses social competence, friendship, and self-concept outcomes for campers with LD within the context of a specialized summer camp. The implications of the findings for present theory and clinical practice are discussed, including specific recommendations for this camp's structure and program evaluation procedures.

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Preface

This dissertation investigates changes in social competence, friendship, and self-concept in children and adolescents with learning disabilities (LD) and associated psychosocial difficulties, in the context of a three-week, specialized summer camp. The camp, while not therapeutic in nature, aims to provide children and adolescents with LD with a traditional summer camp experience in a fun and supportive environment. Using a challenge-by-choice philosophy, campers can experience success across a variety of activities, as well as within personal and interpersonal domains. Camp staff believe that, through these successes, children and adolescents are able to develop their social competence and enhance their self-concept. In this study, I explored campers' development of social skills, social acceptance, self-worth, self-esteem, and friendship over the course of the camp and four to five months later, in order to determine if specialized summer camps could be used as an innovative, naturalistic setting for these campers to enhance their social competence and self-concept. Campers and their parents were asked to report on campers' social skills, feelings of social acceptance, self-worth, and self-esteem at three time points. Campers were also asked to report on the friendships they developed in the context of camp, including listing a best friend where applicable. They also rated the perceived closeness and conflict within each of these friendships.

This doctoral thesis uses a multiple-paper format and consists of an introduction, two chapters presented in manuscript format that report the findings of two related studies, a discussion, and a set of Appendices (pages 186-221). Tables and figures are located after the references, within pages 171-184. In Chapter One, I discuss the theoretical framework used in the present study, provide a review of the relevant literature and an introduction to the specific camp under investigation, and describe the main objectives and hypotheses for the study. I present the findings of study one in Chapter Two and the results from my second study in

Chapter Three. Please note that the data reported in these two chapters were collected from the same sample of participants over the course of one summer. As the manuscripts have been prepared to be submitted for publication as independent stand-alone reports, inevitably there will be some repetition of information amongst the chapters. The final chapter provides a summary of the main findings as stated in both manuscripts, an integration of the findings across Chapters Two and Three, and informal observations of social competence and self-concept at camp. Findings are discussed in relation to the theoretical underpinnings and existing literature.

In preparation for this dissertation research, I conducted a pilot study to examine the feasibility of using the measures, as well as to ascertain preliminary results regarding social competence and self-concept change while attending a specialized summer camp program. The pilot study is presented in Appendix A (p. 186). There was some overlap between participants in the pilot study and the main study (31.7% participated in both studies). Due to changes in the questionnaires used from the pilot study to the main study, the data could not be aggregated over the two summers. Instead, camp attendance (i.e., either attending for the first time or returning to camp) was examined to investigate any impact on changes made at camp. Also, as part of the dissertation research, this researcher explored the use of direct observations of campers' social interactions (positive engagement, negative engagement, and non-engagement with peers) within the camp environment. These data are reported in Appendix B (p. 200). These findings did not contribute to the main findings in a meaningful way, but are discussed in relation to social skill changes. A discussion of relevant statistical issues can also be found in Appendix C (p. 205).

This dissertation involves many constructs and terms that are fairly specific to the fields of social competence and self-concept. Thus, I have provided a definition for each term in a glossary (Glossary of Terms, p. xiv), as well as a schematic showing the relationships between

the various constructs (see Figure 1.1., p. 182), and a list of abbreviations (see Glossary of Abbreviations, p. xvi).

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Glossary of Terms

Below is a list of terms examined in this dissertation, followed by a general definition of each, as well as measures used to examine each construct. Information was gained from either parent or camper reports (or both), and so measures reflect the reporters' perception of camper outcome. Terms are organized by overarching constructs. See Figure 1.1 for organizational schematic (p.182).

Social Competence – an umbrella term to encompass the skills required for individuals to function socially. This can include, but is not limited to, social skills and social acceptance. In the present dissertation, social competence is measured using subscales of the *Campers' Growth Index (CGI)* and the *Self-Perception Profile for Children (SPPC)*.

Social Skills – social skills were defined in this dissertation as the ability to initiate and maintain friendships with peers, including having leadership skills, initiating conversations with new peers, and having friendships. Social skills were indexed by the *peer relations, making friends, and leadership* subscales on the *CGI*.

Social Acceptance – social acceptance was defined as feeling comfortable with and accepted by other peers during social interactions. Social acceptance was examined using the *social comfort* subscale on the *CGI* and the *social acceptance* subscale on the *SPPC*. Social acceptance can be based on self-reports (e.g., Harter, 1985) or peer nominations (e.g., Smith & Nagle, 1995). In this dissertation, social acceptance was measured using parent and child reports, but peer nominations of social acceptance are also discussed throughout the literature review. When peer nominations are discussed, they are identified as such.

Self-Concept – an umbrella term to encompass how one perceives one's skills and abilities, as compared to one's peers. Self-concept can include, but is not limited to, self-worth and self-

esteem. In the present dissertation, self-concept is measured using subscales of the *Campers' Growth Index (CGI)* and the *Self-Perception Profile for Children (SPPC)*.

Self-Worth – self-worth was defined as feeling generally happy with oneself as an individual. This construct was measured using the *global self-worth* subscale on the *SPPC*.

Self-Esteem – self-esteem was defined as feeling confident and important, as well as having the confidence to engage in activities independent of parents. Self-esteem was examined using the *positive identity* and *independence* subscales on the *CGI*. Self-esteem, in this study, has a similar definition to that of self-confidence that is often provided in the literature.

Friendship – friendship was defined as having at least one reciprocal relationship with another peer at camp. Friendship was measured by having campers list their friends at camp and corroborating these relationships either with the listed friend's questionnaire, when available, or with the help of camp staff and parents.

Best Friend – having a best friend was defined by whether or not a camper indicated having a best friend at camp on the friendship questionnaire.

Friendship Quality – friendship quality was defined as the relationship between closeness and conflict; friendships were thought to be high-quality when closeness was high (i.e., between 75 and 100 on the visual analog scale) and conflict was low (i.e., between 75 and 100 on the visual analog scale).

Friendship Closeness – closeness in friendships was defined as the intimacy (i.e., closeness) shared between a camper and his/her peer at camp. Closeness was measured using a 100 mm visual analog scale, where 0 represented 'not close at all' and 100 represented 'very close'.

Friendship Conflict – conflict in friendships was defined in terms of the frequency with which a camper fought or argued with his/her friend at camp. Conflict was measured using a 100 mm visual analog scale, where 0 represented ‘fighting/arguing all the time’ and 100 represented ‘never fight/argue’.

Glossary of Abbreviations

ABC – Adventure Based Counseling

ACA – American Camping Association

APA – American Psychiatric Association

ANOVA – Analysis of Variance

ADHD – Attention Deficit Hyperactivity Disorder

ASD – Autism Spectrum Disorder

BOSS – Behavioural Observation System for Schools

BBP – Benefits Based Programming

CGI – Campers’ Growth Index

CBCL – Child Behaviour Checklist

DSM-IV-TR – Diagnostic and Statistical Manual, fourth edition, text revised

ICD-10 – International Classification of Diseases, tenth edition

LD – Learning Disabilities: LD will be used when co-morbidity with ADHD was unknown or not relevant to the discussion. When comparing diagnostic groups, LD denotes that there is no co-morbid ADHD diagnosis and LD+ADHD denotes that there is a co-morbid diagnosis; even though both groups tend to meet diagnostic criteria for other disorders as well.

LD+ADHD – Learning Disability with co-morbid ADHD

LDAC – Learning Disabilities Association of Canada

MLM – Multi-Level Modeling

MTA – Multimodal Treatment of Children with ADHD study

PIB – Positive illusory bias

RTI – Response to intervention

SPPC – Self-Perception Profile for Children

SSRS – Social Skills Rating System

SDQ – Strengths and Difficulties Questionnaire

CHAPTER ONE

Rationale and Overview of Dissertation Research

1.1 Introduction

The overarching goal of this dissertation was to investigate changes in social competence and self-concept in children and adolescents with Learning Disabilities (LD) and associated psychosocial difficulties, within the context of a specialized, residential summer camp. Children and adolescents with LD display difficulties in the social competence (e.g., Beitchman & Young, 1997; Wiener & Schneider, 2002) and self-concept (e.g., Humphrey & Mullins, 2002; Nowicki, 2003) domains, and interventions aimed to bolster these skills have demonstrated limited success (e.g., Forness & Kavale, 1996). Friendship and social competence play a particularly important role in promoting positive developmental outcomes, including positive self-concept (e.g., Kaukiainen et al., 2002; Sullivan, 1953). Most studies pertaining to children with LD have been conducted in academic settings, where these children often have the most difficulty. Given the challenges children with LD have in social competence and self-concept, it is important to identify contexts that promote development in these domains so that the methods used in these contexts can be transferred to environments where children with LD struggle the most, like school.

Both social competence and self-concept are used in this study as umbrella terms; each of which encompass groups of sub-skills (See Figure 1.1, p.182). Social competence was investigated through an examination of social skills (i.e., the abilities needed to initiate and maintain friendships with peers; Semrud-Clikeman, 2007); social acceptance (i.e., feeling comfortable with and accepted by other peers during social interactions, based on parent and self-reports; e.g., Hubbard & Coie, 1994); and friendship (i.e., having friends and the quality of those friendships; e.g., Bukowski, Newcomb, & Hartup, 1996). Self-concept was examined by measuring self-worth (i.e., generally feeling happy with oneself as an individual; e.g., Harter,

1996) and self-esteem (i.e., feeling confident in oneself; e.g., Conley, Gharami, VonOhlen, & Foulkes, 2007).

A major challenge for children and adolescents with LD is developing age appropriate social competence (e.g., Beitchman & Young, 1997) and positive self-concept (e.g., Humphrey & Mullins, 2002). Even when interventions are provided, they have had limited success (e.g., Elbaum & Vaughn, 2001; Forness & Kavale, 1996). This is likely due to the gap between instruction and real-world experiences. When interventions are carried out in naturalistic settings, children are able to practice learned skills in real-world circumstances and receive immediate social feedback from peers (e.g., Wiener & Harris, 1997). The present study aimed to explore social competence and self-concept development within the context of a specialized summer camp. Specialized summer camps may offer a supportive setting where campers with LD can experience success with peers who have similar learning challenges (Kronick, 1973). The research regarding social competence and self-concept development at camp within other populations of campers is promising, yet limited (e.g., Allen, Cox, & Cooper, 2006; Hunter, Rosnov, Koontz, & Roberts, 2006; Thurber, Scanlin, Scheuler, & Henderson, 2007). It is important to determine if social competence and self-concept can develop within alternative contexts (e.g., summer camp), so that methods used at camp can be transferred to other contexts (e.g., the classroom).

Due to the high rates of co-morbidity between LD and Attention Deficit Hyperactivity Disorder (ADHD; Pastor & Reuben, 2008), the impact of the presence of ADHD on social competence and self-concept change was examined. Given the challenges in social competence and self-concept for children and adolescents with LD and LD+ADHD (e.g., Al-Yagon, 2009; McNamara, Willoughby, Chalmers, & YLC-CURA, 2005), the associated negative developmental outcomes (e.g., Ladd, 1999; Marsh & Craven, 2006), and the demonstrated

effectiveness of camp with other populations for improving social competence and self-concept (e.g., Hantson et al., 2011; Hunter et al., 2006; Thurber et al., 2007), exploration of the benefits of camp for youth with LD and LD+ADHD is warranted. The remainder of this chapter outlines the theoretical frameworks under which social competence and self-concept are examined; followed by a discussion of LD and ADHD diagnoses and the associated challenges these diagnoses might cause in social competence and self-concept domains; along with an examination of present interventions used to enhance social competence and self-concept. Camp literature is then reviewed in detail and an overview of the present study, including the specific camp being investigated, is discussed.

1.2 Social Competence and Self-Concept: Definitions and Theoretical Frameworks

1.2.1 *Social Competence: Definition*

Humans live within a social context, and social learning stems from their social interactions (Hartup, 1979). It is through interactions with others that children begin to understand their social world and develop social skills that will help them to interact appropriately with other individuals in their environment (i.e., social competence; Hartup, 1979). Social competence is an overarching domain that encompasses the skills required to function socially and be successful during social interactions (Semrud-Clikeman, 2007; Waters & Sroufe, 1983). Social competence is comprised of a social cognitive component including social perspective taking, social communication, and social problem solving skills; a social skills component (i.e., the behaviours involved in social interaction; Semrud-Clikeman, 2007); and a social relationship component, including being accepted or rejected by others (e.g., Hubbard & Coie, 1994) and initiating and maintaining friendships (e.g., Bukowski et al., 1996). The definition of social competence is abstract and difficult to operationalize in empirical studies. For the purposes of the current study, social competence was used as an overarching construct

with three sub-domains examined in detail: social skills (i.e., skills, such as sharing, listening, and cooperating, required to initiate and maintain interactions with others; e.g., Newcomb & Bagwell, 1996); social acceptance (i.e., feeling comfortable with and accepted by peers; e.g., Semrud-Clikeman, 2007); and friendship (having reciprocal relationships with peers and friendship quality; e.g., Bukowski et al., 1996; See Figure 1.1, pg. 182). The social cognitive aspect of social competence was not examined in this study.

1.2.2 Social Competence: Theoretical Frameworks

Social competence impacts all areas of development (e.g., Elksnin & Elksnin, 2004). Low levels of social competence are associated with academic failure, behaviour problems, and mental health difficulties across the lifespan and substance abuse in adolescence (e.g., Denham et al., 2009; Ladd, 1999). High levels of social competence help to build the skills and self-confidence required to initiate and maintain relationships with others in the future (e.g., Hartup, 1979). For children and adolescents who are less socially competent than their peers, such as many individuals with LD (e.g., Beitchman & Young, 1997), finding ways to enhance social competence is important.

Sullivan (1953) developed the Theory of Interpersonal Relations, proposing that personality is shaped through interactions and relationships with others. He posited that social competence first begins to develop in infancy in relation to attachment bonds with parents. Sullivan (1953) postulated that people's needs are met through dyadic interactions, beginning with the mother-child relationship, and culminating in the selection of a romantic partner. The mother-child relationship helps children to develop early feelings of security and empathy. Social skills learned during these early interactions with family members help children to begin interacting with their peers and develop close, reciprocal friendships, which offer a different context for new social skills to be learned and practiced (e.g., turn-taking and maintaining

confidences; Hartup, 1979; Sullivan, 1953). By middle childhood, children's social competence has been partially fostered by early interactions with family members and partially fostered by interactions with peers. Therefore, following the initial development of early social skills, the relationship between friendship and other aspects of social competence can be viewed as cyclical and reciprocal (e.g., Sullivan, 1953). That is, friendships positively impact the development of social skills and social acceptance; and enhanced social skills and social acceptance positively impact the development and maintenance of friendships.

While early experiences and subsequent social interactions play a significant role in the development of social competence, other factors also contribute (e.g., Beauchamp & Anderson, 2010). The socio-cognitive integration of abilities model (SOCIAL) posits that social competence develops through a complex interplay of many mediating factors. Child characteristics (e.g., temperament and personality), the environment, and brain development play integral roles in the development of social competence (Beauchamp & Anderson, 2010). Cognitive functions, such as attention, executive functioning, and communication skills, also mediate the development of social competence (Beauchamp & Anderson, 2010). These factors may be of particular relevance to the present study, given that children and adolescents with LD often demonstrate deficits in executive functioning and social communication (e.g., LDAC, 2006; Lyon, 1996); and those with LD+ADHD, in addition to executive functioning and communication deficits, tend to have significant difficulties with attention (e.g., Barker, 2006).

1.2.3 The Importance of Friendship

It is necessary to briefly discuss the importance of friendship due to its pivotal role in the development of other aspects of social competence. While social skills and social acceptance play an important role in overall development (e.g., Gottman, Gonso, & Rasmussen, 1975; Hartup, 1992), these aspects of social competence have not fully explained the variance in

developmental outcomes (Bukowski et al., 1996). Instead, there is a complicated interchange between social competence and relationship outcomes, which has led to a greater research focus on friendship (Bukowski et al., 1996). Friendships are characterized by reciprocal feelings, the desire to spend time with one another, and positive social engagement (e.g., having fun; Bukowski et al., 1996). The importance of having a best friend that involves mutual support and minimal conflict is emphasized in the Theory of Interpersonal Relations (Sullivan, 1953). High-quality friendships are related to supportive, positive relationships in other domains of life (e.g., Dunn, Davies, O'Conner, & Sturgess, 2001), and therefore are as important as the number of reciprocal friendships one maintains. Both positive (e.g., closeness) and negative (e.g., conflict) aspects of interactions should be investigated (Bukowski et al., 1996). High-quality friendships exist when positive features outweigh negative features within the interaction (i.e., more closeness than conflict; Berndt, 1996).

Friendships serve a protective function to prevent future negative outcomes (e.g., Laursen, Bukowski, Aunola, & Nurmi, 2007). Children who report having one close, reciprocal friend demonstrate more adaptive social skills and positive self-concept than children who report being friendless (Bukowski et al., 1996; Wiener & Sunohara, 1998). Long-lasting friendships are associated with positive self-concept in children (e.g., Laursen et al., 2007; Parker & Seal, 1996), and a high-quality best friendship can even be more influential in decision making than social peer groups during adolescence (e.g., Urberg, 1992). Furthermore, there is a mutually influential relationship between high-quality friendships and social skills, where development in one area positively impacts on the other area, and vice versa (e.g., Bukowski, Laursen, & Hoza, 2010; Rubin, Fredstrom, & Bowker, 2008; Keefe & Berndt, 1996).

As children move into pre-adolescence, the Theory of Interpersonal Relations emphasizes the central role of friendships with peers (Sullivan, 1953). Children become increasingly

independent from their parents and seek close relationships with peers like themselves. In school, peer status is quickly established through interactions with others and peers' perceptions of one's behaviour (Denham et al., 2009; Hartup, 1965), which may negatively or positively impact on the development of friendships. For instance, boys who engaged aggressively with others were rejected by their peers, and while able to initiate friendships, were unable to maintain them (Dodge, 1983; Parker & Seal, 1996). Popular boys, on the other hand, were prosocial and non-aggressive and able to initiate and maintain friendships over time (Dodge, 1983; Parker & Seal, 1996). Adolescents begin to develop intimate relationships with others (Denham et al., 2009), as they seek emotional support from a partner (Sullivan, 1953). Social competence, including social skills and feeling accepted by peers, are necessary for these developmental processes to occur, including the development of high-quality friendships (Adams, 2003; Sullivan, 1953). For instance, having social skills, such as the ability to read non-verbal cues, use language, and take turns, helps children to appropriately approach and interact with peers in order to establish meaningful relationships. Similarly, perceiving that they are accepted by peers may provide children and adolescents with the confidence necessary to be assertive in new social situations.

It is considered the normative developmental trajectory for children and adolescents to develop reciprocal friendships, but not all of them are able to develop or maintain these types of relationships (Zimmerman, 2004). In a review of the literature, Rubin and colleagues (2008) indicated that between 60 and 80% of children and adolescents have at least one reciprocal friendship. Gender plays a significant role in friendship choice and friendship quality (e.g., Maccoby, 1990). Girls' friendships tend to be more intimate and focus on emotional support, whereas the purpose of boys' friendships is more egocentric and focuses on social status and companionship (e.g., Buhrmester, 1996; Maccoby, 1990). Friendship quality generally increases as children mature, with the focus during middle childhood on cooperative and prosocial

interactions, moving away from companionship towards sharing intimacies in late adolescence (e.g., Aboud & Mendelson, 1996). Adolescents frequently indicate the quality of their friendships to be high, regardless of whether or not a friendship is reciprocated (Bowker, 2004). Quality, for the most part, increases as the stability of the friendship increases (Aboud & Mendelson, 1996).

However, not all reciprocal friendships are stable over time (Bowker, 2004; Rubin et al., 2008). Children who display stable friendships are considered to be prosocial and popular by their peers (Bowker, Rubin, Burgess, Booth-LaForce, & Rose-Krasnor, 2006). Children with less stable friendships display more aggression and are more likely to be victimized than their prosocial, popular peers (Bowker et al., 2006). Friendship stability is associated with high friendship quality (e.g., Bukowski, Hoza, & Boivin, 1994) and well-being (e.g., Bowker, 2004). Like quality, the stability of friendships improves as children mature into adolescence (e.g., Berndt & Hoyle, 1985). For example, about 70% of friendships in the adolescent years are maintained over the course of a school year (e.g., Berndt & Hoyle, 1985). The stability of friendships may also be influenced by characteristics of friendships, that is, whom children choose to be their friend (Rubin et al., 2008).

Friendship choice is often based on dispositional and structural theories (Adams & Blieszner, 1994). Many factors must be considered when examining friendship choice. Child characteristics, social acceptance, environment, and proximity, to name a few, can all influence the friendships that children make over time. Dispositional theorists have argued that compatibility of children's characteristics, such as attitudes, behaviour, and interests, are the most important factors to consider when examining friendship choice (e.g., Adams & Blieszner, 1994). Children with similar interests, diagnoses, and/or behaviours are, therefore, more likely to befriend one another (e.g., Adams & Blieszner, 1994). This might explain why children with LD

often befriend one another (e.g., Wiener & Schneider, 2002). On the other hand, structural theorists maintain that friendships are determined by the social position (e.g., feelings of social acceptance, physical proximity) of each individual in a dyad (e.g., Adams & Blieszner, 1994), suggesting that, for instance, children who feel rejected by their peer group will be less likely to make friends. However, as neither dispositional nor structural theories alone fully explain friendship choice, it is more likely that a combination of child characteristics and social position impact the conditions under which friendships are formed (e.g., Adams & Blieszner, 1994; Ellis & Zarbatany, 2007). Specifically relevant to the present study are the possible impacts of diagnoses (i.e., child characteristics) and environment (i.e., social position) on the formation of friendship (e.g., Buysse, Davis Goldman, & Skinner, 2002; Hallihan, 1978). For instance, in settings where children are provided with support for their individual needs, children with disabilities display more friendships than when they are in less supportive settings (e.g., Buysse et al., 2002).

In the present study, social skills, social acceptance, and friendship domains were examined. The interconnections between these three domains have been discussed in the literature, with the relationships among social skills and friendship, and social skills and social acceptance having been fairly well-delineated (e.g., Ladd, 1999; Parker & Seal, 1996). For instance, social skills are helpful in the development of friendships (e.g., Ladd, 1999) and associated with social acceptance (e.g., Gottman et al., 1975). Researchers have demonstrated that children may still have friends even when they do not feel accepted and that those who feel accepted may not necessarily have friends (e.g., Parker & Asher, 1993; Vandell & Hembree, 1994). A question that has been less clearly answered in previous research is the role of friendship in predicting changes in self-reports of social acceptance over time. The Theory of Interpersonal Relations (Sullivan, 1953) suggests that friendships would play a powerful role.

1.2.4 Self-Concept: Definition

Positive self-concept is an important factor in the development of physical and mental health and adaptive behaviour in adolescence and adulthood (Marsh & Craven, 2006; Trzesniewski et al., 2006). Individuals with a low or negative self-concept are thought to view the world through a lens that magnifies their difficulties and minimizes their strengths (Whelan et al., 2007). Children and adolescents with LD often have low self-concept, particularly within academic settings (e.g., Humphrey & Mullins, 2002), but, as with social competence, interventions have produced limited changes in self-concept (e.g., Elbaum & Vaughn, 2001). Therefore, it is important to investigate under what contexts children and adolescents with LD can successfully enhance their self-concept, so that the characteristics of these contexts can be mirrored in more difficult environments (e.g., school).

James, who investigated self-concept in the late nineteenth century, delineated three major sub-components: the material self (i.e., physical appearance and possessions); the social self (i.e., personal characteristics as recognized by others); and the spiritual self (i.e., thoughts, attitudes, and moral compass; Harter, 1996). James later introduced the concept of global self-worth (Harter, 1996). High global self-worth results when successes, either perceived or actual, outweigh aspirations for success (Harter, 1996). Building on James' work, Shavelson, Hubner, and Stanton (1976) described the sub-components of self-concept as: scholastic competence, social acceptance, athletic competence, physical appearance, behavioural conduct, and global self-worth (See Figure 1.2, p. 183).

Self-concept has interchangeably been referred to as self-esteem, self-perception, and self-understanding (Harter, 1996; Marsh & Martin, 2011), but operational definitions of these terms differ across studies. In accordance with Cooley's (1902) theory, recent researchers tend to view self-concept as a multidimensional construct, consisting of global self-worth and several

domains, such as physical appearance, academic competence, and social acceptance (e.g., Marsh & Martin, 2011; Marsh & Craven, 2006; Shavelson, Hubner, & Stanton, 1976). For the purposes of this dissertation, self-concept is used as an umbrella term, under which self-worth and self-esteem are encompassed. Self-worth, in this study, refers to general feelings of happiness about oneself as an individual (e.g., Harter, 1996). Although not the typical use of the term, but the way some researchers define it (e.g., Conley et al., 2007; Whelan, Haywood, & Galloway, 2007), self-esteem is defined in the present study as the degree of confidence individuals have in themselves.

1.2.5 Self-Concept: Theoretical Framework

Like James, early symbolic-interaction theorists described self-concept as socially constructed through interactions with others (Harter, 1996). The Theory of Social Comparisons postulated that self-concept is influenced by the perceptions of others (Festinger, 1954). Individuals internalize their self-perceptions based on how significant others in their lives (e.g., parents, peers) react and interact with them, to develop either a positive or negative self-concept (Festinger, 1954). Individuals are driven to improve their ability based on personal comparisons with the abilities of those around them. This suggests that self-concept will become relatively stable over time (e.g., Shavelson et al., 1976); however, when individuals are unable to match their actual abilities with the level of their peers, self-concept can be negatively impacted (e.g., Festinger, 1954). Both James' theories of the self and the Theory of Social Comparisons highlight the importance of the social world in the construction of self-concept.

Both James' and Festinger's theories suggest that self-concept is dynamic, multidimensional, and in part, heavily influenced by the immediate social context (e.g., Harter, 1996; Festinger, 1954; Marsh & Craven, 2006). The chameleon effect has been identified when social comparisons change as a result of differing social environments (Marsh & Yeung, 1999).

The chameleon effect refers to an individual's tendency to unconsciously copy the expressions, movements, and behaviours of the individuals within the immediate social context (Chartrand & Bargh, 1999; Lakin, Jefferis, Cheng, & Chartrand, 2003). When the chameleon effect occurs during social interactions, these interactions tend to be more natural and the likelihood of a friendship developing is increased (e.g., Chartrand & Bargh, 1999). This effect becomes critical when thinking about self-concept and social comparisons. By mimicking peers successfully, self-concept can be enhanced (Festinger, 1954), but there are limits to the extent one can match the abilities of others. If something prevents one from successfully mimicking peers, self-concept can be negatively impacted (e.g., Festinger, 1954). For example, the characteristics associated with LD diagnoses may prevent children from performing at a level commensurate with their classmates. The chameleon effect can explain why an individual might feel more or less confident in a specific setting (e.g., Chartrand & Bargh, 1999; Marsh & Yeung, 1999), suggesting that feeling more like peers and more supported in a particular environment will positively impact self-concept while within that context (e.g., Marsh & Yeung, 1999). For instance, within the home environment, children with LD can feel comfortable, understood, and supported by those around them, contributing to positive self-concept especially if they are not compared to others who are performing at a higher level (e.g., Chartrand & Bargh, 1999; Stoch, 2000). Alternatively, children can feel misunderstood and inadequate at school because their performance is not at the same level as their classmates, contributing to negative self-concept (e.g., Humphrey & Mullins, 2002). Children with LD may often try to mimic their typically-achieving peers, both academically and behaviourally, but consistently fall short due to the impact of the LD, potentially resulting in lowered self-concept. If the pressure to achieve at the same level as the peer group were removed due to placement in a supportive environment where peers were similar in terms of ability level and/or behaviour, it might be expected that social

comparisons would be more positive (e.g., Chartrand & Bargh, 1999), thereby resulting in positive self-concept (e.g., Festinger, 1954). This would especially be likely if, as a result of similarity, friendships are established. Consequently, there is a connection between social competence and self-concept (e.g., Kaukiainen et al., 2002; Sullivan, 1953).

Similar to the chameleon effect in its focus on the impact of immediate social context on self-concept, the big-fish-little-pond-effect (BFLPE) is particularly salient for children and adolescents with LD. The BFLPE demonstrates that children with lower academic achievement exhibit lower academic self-concept when the overall ability level of their peers in their school is high. These same children exhibit higher academic self-concept when the overall ability level of their peers in their school is low (Marsh, Hau, & Craven, 2004). The BFLPE is relevant to students on the extremes of the normal curve (i.e., both children with developmental delays and children who are gifted can be impacted; Marsh et al., 2008). The BFLPE research focus has been on academic settings (Marsh et al., 2004; 2008), but this effect might be seen in other contexts as well.

1.2.6 Summary of Theoretical Frameworks

Sullivan (1953) and Festinger (1954) have laid the groundwork for the importance of social context on the development of social competence (e.g., social skills, social acceptance, and friendship) and self-concept (e.g., self-worth and self-esteem); but other factors, particularly child characteristics, must also be considered (e.g., Adams & Blieszner, 1994; Beauchamp & Anderson, 2010). The importance of the social context has not diminished in recent works. Instead, a focus on the social skills, social acceptance, and friendships of children and adolescents has taken a leading role in much of the present literature (e.g., Bukowski et al., 1996). The BFLPE and the chameleon effect draw upon the theories of interpersonal relations

and social comparisons to further highlight the influence of the immediate social context on children's self-concept in relation to their peers (Marsh & Yeung, 1999; Marsh et al., 2008).

These theories are particularly salient when examining both the social competence and self-concept of children and adolescents with LD. Individuals with LD often struggle in areas of social competence (e.g., Beitchman & Young, 1997) and self-concept (e.g., Humphrey & Mullins, 2002), and may often find themselves in contexts, like school, where they perceive themselves to be lower-functioning than the rest of the group. Providing children and adolescents with LD with a supportive environment where they can relate to their peers may reduce the pressures and possible negative impacts of social comparisons, so that social competence and self-concept can be enhanced.

1.3 Social Competence and Self-Concept Associated with LD

1.3.1 *Defining Features of LD*

The Learning Disabilities Association of Canada (LDAC; 2006) defines LD as a neurodevelopmental disorder that impacts “the acquisition, organization, retention, understanding, or use of verbal or nonverbal information” (no page). Individuals with LD have at least average intellectual ability, but struggle in one or more areas of cognitive processing (e.g., phonological processing, executive functioning, memory and attention). These processing deficits then negatively affect one or more domains of academic achievement (e.g., reading, writing, mathematics). The predominant understanding is that LD is a biologically-based dysfunction in cognitive processing that has a negative impact on a child's ability to learn (Büttner & Hasselhorn, 2011). Genetic predisposition, prematurity, medical, and/or neurological conditions have also been associated with LD diagnoses (APA, 2000). Social and economic factors may also play a role (e.g., Lyon, Fletcher, & Barnes, 2003).

Many children and adolescents with LD manifest multiple learning difficulties, as well as other co-morbid diagnoses (Lyon, 1996). For instance, children with reading disabilities are twice as likely to be diagnosed with ADHD, as compared to typically developing peers (Lyon, 1996). Individuals with LD have also been found to exhibit weaknesses in social cue understanding, social problem solving, and social skill development (LDAC, 2006; Lyon, 1996). Furthermore, adults with LD can experience difficulties in both social and employment domains (American Psychiatric Association; APA, 2000). Difficulties with anxiety, withdrawal, depression, and low self-esteem are common within the LD population (e.g., Cantwell & Baker, 1991; Klassen, Tze, & Hannock, 2011; Nelson & Harwood, 2011).

Prevalence rates vary depending on the operational definition of LD and the research methodology. APA (2000) suggests that the prevalence ranges between 2 and 10% and that approximately 5% of children in the United States (US) have been diagnosed with an LD. Alternatively, Altarac and Saroha (2007) reported the lifetime prevalence of LD was 9.7% in US youth. According to Statistics Canada (2003), 2.6% of Canadian children aged 5 to 14 years have been identified as having an LD. Additionally, LD are the most common disability in Canadian boys up to age 14, representing almost 73% of boys with disabilities (Statistics Canada, 2007a). In girls with disabilities, 63% were diagnosed with LD (Statistics Canada, 2007a). Moreover, the number of individuals diagnosed increased by 40% from 2001 to 2006 (LDAC, 2006). Numerous explanations have been proposed for the marked increase in diagnoses, including improved understanding and awareness of LD, increased identification in females (Lyon, 1996), and the inappropriate inclusion of children who manifest learning difficulties due to inadequate teaching (Lyon et al., 2003). As LD diagnoses are prevalent and associated with multiple other difficulties, it is important to understand in what circumstances children with LD can develop social competence and enhance self-concept, in order to prevent future challenges.

The definition of LD and diagnostic criteria have been and continue to be controversial (Büttner & Hasselhorn, 2011). Currently, both the International Statistical Classification of Diseases and Related Health Problems (ICD-10; World Health Organization, 1992) and the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR; APA, 2000) indicate that academic under-achievement, not due to intellectual, sensory, or emotional difficulties; cultural or language differences; or lack of appropriate instruction, is the defining feature of LD. A common approach used for diagnosis has been the IQ-achievement discrepancy (i.e., academic achievement is at least two standard deviations below measured IQ scores), but this approach has received much criticism and poses many challenges (Büttner & Hasselhorn, 2011). By this definition, those with poor academic performances less than two standard deviations below their IQ scores do not meet the diagnostic criteria for LD. Also, gifted students with academic skills well below the expectations for their intellectual ability do not meet diagnostic criteria for LD if their academic achievement remains within the average range for their age-group (Büttner & Hasselhorn, 2011). A further difficulty with this approach is the way in which it places children into a dichotomy of either LD or non-LD groups, when a spectrum of LD severity (i.e., mild to severe) is likely a more appropriate way to conceptualize this diagnosis (Fletcher, Lyon, Fuchs, & Barnes, 2007). Additionally, percentile cut-offs used to define IQ and/or academic scores often differ in clinical practice and research, which impacts, not only the identification, but also the prevalence of LD (Fuchs, Mock, Morgan, & Young, 2003). Many argue that the IQ-achievement discrepancy approach to LD diagnosis is no longer a valid method (e.g., Elliott & Gibbs, 2008; Stanovich, 2005).

The Response to Intervention (RTI) approach has received much attention as an alternative way to conceptualize and diagnose LD (Reschly, 2005). The RTI approach examines students' responses to high-quality, empirically-supported learning interventions. Students

participate in tiers of intervention with an evaluation of their progress after completing each tier; children who exhibit gains then return to regular class instruction (Reschly, 2005). If, after having received intervention, a child has not demonstrated significant academic improvements, then an LD diagnosis is considered (Fletcher, Morris, & Lyon, 2003; Fuchs et al., 2003). While the RTI approach is becoming more recognized as a method for LD diagnosis, it too has inherent difficulties (Büttner & Hasselhorn, 2011). For instance, like the IQ-achievement discrepancy approach, it groups students into LD or non-LD categories using cut-off scores (Reschly, 2005). The cut-off points (i.e., the number of tiers included in treatment or scores that indicate there has been improvement) remain arbitrary (Reschly, 2005). Again, these conditions do not allow for a spectrum of difficulties to be considered. Finally, the measurement of responsiveness can be problematic if teaching and testing materials are not used consistently or appropriately (Reschly, 2005).

In the present study, the definition of LD was based on the discrepancy approach that is currently used as one of the intake criteria by the community children's mental health centre, which runs the summer camp under investigation. The intake criteria state that these children demonstrate at least average intellectual abilities, with difficulties in at least one area of processing (e.g., working memory, executive functioning, phonological processing), along with markedly low levels of academic achievement. This information was gathered from existing psycho-educational assessment reports obtained during the intake process to the agency. Reports were prepared by psychology staff from school boards, hospitals, or private practices.

1.3.2 Social Competence in LD

Children and adolescents with LD often struggle significantly within the realm of social competence. In a meta-analysis of available literature, 75% of children with LD demonstrated significant social competence deficits in most major skill domains, across parent, teacher, and

self-reports (Kavale & Forness, 1996). More specifically, children and adolescents with LD have difficulties developing age-appropriate social skills (e.g., Beitchman & Young, 1997), understanding non-verbal cues, and social problem solving (e.g., Lyon, 1996). Moreover, these children have been found to be less accepted by peers (e.g., Smith & Nagle, 1995) and experience more rejection and neglect (e.g., Wiener, Harris, & Shirer, 1990), than their non-LD counterparts based on peer nominations. Alternatively, on self-reported social acceptance (i.e., based on self-reports not peer nominations), children and adolescents with LD tended not to differ from non-LD peers, suggesting that they may be unaware of their social difficulties (e.g., Nowicki, 2003).

The causes of these difficulties remain somewhat unclear (e.g., Kavale & Forness, 1996), but it is likely a combination of factors that contribute to social competence deficits in children and adolescents with LD. For instance, neurological deficits that are associated with LD, such as language functioning and executive functioning, may be related to the presentation of social skills deficits (Spafford & Groser, 1993). On the other hand, negative perceptions from others, like teachers and peers, may be related to lower acceptance and higher rejection rates in the classroom (Kavale & Forness, 1996). Peers of children with LD indicate that difficulties in communication were related to negative social status in the classroom for those with LD (Kavale & Forness, 1996).

Given the relationship between social skills and friendship (Coie, Dodge, & Kupersmidt, 1990; Oden & Asher, 1997), the well-documented difficulties that children and adolescents with LD have in the social competence domain likely have a negative impact upon friendship patterns, and vice versa. These children struggle to initiate and maintain high-quality, reciprocal friendships and tend to have fewer reciprocal friendships than their typically developing peers (Wiener & Schneider, 2002). Additionally, these relationships tend to be less stable over time

(Estell, Jones, Pearl, & Van Acker, 2009). Friends tend to be younger and more likely to also have learning difficulties, as compared to the friends of typically developing peers (Wiener & Schneider, 2002). Similarly, students with LD, examined over the course of a school year, made fewer friends and more enemies than their typically developing classmates (Tur-Kaspa, Margalit, & Most, 1999). The development of friendships for children and adolescents with LD would not only act as a protective factor (e.g., Laursen et al., 2007), as they are more at-risk for negative future outcomes than typically developing peers (e.g., Nelson & Harwood, 2011), but would also serve to enhance social skills (e.g., Sullivan, 1953).

The setting for many of the latter studies mentioned is school, an environment where children with LD often feel inadequate (e.g., Humphrey & Mullins, 2002). The moderating impact of environment on social competence is somewhat unclear in the literature. In a meta-analysis of the social competence of children with LD compared to non-LD classmates, students with LD in inclusive classrooms seemed unaware of their social difficulties based on self-reports of social acceptance (Nowicki, 2003). However, when friendship was assessed, individuals with a variety of disabilities had similar numbers of friends in a non-academic setting, but fewer friends in an academic setting, than typically developing peers (Buisse et al., 2002). These discrepancies highlight the importance of considering the environment in the development of social skills, social acceptance, and friendship.

1.3.3 Self-Concept in LD

For children and adolescents with LD, self-concept is often more negative than that of their non-LD peers (Sideridis, 2003; Watts & Cushion, 1982). Compared to non-LD peers, children with LD frequently report more negative academic (Bear, Juvonen, & McInerney, 1993; Bear, Minke, & Manning, 2002; Gans, Kenny, & Ghany, 2003) and non-academic self-concept (Kistner & Osbourne, 1987; Strassberg Rosenberg & Gaier, 1977); feel less competent (Smith &

Hagle, 1995); and have less satisfaction with themselves (Kistner & Osborne, 1987). Moreover, for children attending either regular classrooms or special education programs, approximately half reported being bullied by peers specifically because of their LD (Humphrey & Mullins, 2002). These students also reported that teachers have called them 'lazy' and 'stupid' (Humphrey & Mullins, 2002). Beyond the struggles that these children face due to their difficulties with academic achievement, the school environment, including social interactions with peers and teachers, may be sources of exclusion and loneliness, contributing to low self-concept (e.g., Humphrey & Mullins, 2002; Praisner, 2003).

This pattern of low self-concept might be explained using theoretical frameworks of self-concept, as previously discussed, in that children with LD often find themselves trying to perform at the level of their typically developing peers, particularly at school, but falling short due to the characteristics associated with LD (e.g., Festinger, 1954; Marsh et al., 2004; 2008; Marsh & Yeung, 1999). Similarly, regardless of academic placement (e.g., self-contained classroom, resource assistance, or inclusive classroom), children and adolescents with LD likely compare themselves to their typically developing peers (e.g., Bear et al., 2002). Consistent failures in trying to attain academic or behavioural levels displayed by peers can lead to patterns of learned helplessness (Sideridis, 2003). Learned helplessness, initially identified by Seligman and Maier (1967), refers to the belief that one is unable to control the outcome of events. Such a belief develops only after multiple failures, which then leads to inaction. When one's ability cannot compete with peers' abilities, negative self-concept can develop (e.g., Festinger, 1954). As an example, children with LD, following repeated academic failures, could demonstrate decreased motivation to complete academic tasks, leading to feelings of low self-worth and self-esteem. If removed from this type of negative environment, children with LD might be more likely to report positive self-concept. When students with LD feel supported and understood by

their teachers and peers at school, their self-concept is less likely to be negatively impacted (e.g., Chapman, 1988; Forman, 1988; Wiener & Tardif, 2004).

Much of the research with children with LD has been heavily weighted in the area of academic self-concept (Gans et al., 2003). It has been suggested that measures of self-worth and self-esteem are related to the perception of one's abilities outside of the school environment (e.g., Cosden, Elliott, Nobel, & Keleman, 1999). More recent research suggests that children and adolescents with LD may not differ from typically developing peers in non-academic measures of self-concept (e.g., Bear et al., 2002; Gans et al., 2003). In two meta-analyses of self-concept research, students with and without LD did not differ on ratings of self-worth (Bear et al., 2002; Chapman, 1988). The academic environment did not play a significant role in overall self-worth, except when academic self-concept was assessed (Bear et al., 2002; Chapman, 1988). In those cases, children with LD had lower academic self-concept than their non-LD peers (Bear et al., 2002). However, when children were not receiving support for their learning needs, their ratings of self-worth were lower than those who did receive support (Chapman, 1988). Based on the BFLPE (e.g., Marsh et al., 2008), children with LD might fare better in a social setting where they are supported for their learning needs and social competence level. Given the hypothesized impact of the immediate social context on self-concept (e.g., Marsh & Yeung, 1999), more research is required regarding the self-concept of individuals with LD outside of the school environment.

1.4 Social Competence and Self-Concept Associated with ADHD

1.4.1 Defining Features of ADHD

Attention Deficit Hyperactivity Disorder (ADHD) is a neurological disorder that functionally impairs attentional and/or behavioural processes (i.e., hyperactivity and inattention; APA, 2000). Three subtypes have been identified: Inattentive, Hyperactive-Impulsive, and

Combined types (APA, 2000). Inattentive symptoms can include difficulties concentrating and sustaining attention (APA, 2000). Impulsive symptoms can include disruptive behaviour (APA, 2000), as well as difficulties regulating emotions and monitoring behaviour (Barkley, 2006). Finally, hyperactive symptoms are associated with restlessness, fidgeting, and moving and/or talking excessively (APA, 2000).

In a meta-analysis of epidemiological studies, the pooled prevalence rate of ADHD was 5.29% of the population (Polanczyk, Silva de Lima, Horta, Biederman, & Rohde, 2007). As in LD research, prevalence rates depend on the definition of ADHD used. For example, when the criteria from the DSM-III were used, prevalence rates were lower as compared to those studies that used the DSM-IV criteria (Polanczyk et al., 2007). Additionally, when parental and teacher ratings were used to identify ADHD, prevalence rates were much higher than using either DSM criteria. Prevalence rates are also generally higher in males than females, as well as higher in children than adolescents (Polanczyk et al., 2007).

An ADHD diagnosis is frequently co-morbid with language, motor, and social-emotional difficulties (Barkley, 2006). Impairments in executive functioning processes (i.e., memory, planning, flexibility, emotional regulation, and self-awareness) can negatively impact social competence, friendship development, and self-concept (Barkley, 2006). Moreover, ADHD commonly co-exists with LD (estimates range from 20 to 50%), with the rates of co-morbidity being much greater than would be expected by chance alone (Sexton, Gelhorn, Bell, & Classi, 2011; Pastor & Reuben 2008). For example, 18 to 32% of children with ADHD exhibited academic underachievement, whereas only 2 to 10% of children without ADHD demonstrated the same weaknesses in academics (Frick et al., 1991).

Given the high rates of co-morbidity, it is important to understand the role of ADHD on social competence and self-concept development in children and adolescents with LD. For the

purposes of the present study, LD is used to denote the existence of an LD regardless of the co-morbid diagnoses (i.e., ADHD or otherwise) associated. When specifically examining the role of ADHD, LD+ADHD indicates a co-morbid diagnosis, while LD indicates an LD without co-morbid ADHD; even though both groups tend to meet diagnostic criteria for other disorders as well.

1.4.2 Social Competence in ADHD and LD+ADHD

Like LD, ADHD is frequently associated with social difficulties (e.g., Barkley, 2006; Wheeler & Carlson, 1994). While the DSM-IV-TR references that social competence may be impaired in this population, such difficulties are not required for a diagnosis (APA, 2000). The disruptive behaviour, aggression, impulsivity, social information processing deficits, and communication deficits associated with ADHD can all interfere with children's and adolescents' social competence (Wheeler & Carlson, 1994). Social competence difficulties displayed by individuals with ADHD have a negative impact on psychosocial outcomes later in life, including increased rates of depression, criminal behaviour, substance use, and academic failures (Mikami, 2010; Wheeler & Carlson, 1994). Children with ADHD are also more likely to bully and be bullied, as compared to typically developing peers (e.g., Unnever & Cornell, 2003).

The friendship literature within this population is somewhat sparse, with the main research focus being on social competence, specifically peer rejection/acceptance as nominated by peers (Mikami, 2010). In the Multimodal Treatment of Children with ADHD study (MTA), results indicated that just over half (56%) of the participants with ADHD had no friends and 33% had just one friend, compared to 32% of comparison peers having no friends and 39% having one friend (Hoza et al., 2005; MTA Cooperative Group, 1999). While these results suggest that many children with ADHD are able to form friendships, they struggle to initiate and maintain high-quality, reciprocal friendships (e.g., Blachman & Hinshaw, 2002). They are more likely to

report having no friends, fewer friends, and low-quality relationships, as compared to typically developing peers (e.g., Blachman & Hinshaw, 2002). Similarly, these children are more likely to befriend other children with ADHD and oppositional behaviour patterns (e.g., Mikami, 2010; Normand et al., 2011).

For children and adolescents with co-morbid LD+ADHD, social competence deficits are significantly more pronounced, as compared to multiple comparison groups (e.g., Al-Yagon, 2009; Flicek, 1992; Tabassam & Grainger, 2002). More specifically, those with LD+ADHD reported feeling less socially accepted (Tabassam & Grainger, 2002); and having more difficulties with peer rejection, popularity, and social behaviour (Flicek, 1992), when compared with control groups, including those with LD. Furthermore, adolescents with LD+ADHD report being bullied by peers more often than adolescents with LD (McNamara et al., 2005). Given the importance that social competence plays in the development of adaptive outcomes later in life (e.g., Ladd, 1999; Sullivan, 1953), developing these skills in children and adolescents with LD+ADHD, who are considerably at-risk for difficulties in this area, should be a priority for researchers and clinicians.

Information regarding the friendship development and quality for children and adolescents with LD+ADHD is lacking. Instead researchers have chosen to focus their efforts on social acceptance constructs (e.g., Mikami, 2010; Flicek, 1992), which are not the same as friendships (Fox & Boulton, 2006). Given the available friendship literature on each group of children separately (LD and ADHD), as well as the significant difficulties this group (LD+ADHD) has within the social competence domain, it could be expected that children with LD+ADHD would struggle more than those with LD to initiate and maintain high-quality, reciprocal friendships.

1.4.3 Self-Concept in ADHD and LD+ADHD

The relationship between ADHD and self-concept has been somewhat controversial in the literature (Ek, Westerlund, Holmberg, & Fernell, 2007). Consistent with social comparison theories, many authors have indicated that children and adolescents with ADHD struggle with lower self-concept than typically developing peers due to repeated difficulties and failures in social interactions (e.g., Wheeler & Carlson, 1994), negative attributions of the self (e.g., Ruckidge, Brown, Crawford, & Kaplan, 2007), impulsiveness and restlessness (e.g., Ek et al., 2007), and/or emotional reactivity (e.g., Ek et al., 2007). Wheeler and Carlson (1994) indicated that individuals with ADHD are aware of their rejection from peers, which can contribute to lowered self-esteem, highlighting the critical role of success in social competence domains (e.g., Sullivan, 1953).

Several studies have shown that children with ADHD have a positive illusory bias (PIB; e.g., Owens, Goldfine, Evangelista, Hoza, & Kaiser, 2007; Hoza, Pelham, Milich, Pillow, & McBride, 1993). A PIB occurs when actual competence, as measured by performance tasks or parent/teacher ratings, is lower than child reported competence. This discrepancy between self-reports of children with ADHD and task performance or parent/teacher ratings is larger than the discrepancy for children without ADHD (e.g., see Owens et al., 2007 for a review of the literature). The PIB is not unique to the ADHD population: it has also been reported in children with LD (e.g., Heath & Glen, 2005). Many hypotheses exist as to why PIB might occur (e.g., for self-protection, Ohan & Johnston, 2002), but support for these theories is mixed. There exists no information regarding the possibility of a PIB in LD+ADHD samples. Given the high proportion of participants with co-morbid LD+ADHD, along with the reliance on self-report measures in the present study, it is important to recognize the possibility of a PIB in the participant reported results.

Information regarding the role of co-existing LD+ADHD on self-concept is sparse. For instance, in an examination of children with ADHD without LD, sub-threshold ADHD symptoms, and LD+ADHD, no differences in reports of self-concept were found (Ek et al., 2008). Additionally, adolescents with LD and LD+ADHD reported similar levels of self-esteem (i.e., feeling confident) as one another, but both groups had lower self-esteem than typically developing peers (McNamara et al., 2005). These findings suggest that children with LD and LD+ADHD do not differ on reported self-concept, but both groups demonstrate lower self-concept than typically developing peers. Further research is required to understand how children and adolescents with LD+ADHD derive their self-concept in relation to comparisons with others. Much of the self-concept research with children with LD and LD+ADHD has taken place in school settings (e.g., Gans et al., 2003), but based on the possibility that self-concept differs depending on the immediate social context (i.e., BFLPE and the chameleon effect; e.g., Marsh & Craven, 2006; Marsh & Yeung, 1999), investigations of self-concept in non-academic settings, like summer camp, are necessary to begin to discern what types of environments are helpful in enhancing the self-concept of children and adolescents with LD and LD+ADHD.

1.5 Interventions for Social Competence and Self-Concept

1.5.1 *Social Competence Interventions*

Many interventions have been developed and investigated to increase the social skills of children and adolescents with LD. Group counseling has been shown to decrease social difficulties (e.g., Leichtentritt & Shechtman, 2010) and increase feelings of acceptance with peers (e.g., Mishna & Muskat, 2004). Computer-assisted social skills training may decrease loneliness and enhance peer acceptance (e.g., Margalit, 1995). Social stories (an intervention involving visual and written representations of ways to respond in social contexts) can increase appropriate social behaviour (Kalyva & Agaliotis, 2009). Given the positive impact on emotional

regulation, mindfulness meditation interventions have also shown promise to enhance social skills in children and adolescents with LD (e.g., Beauchemin, Hutchins, & Patterson, 2008; Haydicky, Wiener, Badali, Milligan, & Ducharme, in press). While these interventions may exhibit potential for developing social competence in children and adolescents with LD, the research on these interventions is limited, and methodological issues (e.g., the reliance on a clinical setting for intervention and difficulties with skill generalization) have not been resolved.

Social skills training programs have been developed to teach a variety of social skills to children and adolescents with LD, but evaluation studies have garnered small effect sizes, at best, with the practical and clinical significance remaining unclear (Forness & Kavale, 1996; Kavale & Mostert, 2004). Multiple issues may limit the effectiveness of such programs (DuPaul & Eckert, 1994); for instance, most programs are brief (e.g., one hour per week for 10 weeks), even though greater frequency and intensity of intervention are likely required for positive impact (Kavale & Mostert, 2004). Also, few studies evaluate the generalizability and long term impact of social skills training (Kavale & Mostert, 2004). Most training programs take place within a clinical setting, but training is likely to have greater impact when conducted in naturalistic settings (e.g., DuPaul & Eckert, 1994; Wiener & Harris, 1997). For example, in an integrated classroom setting, children with LD demonstrated improvements in social skills and peer acceptance following a six-week intervention that used coaching and social problem solving methods (Wiener & Harris, 1997). Similarly, children with ADHD demonstrated improvements in behaviour, peer relationships, and self-esteem following a two-week summer day camp that used social skills training and parent psycho-educational methods (Hantson et al., 2011). Use of these settings likely provided children with real-world practice of their new skills, with immediate feedback from peers and/or adults. Specialized summer camps also offer a naturalistic

setting for children and adolescents with LD to enhance their social competence and self-concept (e.g., Michalski, Mishna, Worthington, & Cummings, 2003).

1.5.2 Self-Concept Interventions

As with social competence, many interventions have been developed and tested to enhance self-concept in children and adolescents. Self-concept interventions can be classified into the following categories: academic, counseling, mediated (i.e., teachers are taught how to enhance students' self-concept in the classroom), physical (e.g., fitness and recreation), and sensory-perceptual (e.g., occupational therapy; Elbaum & Vaughn, 2001). Other therapies, such as those in the creative arts (e.g., Elbaum & Vaughn, 2001) and using methods in combination (e.g., Guindon, 1993), have also been investigated.

In general, interventions have been effective in enhancing both general (i.e., global self-worth) and specific (e.g., academic self-concept) self-concept for children and adolescents with LD (Elbaum & Vaughn, 2001; O'Mara, Marsh, Craven, & Debus, 2006). Effect sizes have been the largest when specific measures of self-concept are conceptually related to the intervention, such as, measuring academic self-concept before and after an academic-based intervention (O'Mara et al., 2006). Given the available literature, it appears that there are many helpful strategies and interventions that can enhance children's self-concept. Watts and Cushion (1982) identified the role of peer tutoring in helping children feel successful and supported, and thereby, more confident. Similarly, focusing on strengths (Guindon, 1996), positive reinforcement and immediate feedback (O'Mara et al., 2006), assertiveness training (Cook, Mottaz, Marrapodi, & Newton, 2011), and using a combination of direct and indirect approaches (O'Mara et al., 2006) have demonstrated effectiveness. Interventions have shown the most promise when aimed toward 'at-risk' groups (e.g., Elbaum & Vaughn, 2003; O'Mara et al., 2006). Those who already

function at high levels do not seem to benefit further from intervention, speaking to the possibility of a ceiling effect (e.g., O'Mara et al., 2006).

For children and adolescents with LD, overall effect sizes for self-concept interventions have been small, and have been compared to the meta-analytic results of Kavale and Forness (1996) with regards to social skills interventions in this population (Elbaum & Vaughn, 2001). Regardless of these small effect sizes, self-concept interventions enhanced academic, social, and global self-concept (Elbaum & Vaughn, 2001; 2003). Interventions classified as 'counseling' or 'mediated' were the only programs associated with changes in global self-concept (Elbaum & Vaughn, 2001). This is noteworthy given that camp staff, in the present study, receive specific training regarding strategies that promote success and positive self-concept, which could classify camp as a 'mediated' approach. Reported gains in self-concept have tended to be long lasting over a period of time (e.g., Elbaum & Vaughn, 2001; O'Mara et al., 2006); however, given the small effect sizes, more information is needed around what types of contexts and approaches might be most helpful to enhance the self-concept of children and adolescents with LD.

1.6 Summer Camp

1.6.1 *Overview and History*

Organized summer camps began offering services to children and adolescents more than two centuries ago, and such camps have influenced millions of lives since their inception (Bialeschki, Henderson, & James, 2007; Ramsing, 2007). The American Camping Association (ACA) estimates that almost 12 million individuals attend camp yearly in the United States (2006). In Ontario, Canada, summer camps have become a significant part of children's lives (Ontario Camps Association, n.d.). In 2005, almost 7.5% of Canadian families sent their children to summer camp programs (Statistics Canada, 2007b). For the purposes of this research, camp refers to a structured, outdoor group living experience, where trained staff guide children and

adolescents towards specific personal goals (e.g., ACA, 2006; Henderson, Whitaker, Bialeschki, Scanlin, & Thurber, 2007).

Historically, summer camps were used as a means for recreation and respite from city life during the industrial revolution, but progressed to using educational and counseling techniques in order to enhance positive development in campers (Groves, 1981; Ramsing, 2007). Fredrick William Gunn is often considered to have founded the organized camping movement through his establishment of the *Gunnery School for Boys* in 1850 (Ramsing, 2007). Through education and recreation, Gunn's campers experienced boating, hiking, sailing, and fishing. Later, in 1876, Dr. Joseph Trimble Rothbrock established the first camp to serve boys with medical needs (Ramsing, 2007). Organized camps then began to provide opportunities for children and adolescents with special needs in the late 1800's. Camp programs for girls were being established around this time, as well (Ramsing, 2007). The main objectives of camp, at that time, were to increase campers' self-understanding and help campers view themselves as an integral part of society (Groves, 1981). While these goals appeared to persist into modern-day organized camps, Groves (1981) indicated that it was problematic when children and adolescents returned to their day-to-day lives and subsequently lost the gains they had made while at camp.

Specialized summer camps, specifically designed for children and adolescents with special needs, allow for interpersonal connections among campers with similar needs (Kronick, 1973). Staff provide scaffolding to support individual learning needs, and the environment creates opportunities to practice new skills and obtain immediate social feedback. In these ways, specialized summer camps could provide the support needed to build social competence and self-concept (Kronick, 1973), thereby preventing negative outcomes in both the short and long term. However, these children may experience difficulties when placed back into a non-specialized or non-supportive environment, like a regular classroom setting (i.e., the BFLPE and the chameleon

effect; e.g., Marsh et al., 2004; 2008; Marsh & Yeung, 1999). For instance, while it is likely that campers would display enhanced social competence at camp, once placed back at school, these gains might not last, unless individuals are able to interact with camp friends regularly (e.g., Hoza, Mrug, Pelham, Greiner, & Gnagy, 2003) or in a setting where their interactions are scaffolded, as is typically the case in specialized camps (Kronick, 1973). Similarly, it could be that children and adolescents grouped with peers like themselves at camp would demonstrate fairly positive self-concept while at camp; but once placed back into a group of higher-achieving peers, as in a regular classroom, their self-concept would likely decrease, particularly when the characteristics associated with LD diagnoses prevent these children from performing at the expected level and peers are not sensitive to individual differences (e.g., Groves, 1981). Conducting camp research is essential to establish specialized summer camp as an important context where children and adolescents can develop and make positive, long lasting changes.

1.6.2 Adventure Based Counseling

Adventure based counseling (ABC) is an innovative recreation method, rooted in experiential learning, cognitive, and behavioural theories, that can be tailored to different environments (Fletcher & Hinkle, 2002; Schoel, Prouty, & Radcliffe, 1988). The overarching goal of ABC is to enhance self-concept, created by developing trust in others and feeling successful in activities and relationships (Schoel et al., 1988). In 1941, Kurt Hahn and Lawrence Holt developed Outward Bound, a camp for youth preparing for service in the armed forces (Fletcher & Hinkle, 2002). The essential components of Outward Bound have been incorporated into the philosophies of ABC and thereby, other camp programs. These components include: setting personal goals, incorporating adventure and risk, and using small groups to enhance leadership skills and increase community responsibility (Fletcher & Hinkle, 2002). Later, Jerry Pieh adapted these ideas for use within the school setting (Schoel et al., 1988). ABC is an

intentional process through which challenges and coping skills are examined through cooperative, trust-building games; problem-solving and goal setting activities; and adventure and risk-taking activities (Carlson & Cook, 2007; Schoel et al., 1988). Campers then, with the aid of camp staff, work to relate their strengths and difficulties to everyday challenges they may encounter. The roots of the camp program studied in this dissertation are seated in ABC theory and practice.

In order to develop an adventure based summer camp, Kronick (1973) argued that several components are required. Prior to camp, staff must employ rigorous intake procedures in order to match children based on skill level and compatibility within the camp and cabin groups. Activities need to be carefully planned in advance, keeping in mind the specific goal of each activity. Additionally, staff must undergo training to carry out activities in a supportive and strengths-based manner, while also receiving clinical supervision and training throughout the camp session (Kronick, 1973). With this foundation, specialized camp programs can provide a unique context where every activity and interaction can be a learning experience. Adventure based camping can create a supportive context where children and adolescents, including those with LD, can build skills and experience successes (e.g., Kronick, 1973; Michalski et al., 2003), ultimately contributing to an enhanced sense of self-concept (e.g., Shoel et al., 1988).

1.6.3 Outcomes with Typically Developing Campers

Since the establishment of organized summer camps, staff have recognized the potential for camps to be a positive environment for children and adolescents (Groves, 1981) and preliminary research and conclusions are promising. Researchers indicate that participation in structured camps is related to increases in social skills, positive decision making skills and values, self-esteem, and self-confidence (Bialeschki et al., 2007). For instance, Allen and colleagues (2006) investigated the impact of a strengths-based summer camp on resiliency

factors in disadvantaged children. Following camp, campers exhibited significant improvements in independence, social relationships, and understanding (Allen et al., 2006). Camp activities need to be developed in such a way as to target a specific skill, in order to best support the needs of campers (Allen et al., 2006; Kronick, 1973). Supportive, caring, and highly trained camp staff, as well as quality time spent with these staff, were found to be essential to the development of resiliency skills (Allen et al., 2006).

In a nationwide study of 105 ACA accredited summer camps, Thurber, Scanlin, Scheuler, and Henderson (2007) investigated the outcomes of children and adolescents following their participation at camp. Using the *Camper's Growth Index (CGI)* (Henderson, Thurber, Whitaker, Bialeschki, & Scanlin, 2006), the authors examined positive identity (i.e., self-esteem), social skills, physical and thinking skills, positive values, and spirituality through camper and parent reports. Thurber and colleagues (2007) reported significant growth in social skills, self-esteem, and physical and thinking skills following camp. Parent reports indicated significant development across all domains. Henderson, Whitaker, and colleagues (2007) present a similar argument with evidence from a solely parental perspective, also using the *CGI*, from evaluations of 92 ACA-accredited summer camps. Parent ratings indicated significant improvements in their camper's social skills, social acceptance, and self-esteem following camp. Across these two studies, there were challenges establishing if gains were sustained six months later. Thurber and colleagues (2007) found that some gains were maintained across parent and camper reports; however, camper scores on social skills and positive values decreased at follow-up.

On the other hand, Henderson, Whitaker, and colleagues (2007) indicated that parents reported further increases or maintenance of gains in social competence and self-concept variables. When compared to camper self-reports, parents generally reported more significant improvements after camp than did campers. These discrepancies highlight two important

methodological issues within camp research: First, the challenges of conducting longitudinal research and, second, the difficulties associated with relying on self- and/or parent report measures. While summer camp experiences likely play an important role in the development of social competence and self-concept (e.g., Henderson, Whitaker et al., 2007), more research is required to examine long-term gains and the use of alternative measures to corroborate self- and parent reports.

1.6.4 Outcomes with Campers with Special Needs

Mishna, Michalski, and Cummings (2001) indicated that specialized camps directed toward children and adolescents with special needs could provide unique opportunities for these campers, which they might not otherwise experience in camps designed for typically developing peers. Specialized camps provide a supportive milieu where campers are able to experience success in an emotionally and physically safe environment. For children and adolescents with medical and/or mental health needs, specialized summer camps may offer a unique environment where campers can feel comfortable, develop new skills, and enhance their self-esteem (Mishna et al., 2001). Furthermore, the use of adventure based programming has been associated with improvements in self-concept, while also giving campers more confidence and coping mechanisms to manage anxiety-provoking situations (Carlson & Cook, 2007).

Attending a specialized summer camp, where campers can relate to one another because of their similar profiles, can enhance feelings of social acceptance and self-worth while at camp (Meltzer & Rourke, 2005). This speaks to the importance of feeling supported and accepted in one's environment. When children and adolescents feel accepted and supported, they may be able to express themselves more comfortably and be more relaxed in their environment (e.g., Stoch, 2000; Wiener & Tardif, 2004), thereby opening themselves up to experience success and positive interaction with peers.

Specialized summer camps have also been designed for campers with multiple special needs, including individuals with medical difficulties (e.g., Hunter et al., 2006; Kiernan, Gormley, & MacLachlan, 2004), developmental disabilities (e.g., Nimer, 2011), ADHD (e.g., Hantson et al., 2011; Pelham et al., 2000), giftedness (e.g., Rinn, 2006), and LD (e.g., Michalski et al., 2003; Yssel et al., 2005). Research on the outcomes of these camps has been mixed; however, most authors indicate that the camp environment is a unique and positive context where children and adolescents can develop social competence (e.g., Michalski et al., 2003; Rinn, 2006), friendships (e.g., Cardoos & Hinshaw, 2011), and self-concept (e.g., Hunter et al., 2006). As it is beyond the scope of this research to review the camp literature for all the special needs populations studied, a focused review regarding specialized camps for children and adolescents with LD follows.

Camps for Children and Adolescents with LD. For children and adolescents with LD and associated psychosocial difficulties, specialized summer camps may provide a unique context where campers can enhance their social competence and self-concept (e.g., Michalski et al., 2003). Early camps for individuals with LD were primarily designed as an academic intervention, but with social skills curricula lacking in the school system, teaching these skills was often a secondary goal (Adams, 1986). The evolution of these types of camps has shifted the thinking of staff away from academics towards the psychosocial health of these children. These camps now offer a typical summer camp experience in a supportive environment, where camp can be experienced as it was meant to be: fun, exciting, and rewarding (e.g., Michalski et al., 2003). For instance, in a single case study design, Zak, an adolescent with LD+ADHD, was able to identify a number of friends at camp and counselors reported that he exhibited leadership skills and appropriate social behaviour (Stoch, 2000). When Zak was in a supportive and

understanding environment, like camp, he fared better in terms of social skills and positive self-concept (Stoch, 2000).

More specifically, with regards to social competence gains while at camp, limited research has been completed within the LD population and results have been mixed. For children with gifted-LD, increased companionship among campers was noted following camp (Yssel, Margison, Cross, & Merbler, 2005). No overall differences in social competence were found in a group of children and adolescents with LD following a three-week specialized summer camp (Michalski et al, 2003). However, when age groups were examined separately, children reported significant gains in cooperation and self-control, while adolescents reported significant gains in assertiveness, self-control, and social skills (Michalski et al., 2003). Parents reported significant social skill improvements in both groups of campers, which were maintained six to eight months later. Even when direct social skill instruction was used at camp, campers with LD reported greater awareness of socially appropriate behaviour, but no impact on social skill usage or social information processing was observed (O'Halloran & Ellsworth, 1996).

Both Yssel and Michalski and their colleagues (2005; 2003, respectively) included campers with co-existing LD+ADHD in their samples, yet this subgroup was not examined. This remains a large gap in the LD-camp literature given the high rates of co-morbidity between LD and ADHD (Pastor & Reuben, 2008), as well as the additional difficulties displayed by children and adolescents with ADHD in the social domain (Mikami, 2010). Results from an investigation of summer camp for children with ADHD (without LD) indicated camper-reported gains in cooperation and the ability to reflect on the social impact of one's behaviour (Henley, 1999). Parents also reported gains in campers' self-control and empathy (Henley, 1999). These results suggest that campers with ADHD benefit socially in the context of summer camp, but more

research is required to investigate the role of co-existing LD+ADHD on campers' social competence growth at camp.

Campers with LD who participated in a three-week camp had improved self-esteem and lower levels of loneliness, based on camper and parent reports (Michalski et al., 2003). These gains were then maintained six to eight months later. Similarly, using a strengths-based approach was associated with improvements in self-esteem at the end of a camp for campers with gifted-LD (Yssel et al., 2005). For adolescents with LD and LD+ADHD, both academic and non-academic self-concept improved after a six-week summer camp (Westervelt, Johnson, Westervelt, & Murrill, 1998). No differences were found between the two groups on academic self-concept, but those with LD+ADHD exhibited smaller global self-concept gains than those with LD (Westervelt et al., 1998).

The findings in these studies offer initial groundwork in the examination of specialized summer camps as a context for social competence and self-concept development in children and adolescents with LD; however, much more work is needed. Results have been inconsistent; there is limited use of follow-up measures; and the role of co-existing ADHD has not been a focus. Furthermore, with the exception of Stoch (2000), these studies have neglected the importance of friendship and its role in social competence development.

Camps for Children and Adolescents with ADHD. While a complete review of the summer camp literature for children and adolescents with ADHD was not the focus of this study, it is important to note the benefits of camp for individuals with ADHD to inform the hypotheses and recommendations of the present study. For example, a two-week therapeutic summer camp for children with ADHD provided social skills training and parent psycho-education (Hantson et al., 2011). Campers who participated in the summer camp demonstrated improvements in ADHD symptoms, peer relations, and overall functioning, as compared to a control group of campers

with ADHD who participated in a specialized summer camp that did not employ social skills training and parent education. Similarly, campers with ADHD who received intensive summer camp training, which included social skills training, attention training, and sports participation, in combination with medication, demonstrated improvements in neuropsychological functions, as compared to a control group (Gerber et al., 2011). These camps could act as a model for specialized summer camps for children with LD and LD+ADHD.

1.6.5 Friendship Development within the Camp Context

While much of the available camp research has examined social competence outcomes for children and adolescents, few studies have examined friendship development following participation at camp. In an examination of friendship quality and peer acceptance during a one-week specialized summer camp for typically developing campers, campers who rated themselves as sociable reported feeling more accepted than campers who rated themselves as less sociable than others (Hanna, 1998). However, self-reported sociability did not predict friendship quality (Hanna, 1998). Parker and Seal (1996) also examined the friendship patterns of children and adolescents over the course of a four-week residential summer camp. Long lasting friendships, unlike having a number of consecutive friendships, were a protective factor against loneliness. The distinguishing feature between campers who were and were not able to develop long lasting friendships was aggression (Parker & Seal, 1996). Both groups of children were sociable and able to initiate relationships, but it was those who exhibited aggressive behaviour who were unable to maintain friendships (Parker & Seal, 1996). For children who exhibited a reduction in the number of friends they kept over time, the authors reported that these campers were socially skilled and not aggressive (Parker & Seal, 1996), highlighting the possible benefits of having a few close friends, rather than a number of acquaintances. Friendlessness at camp was not uncommon, yet as camp progressed, friendlessness was reported more frequently (Parker & Seal,

1996). For most children, friendlessness was temporary. For campers perceived by others as shy, isolated, quick-tempered, and less socially competent, friendlessness was more chronic throughout camp (Parker & Seal, 1996).

To the best of this researcher's knowledge, the friendship development of campers with LD has not yet been investigated; however, a recent examination of campers with ADHD provided some insight into the possibilities for friendship development at camp within special needs populations. Cardoos and Hinshaw (2011) found that, in girls with ADHD, having at least one camp friend protected against bullying at camp. The protective factor of this friendship was no different for girls with and without ADHD. It also did not matter whether or not the friend had ADHD.

These aforementioned studies provide a preliminary glimpse into the friendship development of children and adolescents over time spent at summer camp; however, given the limited amount of information known within this context and the importance of friendships to the social and emotional well-being of children, more research is required. Given the research available, children and adolescents with LD may be able to develop reciprocal friendships while at camp, assuming that the context of camp can provide a supportive environment where campers experience success and acceptance. Friendship can be one of the most influential and important relationships in one's life (e.g., Sullivan, 1953) and so, this remains a glaring gap in the camping and LD literature. More information is required regarding the development of friendships in contexts other than school. A specialized summer camp with like-peers and supportive, understanding staff may be the ideal conditions for children with LD to establish friendships, which may also be associated with improvements in their social competence and self-concept.

1.6.6 Methodological Limitations and Challenges in Summer Camp Research

There is a growing body of literature regarding the importance of summer camp in the lives of children and adolescents. Less is known regarding the importance of specialized summer camps for individuals with LD and co-existing psychosocial difficulties. While existing results are promising, much of the literature in this vein contains methodological limitations, some of which may be challenging to remedy given the nature of camps (e.g., small groups). One of the more glaring limitations is the frequency of small sample sizes. Often, specialized summer camps for individuals with LD boast a low camper-to-staff ratio, as recommended by early camp developers (e.g., Adams, 1986; Kronick, 1973), lending itself to small samples of campers for research purposes, and subsequently, limited statistical power (e.g., Bland, 2008; Field, 2009). Without sufficient power, significant differences found between variables could be the result of false positives (i.e., significant differences occur by chance) or false negatives (i.e., significant differences are missed; Bland, 2008). This limitation of sample size has rarely been adequately addressed, which could call into question any significant or non-significant findings. Ethical and feasibility issues limit the use of large-scale, randomized control studies to study camp effects (Henderson, Bialeschki, et al., 2007). The use of waitlist or alternate control groups is also quite difficult (Henderson, Bialeschki, & James, 2007); for instance, it would be unfeasible and unethical to limit the activities of control group children during their time on the waitlist.

Another methodological limitation surrounds the use of follow-up measures to gauge the sustainability of gains over time. While some researchers have investigated the long-term changes in campers months after the end of camp, results have been mixed (e.g., Michalski et al., 2003; Thurber et al., 2007), indicating that even as some changes are longstanding, many are not sustained after camp is over. While it may be that children and adolescents experience significant social competence and/or self-concept growth during camp, if these changes are not maintained for a long period of time then the effort is moot. The challenge here is that follow-up measures

are taken during the school year, and the variables examined, like social competence and self-concept, can depend on the immediate context of the child (e.g., Marsh & Yeung, 1999). It would be unfeasible to control for all of the differences between the camp and school contexts. Similarly, it is difficult to control extraneous variables that might contribute to individual variations in outcomes (Henderson, Bialeschki, & James, 2007).

Furthermore, the reliance on parent and camper reports to establish camper development, while a seemingly efficient means of data collection, creates the potential for a participant bias from both responders (i.e., parents and campers; Howard & Dailey, 1979). The reliance on participant reports has revealed inconsistencies between parent ratings and child self-perceptions. In the camp literature, parental reports are far more promising than camper reports (e.g., Thurber et al., 2007). Similarly, low to moderate correlations were found between parent ratings and direct observations of children's social competence (e.g., McCabe & Marshall, 2007). Parents and children often have discrepant views of children's behaviours, with parents frequently reporting children's behaviour to be worse than the children report (e.g., Pierce & Klein, 1982). Quantitative measurement remains an important tool within camp research in order to examine groups of campers simultaneously, but given the difficulties with participant reports, it is equally important to use another method of data collection to corroborate findings from parent and camper reports. The addition of qualitative data as an alternative to parent and camper reports (e.g., Stoch, 2000) can provide rich information about an individual or small sample. In combination with quantitative measures, qualitative information (including interviews and/or direct observations of behaviour) may give a more complete picture of campers' development within a specialized summer camp setting.

Camp evaluation research can be subdivided into two categories: operations and outcomes (Henderson, Whitaker et al., 2007). Operating research involves examining the process

of potential change, such as staffing, staff training, or camp activities. Outcome research, on the other hand, examines changes in child and adolescent development (e.g., social skills, self-esteem). A researcher must first determine whether to examine the operations or the outcomes; however, it is difficult to investigate specific mechanisms of change (i.e., operations) without first having a rudimentary understanding of the outcomes. Once it is clear that camp acts as a context where positive change can be measured, a researcher is in a better position to examine what aspects of camp contribute to change. A further limitation is that the mechanisms of change, for example, friendship, which may contribute to psychosocial development, have been largely ignored in the literature. Summer camp has largely been examined as a whole entity, instead of investigating the component parts that may significantly predict changes in outcome variables. It is important to isolate factors of camp or processes that occur at camp that may uniquely contribute to psychosocial development. Such investigations to isolate mechanisms of change could further support campers while they are at camp and then be extended into alternate environments, like school.

The undertaking of summer camp research is a complicated endeavour. It can be difficult to remedy some of the limitations in other studies due to the inherent difficulties of completing research in a camp context (e.g., Henderson et al., 2007). Furthermore, as this type of research is in its infancy, there remain significant gaps in the literature (e.g., limited information in the LD and ADHD populations; limited focus on friendship development). In the present study, some of the limitations and challenges of camp research, as well as some of the gaps in the literature, are addressed.

1.7 Camp Towhee: A Specialized Summer Camp for Children and Adolescents with LD

1.7.1 *Overview and Historical Roots of Camp Towhee*

Camp Towhee was established in 1968 and is operated through the Integra Foundation, a community-based mental health centre for children and adolescents with LD and associated psychosocial difficulties. Integra focuses its efforts on the social and emotional needs of children with LD, rather than their academic needs (Integra Foundation, 2009). The camp began as a means to allow children and adolescents with LD to experience success in a summer camp setting, while enhancing social development and self-concept. Camp Towhee is located in Haliburton, in Ontario, Canada, on a lakefront property (Integra Foundation, 2009). Campers reside in cabins of between six and eight campers, with three counselors and a support staff designated for each cabin. Towhee was originally a six-week residential camp program aimed to help campers, between the ages of 8 and 12 years, improve their social competence and self-concept by experiencing success in activities and interactions with others. Over the past 40 years, Camp Towhee has developed its use of adventure-based counseling, while maintaining a challenge-by-choice philosophy (Integra Foundation, 2009). In the challenge-by-choice method, campers are challenged by staff to push themselves in activities that they might not otherwise attempt. Campers are not required to participate in all aspects of an activity; however, some level of engagement is encouraged. For example, on the climbing wall, a camper is not required to climb, but would be asked to help a fellow camper by holding the ropes and cheering. Through this method, campers are able to challenge themselves to try new things.

This camp was chosen for the present study for a number of reasons: Camp Towhee is one of the only segregated camps in Ontario for campers with LD and associated difficulties; typically developing campers or campers with other special needs do not attend this camp. Additionally, Camp Towhee has many unique characteristics (See Table 1.1, p.171) distinguishing it from other summer camp programs. While Camp Towhee is not directly therapeutic (i.e., campers do not receive group or individual therapy), it offers a variety of

programs and activities embedded within adventure-based and challenge-by-choice philosophies. In this way, campers are able to experience a typical summer camp program, while benefiting from staff support for their unique learning profiles. Staff use a strengths-based approach to help campers experience success in activities, as well as within interpersonal relationships. Camp Towhee offers a positive, supportive milieu where children and adolescents with LD may have a typical summer camp experience. Program evaluation research is necessary to investigate gains that campers might make while participating in camp. Program evaluations have been completed twice prior to the present investigation, first, in 1978, then again in 1998, pointing to positive social and self-concept outcomes in this group of children following camp (Wiener, 1978; Michalski et al., 2003, respectively).

Currently, Camp Towhee is a three-week residential camp and is divided into two sessions, one for younger campers (approximate ages 10-13 years) and one for older campers (approximate ages 14-18 years; Integra Foundation, 2009). There is a low camper-to-staff ratio (2:1), which is flexible depending on individual camper needs. One month prior to the beginning of the first camp session, Integra and Camp Towhee staff hold an information day for campers and parents. At this time, campers are given the opportunity to meet and get to know other campers, and, where possible, those who will likely be in his/her cabin. Three to four months following the conclusion of camp, in November, campers are invited to join in an all-day camp reunion, where campers and staff come together to reunite through games and discussion.

1.7.2 Goals of Camp Towhee

Camp Towhee is structured around three main objectives. First, activities are purposeful with the intent to enhance social competence, including social adjustment, social performance, and social skills. Second, the activities at Camp Towhee are intended to reduce campers' sense of isolation and loneliness. Finally, camp staff structure activities to foster self-esteem in the

campers (Integra Foundation, 2009). While not an explicit goal, camp counselors encourage the development of friendships between campers. These goals are achieved indirectly through the use of a challenge-by-choice model and supportive scaffolding by staff, where campers choose their level of participation. If these children were to attend a typical summer camp (with typically developing peers), they would likely not receive the support they might require in this setting, and then would likely be less successful than typically developing peers at camp activities and social interactions. Instead, at Camp Towhee, campers are able to experience the same activities offered in a typical summer camp, in a more supportive setting (Phillips, Daniels, & Milligan, 2009). Other camps offer services from a therapeutic approach, using trained counselors to facilitate group discussions or to teach specific skills explicitly (e.g., role play social skills). Camp Towhee is not a therapeutic camp, but rather a typical summer camp specializing in the needs of individuals with LD and associated difficulties. No direct therapy or explicit teaching takes place at Camp Towhee.

1.7.3 Staff Training

Camp staff are experienced, dedicated individuals who work hard to create an atmosphere where campers can feel successful and confident, while also having fun. Staff consist of college and university students, professionals, and mature adults. Many come from helping backgrounds, including counseling, recreation, social work, psychology, and education. Staff training is extensive in areas relevant to these campers, including anti-bullying, social skills development, and the impact of LD on behaviour and understanding.

Many of the camp staff return to Camp Towhee annually. For the present study, the number of staff years at Camp Towhee ranged from 1 to 13 years (McKeough, personal communication, August 20, 2010). The camp director and assistant camp director had 12 and 8 years of experience at summer camps, respectively. For the most part, cabin counselors were

first-year staff; however, some counselors had returned to camp up to four times. In general, support staff and cabin supervisors had more years of experience at Camp Towhee than cabin counselors.

1.7.4 Camper Selection

To be selected for camp, potential campers must have a previous diagnosis of LD. For some potential campers, acceptance into camp is conditionally based on treatment prior to attending camp. Camper selection is conducted in an in-depth and meticulous manner, to enhance the likelihood that campers experience social successes. The selection process includes screening of potential campers to exclude major behavioural concerns (e.g., conduct disorder, aggression) and constructing cabin groups of well-matched campers in terms of learning and social-emotional profiles. During camp, difficulties between campers are handled through conversation and mediation with camp staff. Moving campers to another cabin or sending a camper home are only used as last resorts to manage relationship challenges or behaviour concerns.

1.7.5 Camp Towhee Activities

Camp Towhee activities are divided into five programs: Adventure based learning (also known as EXCEL); out-tripping and outdoor living skills; waterfront program (instructional and recreational swimming); arts and music program; and topic focused discussion groups (“Yak-n-Snack”; Integra Foundation, 2009). These activities are programmed into four periods within a camper’s typical day, between meal times and other activities. Campers participate in these periods with their cabin-mates, but evening programs are less structured and campers are given the opportunity to interact with campers from other cabins. Evening programs can include interest clubs, where campers choose the activity in which they would like to participate (e.g.,

sports, creative arts, writing, fishing), or camp-wide activities, where all campers and staff come together for games, relay races, or sports.

Adventure Based Learning. Adventure based learning, or EXCEL, is a series of progressively more difficult activities that centre on a high-ropes course and climbing wall. The high-ropes course and climbing wall offer challenging obstacles, including elements that are up to 40 feet off the ground. These courses are supervised by highly trained staff, who have experience with climbing and high-ropes. Stringent safety procedures are followed.

Campers participate in skill and trust building activities while working towards individual goals on the course. The gradual movement through team building exercises to more difficult challenges allows campers to experience success, cooperation, and positive interactions with other campers. Activities are embedded into the challenge-by-choice model and campers are not required to participate in all aspects of the course; however, each activity can involve differing levels of engagement, as discussed previously. Following these activities, staff engage campers in a discussion about the skills that they have used to accomplish their individual goals. By processing their accomplishments and challenges, transfer of skills from the course to alternate environments is possible (e.g., other camp activities; home or school environments).

Out-Tripping and Outdoor Living Skills. Within the out-tripping and outdoor living skills program, campers practice skills required for outdoor living, including canoeing, reading maps, building safe fires, as well as preparing and planning for portage trips. Within this program, each cabin participates in a week long out-trip where campers and staff leave Camp Towhee grounds and engage in a canoe and camping trip. Part of the program is to plan and prepare for this trip. An out-tripper staff, experienced in canoeing, mapping, first aid/CPR, and lifeguard training, accompanies the campers and counselors on the trip.

The goal of the out-tripping and outdoor living skills program is to help campers develop independence and enhance self-esteem, while also learning camping and canoeing skills. Campers are required to work together closely in order to plan and prepare prior to their trip and then use their teamwork and outdoor skills while on the trip. The trip is also intended to help children and adolescents gain appreciation and respect for nature.

Waterfront Program. The waterfront program at Camp Towhee offers both recreational and instructional swimming programs. Campers initially participate in a brief swim test to determine their level of ability. This swim test determines where campers are allowed to swim (e.g., shallow water, deep water, past the dock) or if they need to remain on the beach. Group time is based in fun, team activities tailored to the level of each cabin. Instructional swimming can be offered to those who are interested; however, most group time is organized in fun activities that can take place on the beach or in the water. Recreational time is also offered on most camp days, where all campers and staff are invited to participate in a free swim.

The waterfront program, like the adventure based learning program, follows the challenge-by-choice model. The program is adapted for each camper's needs and helps to build self-confidence as campers challenge themselves with more difficult activities. For instance, near the end of the camp session, campers are encouraged to participate in a lake swim (i.e., swim the full length of the lake), while counselors and waterfront staff support both in the water and in canoes. Campers who do not wish to participate in the lake swim act as support for the swimmers from canoes.

Arts Program. The arts program is divided into fine arts and music. Campers rotate their days between these two types of activities. Drama activities are also a part of the arts program and included within both streams. The fine arts program is a leader-directed activity that includes various creative materials and modes of expression (e.g., paper-maché, clay, wood and plaster,

oil pastels, and pencil crayons). Campers are encouraged to participate in the group activity, but also to engage in individual projects. In the music program, campers are introduced to a number of musical instruments, including percussion, piano, and guitar. Campers and cabins work towards individual and group goals, which are dependent on level of experience. The arts program encourages campers to use different means of self-expression and is intended to build skills and self-esteem, as well as cooperation with others.

Topic-Focused Discussion Groups. Topic-focused discussions, also known as ‘yak-n-snacks,’ are optional for all campers and mostly occur in the evenings. These discussions are not programmed into campers’ typical days. Discussions act as a way for campers to speak openly and safely about challenges that they may encounter at camp, home, or school. The purpose of these discussions is for campers to feel heard and understood, while also reducing their sense of isolation, by hearing about other individuals experiencing similar difficulties. Campers decide how much they would like to contribute to conversations and are able to attend as many times as they like. Topics for discussion are based on the individual needs and interests of each group.

1.7.6 Challenges of Conducting Research at Camp Towhee

The challenges of conducting research at Camp Towhee mirror those in the literature discussed previously, including the lack of an available control group and issues with measurement (e.g., Henderson, Bialeschki, & James, 2007). First, a large-scale, randomized control study was not feasible, nor ethical. In general, Camp Towhee invites a total of 100 campers each summer (50 per session). Assuming all campers and parents were willing to participate in the research and there was no participant attrition over time, this sample is still quite small, limiting the statistical power of analyses. This resulted in a cautious interpretation of the findings, both those that were significant and non-significant. Furthermore, no control group (waitlist or otherwise) could be included; there is no waitlist for Camp Towhee and it would be

impossible to control extraneous variables in another control group (e.g., Henderson, Bialeschki, & James, 2007).

Second, it is difficult to investigate camp from a process perspective (e.g., Henderson, Bialeschki, & James, 2007) because many factors could influence changes that are demonstrated by children and adolescents while at camp. These could include, but are not limited to, the type and severity of LD, co-morbid diagnoses, and/or previous camp experiences (at Camp Towhee or otherwise). Similarly, camp staff training and experience may account for differences in outcomes (e.g., years of experience, post-secondary training area). As such, the present researcher chose to focus initially on the development of social competence and self-concept, in order to add to existing literature evaluating camps for children with LD and provide a basic understanding of camper development in the current cohort. To offer a preliminary examination of the possible mechanisms of change, the researcher included an investigation of friendship development and direct observations of social interactions as possible factors contributing to camper development. It is likely that there are other variables (e.g., camp staff, a specific activity) that also contribute to camper development, but it was beyond the scope of the research to investigate all possibilities.

1.8 The Current Study

1.8.1 *Summary and Rationale*

Children and adolescents with LD struggle with social competence (e.g., LDAC, 2006; Wiener & Schneider, 2002) and self-concept (e.g., Sideridis, 2003), but being socially competent and having positive self-concept are essential for future well-being (e.g., Sullivan, 1953). Specialized summer camps designed to support the unique learning needs of campers with LD offer an environment where children and adolescents with LD can experience success, build social skills, and engage with like-peers, thereby limiting the stigma attached to their LD

diagnosis. Within this type of environment, campers with LD may show increases in social skills, social acceptance, friendship, self-worth, and self-esteem from the beginning to the end of camp. However, once campers return to their regular context (e.g., school, neighbourhood), they are more exposed to social comparisons and more impacted by the BFLPE; thus, it is likely that gains made while at camp will not be maintained in this environment. Other social competence and self-concept interventions have, in general, demonstrated small effect sizes (e.g., Kavale & Forness, 1996; Elbaum & Vaughn, 2001, respectively), indicating that more research is needed to establish appropriate environments where children and adolescents with LD can enhance their social competence and self-concept. Interventions that occur in naturalistic settings provide more opportunity for practice and immediate social feedback (e.g., Wiener & Harris, 1997).

Specialized summer camps may offer a real-world context where children and adolescents with LD can feel comfortable and successful because they are surrounded by like-peers and supportive, understanding staff (e.g., Marsh & Yeung, 1999). This type of environment could serve as a context where these campers are able to enhance their social competence and self-concept.

Camp Towhee is a specialized summer camp program designed specifically for children and adolescents with LD and associated psychosocial difficulties. It aims to provide these campers with a typical summer camp experience that they might not otherwise experience in an integrated camp. Through the use of an adventure based model, campers can experience success in both activities and interpersonal relationships that they may not otherwise encounter in alternate environments, such as in school or integrated summer camps. Campers' experience of success may then help to enhance social competence, including social skills, feelings of acceptance, and friendships, as well as improvements in self-concept, including feelings of self-worth and self-esteem.

The objectives and hypotheses were derived following the completion of a pilot study (see Appendix A, p. 186). Moreover, this researcher wanted to address some of the methodological challenges in camp research by building upon and extending the work of previous authors in the field. Finally, this study offers a preliminary examination of the friendship development in campers with LD while in the context of a specialized summer camp, as well as an exploratory analysis of friendship as a possible mechanism of change for gains in social acceptance.

1.8.2 Objectives of the Current Study

The overarching goal of the present study was to investigate changes made in social competence and self-concept during a specialized summer camp designed for children and adolescents with LD and LD+ADHD. The objectives of the current study arose from the theories of Interpersonal Relations (Sullivan, 1953) and Social Comparisons (Festinger, 1954); the current bodies of literature surrounding the psychosocial development of individuals with LD during summer camp; and the results and conclusions made during the pilot study. The present study had five primary objectives, each with specific hypotheses. In addition to the following objectives, exploratory analyses were completed to examine possible differences between age and gender cohorts. Each objective will be discussed in turn¹:

1. To determine if children and adolescents with LD and associated psychosocial difficulties demonstrate improvements in social competence and/or self-concept while within the supportive milieu of a specialized summer camp.

A. Campers will demonstrate improvements in social competence and self-concept from the start of camp to the end of camp.

¹ For the sake of readability and clarity, the objectives refer to outcome variables as ‘social competence’ and ‘self-concept’. These variables were further delineated and explained earlier in the chapter (also see Figure 1.1, p.148).

- B. Gains in social competence and self-concept will not be maintained after camp, at a four to five month follow-up, once campers return to school.
 - C. Co-morbid ADHD will have a detrimental effect on the development of social competence and self-concept, such that those with LD+ADHD will make fewer gains than those with LD.
- 2. To examine the friendship characteristics of children and adolescents with LD and associated psychosocial difficulties while in the context of a specialized summer camp.²**
- 3. To investigate the formation and development of friendships within a specialized summer camp context.**
- A. Campers will develop reciprocal friendships with fellow campers during camp, and report more friendships at the end of camp than at the beginning.
 - B. Given that cabin groups are carefully chosen to match campers based on best-fits with each other, friendships are more likely to be formed between those campers who share a cabin, than those who do not share a cabin.
 - C. Campers will develop a “best friend” relationship at camp.
 - D. Friendships, including the relationship with the best friend, will not be maintained at a follow-up (four to five months later), once campers return to their schools.
 - E. Co-morbid ADHD will have a detrimental effect on the development of friendship, such that those with LD+ADHD will make fewer gains than those with LD.
- 4. To examine the development of friendship quality in the context of a specialized summer camp.**

² Hypotheses regarding the characteristics of these friendships were not made, given the exploratory nature of this objective.

- A. The closeness of the friendships will increase over the three-week camp period (from the beginning to the end of camp), but the level of closeness at the end of camp will not be maintained four to five months later.
 - B. The conflict within the friendships will decrease over the three-week camp period (from the beginning to the end of camp), but the level of conflict at the end of camp will not be maintained four to five months later.
 - C. Co-morbid ADHD will have a detrimental effect on the development of friendship quality, such that those with LD+ADHD will make fewer gains than those with LD.
- 5. To explore friendship factors that may predict changes in social competence, specifically social acceptance.**
- A. Friendship factors (number of reciprocal friendships, friendship quality, and having a best friend) at the end of camp will account for a large percent of the variance when predicting change in social acceptance at the end of camp.

CHAPTER TWO

Growth in Social Competence and Self-Concept Following Participation in a Specialized Summer Camp for Children and Adolescents with Learning Disabilities (prepared manuscript)

Abstract

This study investigated the social competence and self-concept change in 63 campers with Learning Disabilities (LD; ages 9 to 18), who participated in a three-week, specialized camp tailored for individuals with LD. Social competence and self-concept change were also compared between campers with co-morbid ADHD (LD+ADHD, $n = 34$) and campers without comorbid ADHD (LD, $n = 29$). Parent and camper ratings were obtained on *The Campers' Growth Index* and the *Self-Perception Profile for Children* at the beginning of camp, at the end of camp, and four to five months later. Parents' ratings indicated improvements in their children's social skills, social acceptance, and self-worth from the beginning to the end of camp, with evidence that social acceptance and self-worth gains were maintained when assessed at a follow-up. Campers' scores on similar measures did not improve over time. Campers' self-esteem declined four to five months after camp according to both parent and camper reports. Evidence of differential outcomes by diagnosis (LD or LD+ADHD) was found on some measures of social skills and social acceptance. Clinical implications, limitations, and directions for future research are discussed.

Growth in Social Competence and Self-Concept following Participation in a Specialized Summer Camp for Children and Adolescents with Learning Disabilities

Learning Disabilities (LD) are often associated with social competence (i.e., the skills necessary to function socially; Semrud-Clikeman, 2007) and self-concept (i.e., how one perceives one's abilities, as compared to his/her peers; Festinger, 1954) difficulties (e.g., Capozzi et al., 2008). Children and adolescents with LD frequently display deficits in social skills (LDAC, 2006) and difficulties with peer rejection and bullying (Humphrey & Mullins, 2002), as compared to typically developing peers. However, they do not always report differences on self-reports of social acceptance compared to their peers (e.g., Nowicki, 2003). Anxiety, depression, and low self-esteem are also common in this population (e.g., Nelson & Harwood, 2011). In addition to social competence and self-concept difficulties, children with LD are more likely than typically developing peers to be diagnosed with co-existing Attention Deficit Hyperactivity Disorder (ADHD; Pastor & Reuben, 2008), which is also associated with social competence and self-concept difficulties (Blachman & Hinshaw, 2002; Wiener & Mak, 2009). Individuals with LD+ADHD have been found to demonstrate more social skills difficulties and lower self-esteem than individuals with LD without ADHD (LD; Tabassam & Grainer, 2002). Thus research investigating social competence and self-concept domains in children and adolescents with LD must consider the role of co-existing ADHD.

The goal of the present study was to examine the social competence and self-concept change of campers with LD, while in the context of a specialized summer camp. It was thought that both ratings from parents and campers would indicate improvements in campers' social competence and self-concept over time, but these gains would not be maintained in the long-term, due to the impact of environment on social competence (e.g., Adams & Blieszner, 1994; Beauchamp & Anderson, 2010) and self-concept (e.g., Marsh et al., 2008). Well-developed

social competence (e.g., Allen, 2003; Denham et al., 2009) and positive self-concept (e.g., Festinger, 1954; Trzesniewski et al., 2006) are linked to desirable outcomes in both the short and long term. For instance, social competence is linked with future success in academic, behavioural, relationship, and mental health domains (Denham et al., 2009; Ladd, 1999). Moreover, positive self-concept is associated with adaptive behaviours, as well as mental and physical health, over time (Marsh & Craven, 2006; Trzesniewski et al., 2006).

According to Sullivan's (1953) Theory of Interpersonal Relations, children's social competence develops through interactions with parents and peers. Both child characteristics (e.g., behaviour, diagnoses) and social context (e.g., school, summer camp) interact to impact the development of social competence (Adams & Blieszner, 1994; Beauchamp & Anderson, 2010). For instance, in non-academic environments, children with disabilities are just as likely to have friends as their typically developing peers (e.g., Buysse, et al, 2002). Moreover, children had more friends within their child care setting than they did at school, regardless of the severity of their disability (Buysse, et al, 2002). Based on this theoretical framework and empirical evidence, children and adolescents with LD would be more likely to interact with peers in an unstructured, supportive environment, like a specialized summer camp, thereby enhancing their social competence over time. However, when campers with LD are placed back into structured and potentially less supportive environments, like the classroom, social competence gains may not be maintained.

Correspondingly, the Theory of Social Comparisons postulates that self-concept is influenced by the perceptions of others (Festinger, 1954) and is partially dependent on the immediate social context (e.g., Marsh et al., 2008; Marsh & Yeung, 1999). Children develop self-concept through interactions with others and their perceptions of how others view them. They try to match their abilities with those around them (i.e., the chameleon effect, Lakin,

Jefferis, Cheng, & Chartrand, 2003), but there are limits to the extent to which children can match the level of their peers (Festinger, 1954). For instance, the characteristics associated with LD diagnoses, such as deficits in executive functioning or memory, may prevent children from fully achieving academically at the same level as their peers, resulting in low or negative self-concept (e.g., Festinger, 1954). Marsh and colleagues (2004; 2008) have termed this phenomenon the big-fish-little-pond-effect (BFLPE), where self-concept is constructed based on self-comparisons with the abilities of peers in the immediate social context. Based on the BFLPE, if children and adolescents with LD feel that they are able to match their abilities with their peers' abilities (e.g., in a specialized summer camp), self-concept will improve. However, once these children return to school (i.e., a setting associated with challenges), they may feel rejected or inadequate (e.g., Humphrey & Mullins, 2002) and self-concept will decline.

Interventions designed to develop social competence (e.g., Forness & Kavale, 1996) and enhance self-concept (e.g., Elbaum & Vaughn, 2001) in children and adolescents with LD have garnered only small effect sizes, with the practical and clinical significance of these treatments remaining unclear. Methodological issues may limit the effectiveness of these programs, including limited time for intervention (e.g., Kavale & Mostert, 2004), and issues with transfer of skills to alternate environments (e.g., Marsh & Yeung, 1999). As an alternative to clinic settings, naturalistic contexts, like classrooms or summer camps, may offer more supportive environments where children and adolescents can practice their skills and receive immediate social feedback (e.g., DuPaul & Eckert, 1994; Hantson et al., 2011). For example, a classroom-based social skills training program for children with LD was found to improve aspects of social competence (Wiener & Harris, 1997). When the unique learning needs of children and adolescents with LD are scaffolded and they feel supported by adults and peers around them, improvements in social competence and self-concept are more likely (e.g., DuPaul & Eckert, 1994; Festinger, 1954). As

such, specialized summer camps for campers with LD may provide a supportive context, where social competence and self-concept can develop (e.g., Michalski et al., 2003).

Historically, summer camps have been an important rite of passage for many children, including both typically developing and special needs populations (Ontario Camps Association, n.d.). Even though research on the benefits of summer camp contexts for typically developing campers (e.g., Henderson et al., 2007; Thurber et al., 2007) and campers with chronic illnesses, such as diabetes and cancer (e.g., Hunter et al., 2006; Walker & Pearman, 2009) is in its infancy, the benefits of camp have been clearly delineated. Following camp, children demonstrate growth across a number of social and emotional outcomes, including social skills (Allen et al., 2006; Thurber et al., 2007), social acceptance (e.g., Thurber et al., 2007), and self-concept (e.g., Allen et al., 2006; Hunter et al., 2006). Research regarding specialized summer camps for children with LD is lacking, but preliminary findings are promising. Findings have shown that, following camp, campers with LD demonstrate gains in social competence (e.g., Michalski et al., 2003; O'Halloran & Ellsworth, 1996) and enhanced self-concept (e.g., Michalski et al., 2003; Yssel et al., 2005). However, due to the methodological limitations associated with camp research (e.g., differences between camper and parent reports and small sample sizes), more research is required to draw conclusions regarding the importance of a specialized camp context for social competence and self-concept development, specifically in children and adolescents with LD.

Objectives and Hypotheses

The primary purpose of the present study was to examine the social competence and self-concept changes in children and adolescents with LD during their participation at a specialized summer camp. Based on the tenets of the Interpersonal Relations and Social Comparisons theories, it was hypothesized that parent and camper reports would indicate improvements in camper social skills, social acceptance, self-worth, and self-esteem. A sub-goal of the primary

objective was to examine the possible maintenance or late emergence of gains over time. Even though some camp researchers have found gains to be maintained on follow-up measures (e.g., Michalski et al., 2003), maintenance of gains in social competence or self-concept beyond camp would not be predicted by the theories of Interpersonal Relations or Social Comparisons, respectively (e.g., Festinger, 1954; Marsh & Yeung, 1999; Sullivan, 1953).

Another sub-goal of the present study was to examine the possible detrimental impact of a co-morbid ADHD diagnosis on social competence and self-concept development. Preliminary evidence from previous research (Westervelt et al., 1998) suggests that youngsters with LD+ADHD may exhibit smaller gains in social competence and self-concept at camp, compared to those with LD.

Method

The Camp Setting

Camp Towhee is a specialized, annual summer camp, run by a community agency (Integra Foundation, 2009), specifically for children and adolescents with LD. This program is based on a challenge-by-choice philosophy where campers challenge themselves to participate in five different programs: Adventure based learning (high-ropes course), outdoor living skills, waterfront program, arts program, and topic focused discussion groups. This camp, while not explicitly therapeutic in nature, offers a traditional camp experience in an environment where individual learning needs are supported (see Table 2.1, p.171). The goals are for campers to develop their social competence and enhance their self-concept. Camp staff foster social development by facilitating campers' success in a variety of activities and social interactions. This three-week residential camp boasts a low camper-to-staff ratio (2:1), divided into two sessions, for campers between ages 10 and 13 and campers between ages 14 and 18. Staff

training is extensive in areas such as anti-bullying, social skills, LD, and how to support different learning profiles.

Participants

Sixty-three children and adolescents (46 males and 17 females) and their parents ($N=63$) participated in the present study. Participants were recruited from the campers attending Camp Towhee during the summer of 2009. Of the potential sample of 98 campers, 64% agreed to participate. Campers ranged in age from 9.8 to 18.4 years ($M=13.3$, $SD=1.8$), and most (61.7%) had attended this specific camp previously. Campers and their parents completed three assessments: at the beginning of camp, at the end of camp, and four to five months following camp. Complete post-camp data were obtained for 49 campers (78% of the sample) and 44 parents (70% of the sample), and complete follow-up data were obtained for 33 campers (reflecting 33% attrition) and 34 parents (reflecting 27% attrition).

All campers met the agency's intake criteria for an LD, which required evidence of at least average intellectual functioning, with difficulties in at least one aspect of cognitive processing (e.g., executive functioning, memory) and significantly lower academic achievement. LD diagnoses had been made prior to camp by school board, private, or clinic psychology staff. Many participants were also diagnosed with one or more co-morbid diagnoses, such as Autism Spectrum Disorder (ASD; 20% of the sample) and anxiety (20% of the sample). For instance, 54% of participants were diagnosed with co-morbid LD+ADHD. Of campers with LD+ADHD, 32 were male and 5 were female, leaving 14 male and 12 female campers with LD. To confirm the presence of current social and emotional difficulties, the *Strengths and Difficulties Questionnaire (SDQ)* was completed prior to the beginning of camp. Parental ratings on the *SDQ* were slightly raised on the emotional distress ($M=3.5$, $SD=2.6$) and behavioural difficulties ($M=2.8$, $SD=2.2$) subscales, indicating borderline-clinical difficulties. Also, scores on the

hyperactivity/inattention ($M=6.5$, $SD=2.4$) and peer relationship ($M=4.4$, $SD=2.3$) subscales were highly elevated for this sample, which reflects a substantial risk of clinically significant problems in these areas. Participant characteristics by diagnostic group (LD and LD+ADHD) can be found in Table 2.2 (p. 172). Notably, campers with LD+ADHD had highly elevated scores on the hyperactivity/inattention subscale and borderline-clinical scores on the behavioural difficulties subscale, whereas campers with LD displayed average scores in both of these domains.

Instruments

Demographic Form. Parents completed a demographic form specifically designed for this study. It included questions about the camper's age, the nature of LD, co-morbid diagnoses, and the number of times the camper had attended Camp Towhee previously³.

The Strengths and Difficulties Questionnaire. Parents completed the *Strengths and Difficulties Questionnaires (SDQ; Goodman, 1997)*, a brief behavioural screening survey that examines behaviour, emotions, and relationships in children and adolescents aged 3 to 16 years. The scale consists of 25 items and five subscales (emotional symptoms, conduct problems, hyperactivity/inattention, peer relationships, and prosocial behaviour) and uses a Likert-type scale where respondents indicate a statement as “not true,” “somewhat true,” or “certainly true.” The Parent-Rated Impact Supplement, not used in this study, examines the chronicity, distress, and impairment of the child's difficulties (Goodman, 1999). Both the *SDQ* and the Impact Supplement demonstrate satisfactory reliability, in terms of internal consistency and inter-rater reliability between parent and teacher ratings (Goodman, 2001; Stone, Otten, Engels, Vermulst, & Janssens, 2010). The *SDQ* has been shown to be highly correlated with the *Child Behaviour Checklist (CBCL)*, and both have the ability to differentiate between community and clinical samples (e.g., Klassen et al., 2000). Similarly, the scale demonstrates adequate validity, in that high ratings on the *SDQ* were associated with a significant increase in risk for psychiatric

³ Measures discussed in the Methods section can be found in Appendices D-G on pages 207-216.

diagnosis (Goodman, 2001).

The Camper's Growth Index. The *Camper's Growth Index* (CGI; Henderson et al., 2006) has 43 items, which examine social skills, self-esteem, values, environmental awareness, and spirituality through the use of a 4-point Likert scale ranging from “disagree a lot” to “agree a lot.” A middle or neutral point was not included to force participants to agree or disagree with the statements. This index has five domains, each with multiple subscales. Research has indicated adequate convergent and construct validity of the *Positive Identity* and *Social Skills* domains. Camper and parent responses on the entire scale were significantly, but modestly correlated, ranging from .24 to .69 (Henderson et al., 2006).

The Self-Perception Profile for Children. The *Self-Perception Profile for Children* (SPPC; Harter, 1985) is a measure of children's perceptions of scholastic competence, social acceptance, athletic competence, physical appearance, behaviour conduct, and global self-worth. This scale has 36 items and uses a structure-alternative format where children are presented with two situations and decide which situation is either “really true for me” or “sort of true for me.” The SPPC has been shown to have high psychometric stability (Harter, 1982; 1985), including internal consistency reliability scores ranging from .71 to .86. The *social acceptance* and *global self-worth* subscales were adapted for the current study from the self-report and teacher versions, to examine parental perceptions of their children's social acceptance and self-worth.

Variables Examined in the Present Study

Social Skills. Social skills were measured using three subscales from the CGI: *peer relations*, *leadership*, and *making friends*. The *peer relations* subscale has three items (e.g., “I get along with others”); the *leadership* subscale has five items (e.g., “If kids were choosing a leader, they might vote for me”); and the *making friends* subscale has four items (e.g., “I talk to kids who are different from me”).

Social Acceptance. Social acceptance was measured using one subscale from the *SPPC* and one from the *CGI*. The *social acceptance* subscale on the *SPPC* has six items (e.g., “Some kids have a lot of friends but other kids don’t have very many friends”); and the *social comfort* subscale on the *CGI* has four items (e.g., “I worry about making friends”).

Self-Worth. Self-worth was measured using the *global self-worth* subscale on the *SPPC*. This subscale has six items (e.g., “Some kids are happy with themselves as a person but other kids are often not happy with themselves”).

Self-Esteem. Self-esteem was measured using the *positive identity* and *independence* subscales on the *CGI*. The *positive identity* subscale has six items (e.g., “I feel confident in myself”); and the *independence* subscale has five items (e.g., “I need my parents to help me do things”).

Procedure

Parents were given information letters, consent forms, and initial questionnaires during an information session held four weeks prior to the first camp session. Campers provided informed consent prior to their participation at camp. Parent and camper data were not collected at the same time for the first two time points (i.e., before and after camp); parent measures were completed while campers were in school or preparing to return to school, and camper measures were completed at camp, with the exception of follow-up measures, to minimize camper drop-out rates. Thus, three waves of measures were collected from both parents and campers: Parent data were collected within one month of the beginning and ending of the camp. Camper data were collected on the first and final days of camp. Parent and camper follow-up measures were collected four or five months after camp, depending on the camp session attended. Follow-up measures were either given to parents at a camper reunion or mailed, with a stamped envelope

addressed to the agency. Parents were reminded by telephone twice to return questionnaires at each time point.

Statistical Analyses

Preliminary investigations were completed using age group (children and adolescents), gender (male and female), and camp attendance (first-time and returning campers) separately, as between-subjects factors⁴. A series of paired-sample t-tests was conducted to examine the differences between parent and camper scores on each subscale at the beginning of camp. A series of repeated measures Analyses of Variance (ANOVA) was conducted separately for parent and camper reports, with time (at the beginning, at the end, and four to five months after camp) as the repeated measure, and group (LD or LD+ADHD) as a between-subject factor, to examine changes in each outcome variable (social skills, social acceptance, self-worth, and self-esteem) over time.⁵ Bonferroni pair-wise comparisons were used to conduct post-hoc analyses when significant differences were detected.

Results

Preliminary Analyses

No statistically significant differences were found between age, gender, or camp attendance groups on any of the dependent variables; therefore, further analyses were conducted using the whole sample (i.e., collapsed across age, gender, and camp attendance). Additionally, there were no significant differences found between participants who did and did not complete follow-up measures across demographic variables: gender: $\chi^2 = 1.08, p = .30$; ADHD diagnosis: $\chi^2 = .88, p = .64$; age group: $\chi^2 = 1.40, p = .24$. Significant differences between parent and camper scores at the beginning of camp on the *peer relations* ($t = -1.97, p < .05$), *social acceptance* ($t = -$

⁴ A discussion of statistical issues and rationale can be found in Appendix C on page 171.

⁵ Analyses were also conducted across two time points, to account for small sample size (e.g., the beginning to the end of camp and the end of camp to follow-up). Results were the same as those found when using all three time points, with similar effect sizes.

8.21, $p < .01$), *global self-worth* ($t = -5.80$, $p < .01$), *positive identity* ($t = -4.20$, $p < .01$), and *independence* ($t = -3.45$, $p < .01$) subscales were found, indicating that parents rated their children as lower than campers rated themselves on measures of social competence and self-concept.

Social Skills

Parental reports of gains on the *peer relations* subscale of the *CGI* partially confirmed the hypothesis that campers' social skills would improve by the end of camp (see Table 2.3, p.173). These scores increased from the beginning to the end of camp ($F(2, 30) = 3.71$, $p = .03$, $\eta^2 = .11$), but gains were not maintained at the follow-up, four to five months later. No significant changes were found on the *leadership* or *making friends* subscales of the *CGI*, either after camp or four to five months later. Similarly, no main effects for group (LD or LD+ADHD) or group x time interactions were found when comparing campers with LD and LD+ADHD on parent ratings of camper social skills, indicating that campers with and without co-existing ADHD did not differ on social skill development.

Unlike parental reports, camper reports of their own social skills showed few developments over time (see Table 2.4, p.175). There were no significant effects of time (before, after, or four to five months after camp) or group (LD or LD+ADHD) on any measure of social skills. However, there was a significant group x time interaction on the *making friends* subscale of the *CGI* ($F(2, 27) = 3.82$, $p = .03$, $\eta^2 = .13$). This interaction indicated that campers with LD made social skills gains from the beginning to the end of camp, and further gains from the end of camp to the follow-up, four to five months later; whereas campers with LD+ADHD did not make social skills gains over time. This finding supported the hypothesis regarding the detrimental impact of co-existing ADHD for the development of social competence in children and adolescents with LD.

Social Acceptance

Improvements on the *social acceptance* subscale of the *SPPC*, as rated by parents, provided support for the hypothesis that campers gained social acceptance over their time at camp (see Table 2.3, p. 173). These scores increased from the beginning to the end of camp, with gains maintained at follow-up ($F(2, 29) = 6.95, p < .01, \eta^2 = .18$). There was no main effect for group (LD or LD+ADHD), but there was a significant group x time interaction found across parent ratings on the *CGI social comfort* subscale ($F(2, 29) = 3.56, p = .04, \eta^2 = .11$). This suggested that campers with LD felt more socially accepted at the end of camp, with more improvements still at the follow-up, whereas campers with LD+ADHD did not make any gains in social acceptance over time, according to parent ratings.

Incongruent with both parent reports of social acceptance and hypotheses regarding gains made at camp, camper reports did not indicate any changes on either the *social acceptance* subscale on the *SPPC* or the *social comfort* subscale on the *CGI* (see Table 2.4, p. 175). Campers' scores were consistent from the beginning to the end of camp, as well as four to five months later, suggesting that campers' social acceptance did not change over time. There were also no main effects for group (LD or LD+ADHD) on either subscale; however, there was a significant group x time interaction on camper-rated social acceptance on the *social comfort* subscale of the *CGI* ($F(2, 27) = 10.91, p < .01, \eta^2 = .29$). Campers with LD, compared to peers with LD+ADHD, reported feeling less socially accepted while at camp, but social acceptance improved at the follow-up measures.

Self-Worth

Consistent with the hypothesis that campers' self-concept would improve while at camp, parent reports on the *self-worth* subscale of the *SPPC* revealed significant improvements at the end of camp and four to five months later, as compared to scores at the beginning of camp (see

Table 2.3, p. 173; $F(2, 28) = 5.44, p < .01, \eta^2 = .16$). There were no main effects for group (LD or LD+ADHD) or group x time interactions found, suggesting that campers with LD and LD+ADHD made similar gains in their self-worth, according to parents.

Contrary to parent reports, campers' scores on the *self-worth* subscale of the *SPPC* did not change over time (see Table 2.4, p. 175), indicating that campers' self-worth did not improve by the end of camp or when assessed at follow-up. There were also no main effects for group (LD or LD+ADHD) or group x time interactions found, suggesting that campers with LD did not differ from campers with LD+ADHD on self-worth.

Self-Esteem

Contrary to the parent reports of self-worth and the hypothesis that self-concept would improve after camp, scores on the *positive identity* subscale of the *CGI* were stable from the beginning to the end of camp, then declined when assessed at follow-up (see Tables 2.3 and 2.4, pp. 173-175), according to both parents ($F(2, 29) = 84.98, p < .01, \eta^2 = .75$) and campers ($F(2, 27) = 39.85, p < .01, \eta^2 = .59$). This suggested that self-esteem (i.e., feeling confident in one's abilities) deteriorated once children returned to school, highlighting the importance of social context in the development of self-concept.

When comparing campers with LD and LD+ADHD, there were no significant main effects for group (LD or LD+ADHD) or group x time interactions on parent ratings of self-esteem. However, camper ratings revealed significant group (LD or LD+ADHD) differences. Campers with LD had lower self-esteem than campers with LD+ADHD ($F(2, 27) = 4.28, p = .05, \eta^2 = .14$), at all three time points. This finding contradicts the premise that co-existing ADHD will have a detrimental effect on self-concept development. Group x time interactions were not found on camper ratings of self-esteem.

Discussion

The objective of this study was to examine changes in social skills, social acceptance, self-worth, and self-esteem in children and adolescents with LD in the context of a specialized summer camp. The camp setting offered a traditional camp experience with added support for each child's individual learning and behavioural needs. Overall, changes in social competence and self-concept were only evident in the parent reports. Parents' ratings on the social skills, social acceptance, and self-worth subscales improved from the beginning to the end of camp. There was also evidence that social acceptance and self-worth gains were maintained between the end of camp and follow-up, four to five months after camp ended. Scores on the campers' self-reports, however, did not change over time, indicating no significant improvements on any of the constructs measured. Scores on both the parent and child measures of self-esteem declined from the end of camp to the follow-up, four to five months after camp. There was also some evidence of differential development of social competence and self-concept by diagnostic group. Campers with LD tended to fare better than campers with LD+ADHD in the social competence domains.

Social Competence

In the present study, parent ratings of camper social skills indicated improvements in social skills. These gains, however, were small and must be interpreted with caution given the small sample size. Furthermore, campers did not report changes in their social skills over time. These findings contradict much of the present camp literature, which has highlighted the gains campers make in social skills over time, from both parent and camper perspectives (e.g., Michalski et al., 2003; Thurber et al., 2007). There are many explanations that could account for the non-significant changes in campers' social skills according to camper self-report. For instance, the amount of time at camp (three weeks) may not have been sufficient for measurable changes in skill development (e.g., O'Halloran & Ellsworth, 1996). Also, few camp-based

studies have taken into account the complex diagnostic profiles of campers with LD (e.g., Michalski et al., 2003; Yssel et al., 2005).

In the present study, participants had co-morbid diagnoses of ADHD, ASD, and/or anxiety, and many had non-verbal LD, all of which could negatively impact social skill development (e.g., APA, 2000; David, David, & Riley, 2003). Consistent with the findings of Westervelt and colleagues (1998), campers with LD+ADHD tended to report fewer gains in social competence than those with LD. The behaviour difficulties, along with symptoms of hyperactivity, in the present sample of campers with LD+ADHD may have had a detrimental impact on social competence development (e.g., Parker & Seal, 1996). The sample size was too small to permit the investigation of the effects of different clinical profiles.

While social skills may have changed only minimally, parents' ratings on the social acceptance measure indicated that children made gains in their feelings of social acceptance by the end of camp and maintained these gains at follow-up. Although these findings are consistent with previous camp research that found improvements in social competence after camp and at a later follow-up (e.g., Michalski et al., 2003; Thurber et al., 2007), scores on the campers' reports of social acceptance did not increase over time. The differences could be due to informant effects on social competence ratings (e.g., Pierce & Klein, 1982), but this should not discount the camper perceptions of their abilities (e.g., De Los Reyes et al., 2011). Camper ratings were much higher at the beginning of camp than parents' ratings. Here, the timing of the measurement could be a factor in these informant discrepancies. When completing initial measures, campers were already within the supportive camp milieu, whereas parents completed these measures while campers were still in school. It may be that parents compared campers to their typically developing school peers, while campers were more apt to compare themselves to their camp peers. These results support the importance of the social context, based on the Theory of

Interpersonal Relations (Sullivan, 1953), where feelings of acceptance are based on peer interactions. While others have reported that children with LD, regardless of educational placement, compare themselves to their typically developing peers (e.g., Bear et al., 2002), it may be that being removed from the educational setting impacts improvements in social competence. At school, children with LD are exposed to typically developing students, even when in a self-contained classroom. Here, they often find themselves to be rejected or neglected by typically developing peers (e.g., Humphrey & Mullins, 2002; Medina & Luna, 2004), whereas at camp, they feel comfortable, supported, and accepted by others (e.g., Meltzer & Rourke, 2005).

Co-morbid ADHD had a differential effect on camper outcomes; however, this effect was not detrimental while at camp, as predicted. Unexpectedly, those with LD+ADHD felt more accepted at camp than those with LD. Once back at school, the predicted detrimental effect of co-morbid ADHD was evident. It may be that while at camp, campers with LD+ADHD feel more supported than when they are at school. Campers with LD may take more time to warm up at camp or they may be impacted by other diagnoses, such as ASD or anxiety. At school, children with LD may feel more accepted because they display less hyperactivity and behavioural difficulties than those with LD+ADHD (e.g., Parker & Seal, 1996). The staff at camp may also be in a better position than teachers to prevent behavioural difficulties, due to increased training or low camper-to-staff ratio, making children with LD+ADHD feel more accepted. Without being able to make behavioural changes, these children are rejected by peers once they return to school (e.g., Parker & Seal, 1996). Feeling accepted is essential for the development of friendships (Sullivan, 1953), protection against bullying (Fox & Boulton, 2006), and the development of social skills (Gottman et al., 1975). Through friendships, children may feel more accepted, thereby opening themselves up to further peer interactions (Sullivan, 1953).

Within friendships, social skills are practiced and enhanced in a safe and supportive context (Sullivan, 1953); but three weeks in a specialized summer camp was not sufficient for children with LD to demonstrate robust improvements in self-reported social competence.

Self-Concept

The Theory of Social Comparisons also highlights the significance of social context, but with respect to its importance in the construction of self-concept (Festinger, 1954). Children develop self-concept by comparing themselves to their immediate peer group (Festinger, 1954; Marsh et al., 2008). In the case of children and adolescents with LD, they often compare themselves to their typically developing peers in academic settings where their abilities, particularly in social skills and academics, might fall short, resulting in low self-concept (i.e., the BFLPE; Marsh et al., 2004; 2008). Positive or high self-esteem plays an essential role in the development of adaptive behaviour, as well as mental and physical health (e.g., Marsh & Craven, 2006). For children and adolescents with LD, self-concept is often lower than that of typically developing peers, due to repeated social and/or academic failures (e.g., Humphrey & Mullins, 2002; Sideridis, 2003). However, the present findings suggest that a specialized summer camp may provide a helpful context where campers with LD can enhance their self-worth. Parents' ratings on measures of their children's self-worth increased from the beginning to the end of camp, with these gains maintained four to five months later. While campers' ratings did not reflect similar gains, their initial ratings of self-worth were much higher than parents' initial ratings and remained consistent across three time points. Again, these results were not particularly robust, and should be interpreted with caution. As with the social acceptance findings, the timing of measurement may have played a role in the differences between parent and camper reports. These findings parallel those from previous studies in which campers with LD displayed higher self-esteem (Yssel et al., 2005) and less loneliness (Michalski et al., 2003)

after camp. Taken together, these findings suggest that being within the supportive camp milieu may enhance feelings of self-worth (i.e., overall feelings of happiness with oneself; Harter, 1996).

Conversely, the declines in self-esteem four to five months after camp, from both parent and camper perspectives, contradict the finding of enhanced self-worth, as well as the findings of previous camp research where improvements in self-concept were reported (e.g., Michalski et al., 2003; Thurber et al., 2007). Within the specialized camp milieu, campers likely experienced success, developed new skills, and had positive peer interactions, contributing to stable self-esteem while at camp. However, once back at school, children and adolescents with LD may have struggled socially (e.g., Humphrey & Mullins, 2002) and academically (e.g., Sideridis, 2003), contributing to declines in self-esteem. The present findings support the Theory of Social Comparisons, where children compare themselves to their immediate peer group and their self-concept is constructed based on their perceptions of these comparisons (Festinger, 1954).

Likewise, the BFLPE proposes that children's self-concept will vary according to the overall level of their peer group (Marsh et al., 2004; 2008). For instance, when the overall level of the peer group is on-par with or lower than that of a specific child, then that child's self-concept will be high (e.g., Marsh et al., 2008). At a specialized summer camp for children with LD, most of the campers, particularly those placed together in a cabin, fall within a similar ability level, which likely contributed to stable, positive self-esteem while in this context. Once a child returns to an environment where the overall ability level of his/her peers is higher than his/her own, like school for a child with LD, self-esteem is likely to be negatively impacted (Marsh et al., 2008). These findings add to the literature base on the BFLPE, by demonstrating that children and adolescents with LD display higher self-esteem in non-academic settings with like-peers, than in academic settings.

In terms of the detrimental effect of co-morbid ADHD on self-concept development, no group differences were observed on measures of self-worth, but campers with LD+ADHD reported higher levels of self-esteem than those with LD, in general. This finding might have been attributed to a positive illusory bias (PIB), often observed in individuals with ADHD, where perceived skills are rated as higher than actual skills (Owens et al., 2007). However, in the present study, individuals with LD+ADHD still reported a decline in self-esteem at follow-up, indicating that they might have perceived changes in their self-concept. Moreover, self-esteem is a perception of one's confidence (e.g., Conley et al., 2007), not a skill per se. The group differences in social acceptance could account for this difference, where campers with LD+ADHD felt more accepted than those with LD, resulting in enhanced self-esteem while at camp.

Limitations and Future Research

As in any research, this study has limitations, the most significant being the small sample size. This was compounded by the significant participant attrition that occurred between the end of camp and the follow-up assessment. This limitation was of concern due to its probable impact on statistical power (e.g., Bland, 2008); while effect sizes were generally small to medium, with large effect sizes on the self-esteem construct, these need to be interpreted with caution given the sample size. Nonetheless, there were no significant differences on any of the demographic variables (e.g., age, gender) between those participants who did and did not complete follow-up measures. Due to the importance of having fewer campers at specialized summer camps to maintain a high level of staff support (e.g., Kronick, 1973), future researchers could aggregate data across several years.

Another limitation pertains to measurement, including both the measures used and the timing of data collection. The current research relied on camper and parent reports, and while

important, these reports offer only perceptions of campers' gains. The measures were chosen to examine social competence (social skills and social acceptance) and self-concept (self-worth and self-esteem) gains. It is possible that these were not sensitive enough to identify small changes made over a three-week period. It is also plausible that changes made by campers could not be captured using these measures. Qualitative information might be helpful in establishing useful areas for quantitative investigation or in completing quantitative approaches. The timing of measurement may have also been a limitation (i.e., initial questionnaires were completed by parents prior to camp and by campers while at camp). Given the importance of the immediate context on social competence (e.g., Sullivan, 1953) and self-concept (e.g., Festinger, 1954), future researchers should ensure that parents and campers complete measures at the same time, within the same context. It may be preferable to complete initial measures prior to starting camp (e.g., while at school) in order to better see any changes made in the camp context. By having parents and campers complete measures at the same time and within the same context, this could control for any differences between informants due to the environment. In this way, if parents are still reporting changes and campers are not, then other factors could be at play, such as parent bias or a lack of awareness from campers.

Another possible limitation was the heterogeneity of the sample, which could limit the generalizability of results to other samples. This may have also accounted for some of the small effect sizes, as the diagnostic profiles of the campers may influence the development of skills. On the other hand, the complex profiles of these campers are common in clinic-referred samples and so may offer a more realistic view of the changes made at camp. In this same vein, familial characteristics, not collected in this study, could contribute to a volunteer bias. By further understanding these factors, researchers may be in a better position to generalize findings or investigate predictors of change.

Finally, the present study was correlational in nature and a causal relationship between participation at camp and psychosocial outcomes was not determined. There are ethical and practical implications for using a randomized control design (Henderson, Bialeschki, & James, 2007). Similarly, controlling extraneous variables from a waitlist control group would be challenging (Henderson, Bialeschki, & James, 2007); however, future researchers could use participants as their own controls by having a baseline period in which data are collected in the weeks prior to camp. In addition, a multiple baseline design could be employed when camps have multiple sessions with campers in the same age groups.

Conclusions and Clinical Implications

The primary objective of the present study was to investigate the development of social competence and self-concept for children and adolescents with LD during their participation in a specialized summer camp. The results indicated that parents observed improvements in their campers' social acceptance and self-worth over time. Small gains were also reported in social skills, but these were not maintained four to five months later. Campers did not report similar changes over time; instead they tended to rate themselves as higher than their parents rated them. Differential effects of diagnosis were found on outcomes. Campers with LD tended to fare better overall on social competence domains, but campers with LD+ADHD had generally higher self-esteem. Both parents and campers indicated that self-esteem was lower once back at school, as compared to while at camp.

The goals of this particular camp are to improve social competence and enhance self-concept in campers with LD. Overall, the present findings, while generally positive, do not provide robust evidence that children and adolescents with LD enhanced their social competence and self-concept at this specialized summer camp. The costs of this particular camp to parents, the agency, and other funding agencies may exceed the benefits for campers in social

competence and self-concept domains. It is possible that campers develop individual skills or grow in a way that supports their development in the future (e.g., developing long lasting friendships), but the findings of the present study were not able to support this premise. This was likely due to the small sample size and measurement limitations. Significant changes to the camp structure and/or activities, as well as staff approaches may be helpful, as well. For instance, staff could receive specific training in the adventure based counseling model (e.g., Carlson & Cook, 2007), in order to learn how to provide more direct connections between individual camper strengths and managing real-world stressors or conflicts. This might also improve the generalization of skills developed at camp to alternate contexts, specifically the school environment. Furthermore, connections made at the camp with other peers should be fostered outside of the camp environment to facilitate the development of social skills within the friendship context (e.g., Hoza et al., 2003). Adult supervision and support might often be required to facilitate these connections outside of camp (e.g., Hoza et al., 2003). Other changes could include the development of a therapeutic component, such as group therapy sessions and/or direct teaching of social skills in the naturalistic environment. Including a therapeutic component might be helpful for both campers to improve their skills and discuss difficult issues that occur at school, such as the stigma attached to having LD (e.g., Hantson et al., 2011).

This specialized summer camp offers a challenging, fun, inclusive environment for children and adolescents with LD, where they can experience the activities of a typical summer camp environment while their individual learning needs are supported. While the importance of this environment to the campers and their parents cannot be minimized, changes to the camp structure and research approach may be helpful to see measureable improvements in social competence and self-concept for campers with LD.

CHAPTER THREE

Friendship Development in Children and Adolescents with Learning Disabilities During Summer Camp (Prepared Manuscript)

Abstract

High-quality, reciprocal friendships are essential for the well-being of individuals across the lifespan, but children with Learning Disabilities (LD) struggle to initiate and maintain friendships. The objectives of the present study were to investigate the development of friendships and the relationship between friendship and acceptance, in 63 campers with LD in the context of a specialized summer camp. Results indicated that campers with LD developed close, reciprocal friendships within the context of camp. Campers additionally reported forming and maintaining a best camp friend. Moreover, high-quality and reciprocal friendships predicted changes in parental reports of camper social acceptance; and reciprocal friendships predicted changes in social acceptance as reported by campers. Clinical implications and future directions are discussed.

Friendship Development in Children and Adolescents with Learning Disabilities during Summer Camp

Friendships play a pivotal role in children's development of social competence and self-concept (Sullivan, 1953). Yet, some children, such as those with learning disabilities (LD), struggle to develop and maintain close friendships (e.g., Wiener & Schneider, 2002). The present study explores the development of friendships amongst children and adolescents with LD within the context of a specialized summer camp. According to the Theory of Interpersonal Relations (Sullivan, 1953), children's social skills initially develop through their attachments with their parents, but later peers become as important. As children enter adolescence, they individuate from their parents and seek close peer relationships. The majority of children and adolescents are able to develop reciprocal friendships with peers (e.g., Rubin et al., 2008). These friendships provide a unique context where children can further develop and practice social skills; these skills, in turn, facilitate the acquisition of new friends and the maintenance of previous relationships (Sullivan, 1953).

To facilitate smooth interactions, children unconsciously try to match the abilities of the peers in their immediate context (i.e., the chameleon effect; Chartrand & Bargh, 1999). When they are able to mimic their peers, the likelihood of forming friendships is enhanced (Chartrand & Bargh, 1999). Many other factors also contribute to the formation of friendships, including child characteristics (e.g., dispositional theories), social acceptance, and social context (e.g., structural theories; Adams & Blieszner, 1994). These factors interact to influence friendship choice (Adams & Blieszner, 1994; Ellis & Zarbatany, 2007). Friendships are most helpful when children experience closeness and minimal conflict (i.e., a high-quality relationship; Sullivan, 1953). Friendship quality generally increases with maturity and with the stability of friendships (e.g., Aboud & Mendelson, 1996). High-quality, reciprocal friendships have been associated

with gains in social skills, prosocial behaviour, self-confidence (e.g., Hartup, 1996; Rubin et al., 2008), social acceptance, coping mechanisms (Berndt, 2002), and supportive, positive relationships with adults (e.g., Dunn et al., 2001). The Theory of Interpersonal Relations additionally emphasizes the importance of having a best friend (Sullivan, 1953). Having just one close, reciprocal friend can prevent psychosocial difficulties (Bukowski et al., 1996; Wiener & Sunohara, 1998), and this type of relationship can be even more influential in adolescent decision making than the peer group (e.g., Urberg, 1992). The stability of these relationships over time is also important, and contributes to friendship quality (e.g., Bukowski et al., 1994) and overall well-being (e.g., Bowker, 2004).

Children and adolescents with LD frequently display social competence deficits (e.g., Beitchman & Young, 1997). These children also have fewer reciprocal friendships than those without LD (e.g., Estell et al., 2009; Wiener & Schneider, 2002). Consistent with predictions from the Theory of Interpersonal Relations (e.g., Adams & Blieszner, 1994; Sullivan, 1953), these friendships tend to be with younger peers and/or with others who also have learning difficulties (Wiener & Schneider, 2002). Moreover, these relationships are often lower quality (e.g., Pearl & Donahue, 2004), less stable (Estell et al., 2009), and more conflictual (e.g., Wiener, 2002) than the friendships of typically developing peers.

LD diagnoses frequently co-occur with ADHD (e.g., Pastor & Reuben, 2008), a disorder which is also associated with poor peer relations (e.g., Mikami, 2010). Children and adolescents with ADHD tend to have fewer and lower quality friendships than their typically developing peers (e.g., Blachman & Hinshaw, 2002; Mikami, 2010). Despite the high co-morbidity rates (Pastor & Reuben, 2008), limited research exists regarding the friendship patterns of children and adolescents with co-occurring LD and ADHD (LD+ADHD; McNamara et al., 2005). Existing findings suggest that children with LD+ADHD experience more peer victimization than

those with LD without ADHD (LD), yet the two groups do not seem to differ in friendship quality (McNamara et al., 2005). As per the chameleon effect, children may attempt to mimic their peers' behaviours (e.g., Chartrand & Bargh, 1999), but the symptoms of ADHD (e.g., hyperactivity, impulsivity) may prevent children from successfully matching their peers. For instance, children who demonstrated disruptive behaviour had a more difficult time maintaining friendships than those who were prosocial (Parker & Seal, 1996). This could account for the difficulties that children with ADHD and LD+ADHD have in maintaining friendships. Children and adolescents with LD+ADHD also display more social competence deficits than children with LD (Al-Yagon, 2009; Flicek, 1992), which is problematic in that social competence is essential to the development of friendships (Sullivan, 1953). Thus it is reasonable to predict that children with LD+ADHD would struggle more than those with LD to develop high-quality, reciprocal friendships.

Moreover, limited research exists regarding friendship development during summer camp. Naturalistic environments, like specialized summer camps, may provide a unique context for children and adolescents to develop and maintain close, reciprocal friendships (e.g., DuPaul & Eckert, 1994; Murphy & Schneider, 1994). Specialized summer camps are most often restricted to a specific population of campers. When children are surrounded by like-peers, social interactions are smoother; they are more likely to develop friendships (e.g., Chartrand & Bargh, 1999; Marsh & Yeung, 1999). However, for children with LD and LD+ADHD there is a risk that they may mimic the inappropriate social behaviour manifested by their like-peers (i.e., others with LD and/or LD+ADHD). Investigations of friendship development at summer camp have demonstrated that typically developing campers may be more accepted by peers, based on peer nominations, but they may not necessarily establish high-quality, reciprocal friendships after camp (Hanna, 1998). In a recent examination of girls with ADHD, having one close, reciprocal

camp friend protected against bullying while at camp (Cardoos & Hinshaw, 2011). To date, no study has examined the characteristics, development, or quality of friendships in children and adolescents with LD, while within the context of a specialized summer camp that includes only children and adolescents with LD. The effects of the frequency of camp attendance (i.e., first-time or returning campers) and co-morbid ADHD on friendships have also not been examined within the LD population.

Objectives and Hypotheses of the Current Study

Given these research gaps, the aims of the current study were fourfold. The first objective was to examine the friendship characteristics of campers with LD at the beginning of camp. This objective was exploratory, and as such, no specific hypotheses were made.

The second objective was to investigate the development of camp friendships within a three-week, specialized summer camp specifically designed for children and adolescents with LD. The Theory of Interpersonal Relations (Sullivan, 1953) suggests that many factors can account for friendship development, including diagnosis, behaviour, social status (Adams & Blieszner, 1994), and physical proximity (e.g., Back et al., 2008). In the camp under investigation, cabin groups are based on factors such as child characteristics (e.g., emotion regulation), age, maturity, and interests. Therefore, it was predicted that campers would develop high-quality, reciprocal friendships over the course of camp, but particularly with cabin mates. However, given recent empirical evidence (e.g., Estell et al., 2009), it was predicted that camp friendships would not be maintained at follow-up, four to five months after camp. Best friendships were also investigated over time (i.e., does the camper report having a best friend at all time points; and is the same friend listed at these time points?).

The third objective was to examine changes in the quality of friendship within a specialized summer camp. It was predicted that the quality of friendship would increase over the

course of camp. Specifically, this meant that closeness ratings would increase, while conflict ratings would decrease by the end of camp. As no information exists regarding the development of friendship quality at camp for children with LD, these hypotheses were exploratory. It may be that the quality of these friendships is lower or that the friendships involve more conflict than those of typically developing peers (e.g., Pearl & Donahue, 2004), but the importance of these friendships to the child cannot be discounted (e.g., Cardoos & Hinshaw, 2011).

As camp attendance has not been examined in previous research, a sub-goal of the three latter objectives was to investigate the impact of frequency of camp attendance (first-time or returning campers). Given theoretical evidence (e.g., Adams & Blieszner, 1994; Sullivan, 1953), it was predicted that returning campers would fare better overall, because they have more exposure to the camp environment and other returning campers. Moreover, given the common co-occurrence of LD and ADHD (Pastor & Reuben, 2008), all outcomes were compared across diagnosis (LD or LD+ADHD). It was hypothesized that those with LD+ADHD would exhibit fewer, lower quality reciprocal friendships than those with LD. Outcomes were also explored across age and gender.

The final objective was to explore whether or not friendship variables predicted changes in aspects of social competence. The Theory of Interpersonal Relations suggests that friendship and social competence would be interconnected (Sullivan, 1953), and this hypothesis has received considerable empirical support (e.g., Kaukiainen et al., 2002; Ladd, 1996; Parker & Asher, 1993). Yet the role of friendship in the development of self-reported social acceptance has not been examined in the camp context. In the present study, friendship variables (total friends, friendship quality, and having a best friend) were expected to predict parent and camper reports of change in social acceptance at the end of camp. The developments in social acceptance are

reported elsewhere (Case, Milligan, Wiener, Martinussen, & Tannock, 2012, manuscript in preparation).⁶

Method

Participants

Participants were recruited from a group of children and adolescents attending a specialized summer camp for campers with LD. Sixty-three campers (46 males and 17 females), aged 9 to 18 years (Mean age = 13.3, $SD = 1.8$) and their parents participated in this study, representing 64% of the potential sample of 98 campers. There was considerable attrition between the end of camp and the follow-up assessment four to five months later, resulting in data loss from incomplete or unreturned questionnaires. Complete data (across all three time points) on the friendship questionnaires were obtained for 23 campers, with 17 campers completing the friendship quality measures.

All participants met the agency's intake criteria for an LD, which required evidence of average to above average intellectual functioning, with significantly lower academic achievement and difficulties in one or more areas of cognitive processing (e.g., executive functioning, memory). LD diagnoses had been determined by school board, private, or clinic psychology staff, prior to intake. Participant characteristics are presented in Table 3.1 (p.172). Over half of the participants were also diagnosed with co-morbid ADHD (54%), with approximately 20% of the sample diagnosed with Autism Spectrum Disorder (ASD) and about 20% of the sample diagnosed with anxiety. Diagnoses were based on parental report, but corroborated by psychological reports from school boards, private clinics, or hospital settings. Of the campers who participated, 38% ($N = 24$) were first-time campers, while 62% ($N = 29$) had attended camp at least once previously ($M = 1.92$, $SD = .91$, range = 1 - 4 attendances).

⁶ Social acceptance was examined during the same data collection period as the present study, but these results are presented in the unpublished manuscript "Psychosocial Outcomes Following Participation in a Specialized Summer Camp for Children and Adolescents with Learning Disabilities" (Case et al., 2012).

Additionally, the *Strengths and Difficulties Questionnaire (SDQ)* was used to confirm the presence of psychosocial difficulties (see Table 3.1, p.172). The *SDQ* data indicated that, overall, these campers displayed significant social and emotional difficulties, with particular problems in peer relations. When comparing diagnostic groups, those with LD+ADHD displayed higher hyperactive/inattention symptoms ($t = -6.24, p < .01$) and more behavioural difficulties ($t = -2.63, p < .01$), than those with LD. These groups did not differ with respect to reported peer problems ($t = .78, p = .44$) or prosocial behaviour ($t = 1.04, p = .30$).

The Camp Setting

Data collection took place in a specialized summer camp offered through a community mental health agency for children and adolescents with LD. This three-week camp, set in rural Ontario, Canada, uses an adventure based counseling model (e.g., Carlson & Cook, 2007) where campers challenge themselves to participate in a variety of programs (e.g., water front activities, art and music). The camp has a low camper-to-staff ratio (2:1), with highly trained staff who guide campers through adventure tasks (e.g., high-ropes, canoe trips) using a strengths-based approach. Campers spend the majority of their day with their cabin mates and are often required to problem solve and work together. In this highly supportive environment, campers experience both personal and interpersonal successes, and exhibit some developments in social skills, social acceptance, and self-worth (Case et al., 2012).

Measures

Demographic Information. Parents completed a demographic questionnaire, created for the purposes of this study, which included questions about the campers' age, grade, nature of LD, co-morbid diagnoses, and number of camp attendances at this specific camp.⁷ The *Strengths and Difficulties Questionnaire (SDQ)*; Goodman, 1997) was also completed by parents as a measure of campers' behaviours, emotions, and social relationships. These questionnaires were

⁷ Measures described in the Methods section can be found in Appendices D-H on pages 207-217.

completed approximately one month prior to the beginning of camp, while the children were still attending school. The *SDQ* is a 25-item behavioural screening tool with five subscales (emotional symptoms, conduct problems, hyperactivity/inattention, peer relationships, and prosocial behaviour). Using a three-point Likert scale, respondents indicate if statements are ‘not true,’ ‘somewhat true,’ or ‘certainly true.’ The *SDQ* has strong reliability and validity (e.g., Goodman, 2001; Stone et al., 2010); for instance, it is highly correlated with the *Child Behaviour Checklist (CBCL)* and differentiates between clinical and community samples (e.g., Klassen et al., 2000). Internal consistency, test-retest reliability, and inter-rater reliability across teacher and parent versions are also satisfactory (Stone et al., 2010).

Friendship Development. On the friendship questionnaire, adapted from one used by Wiener and Schneider (2002), campers reported the names of their friends at camp, as well as the name of their best camp friend, where applicable. Other information was also obtained about the listed friends (e.g., friend’s cabin). Friendships were considered to be reciprocal when they were corroborated by matching friendships listed on the questionnaires of other campers. When a friend’s questionnaire was not available (i.e., no consent to participate in the study), cabin counselors were interviewed and asked if the dyad seemed reciprocal. Total reciprocal friendships was used as the dependent variable and further subdivided into cabin and non-cabin mates in the analyses. Having a best friend was used as a categorical (either yes or no) outcome. At the first two time points (on the first day of camp and on the last day of camp), only the campers completed the friendship questionnaire. At the follow-up, four to five months later, both campers and parents completed a friendship questionnaire. By this time, campers had returned to school. Friends listed by parents and by other campers were matched with participants’ listed friends to establish reciprocity.

Friendship Quality. Participants also completed two visual analog scales (Gift, 1989) as measures of friendship quality: one for the closeness of the relationship and one for the level of conflict in the relationship. These visual analog scales were created specifically for use within this study. They were completed only by campers at each of the three time points (i.e., at the beginning of camp, at the end of camp, and four to five months later). Each scale was 100 mm in length and anchored by extremes (e.g., ‘very close’ or ‘not close at all’ and ‘never argue/fight’ or ‘argue/fight all the time’). Each scale included pictures as a visual representation of the extreme points. Participants were asked to place an ‘X’ along with their friend’s initials on the scale to indicate closeness and conflict for each friend listed on the friendship questionnaire. Because campers often ranked many friends, for the purposes of the analyses, the friends rated as highest on closeness and lowest on conflict at the start of camp were examined across time. These friends were not necessarily the same friend on both the closeness and conflict scales, nor were they necessarily the listed best friend. In some cases a friendship was not ranked across all three time points. When this occurred, the next closest/conflictual friendship was examined.

Procedure

Parents were given information letters, consent forms, and demographic measures during a camp information session, four weeks prior to the first camp session. Demographic forms were completed by parents at this time, mostly while campers were still attending school. Informed consent was obtained from campers prior to completing the questionnaires on the first day of camp. Camper data were collected over three time points: on the first day of camp, on the last day of camp, and four to five months after camp. Campers were given the option to have the questionnaires read aloud or to use a scribe for writing. Privacy booths were also available if campers so chose. Friendships were corroborated using the reports from other campers’ questionnaires. Where this was not possible, camp counselors were asked whether or not

campers' reports of friendships were accurate, in order to corroborate friendships. Follow-up questionnaires were given out at the camp reunion, three months after the second camp session, or mailed with an addressed, stamped envelope. Parents were reminded by telephone twice to return follow-up questionnaires.

The current study was undertaken as part of a program evaluation to examine the social competence and self-concept outcomes for campers while within the context of a specialized summer camp. Those findings, which provided some evidence that campers with LD enhance their social competence and self-concept while at camp, are reported in Chapter Two (Case et al., 2012). Of note, for the purposes of the present study, were findings that parents perceived campers to feel more socially accepted at the end of camp and four to five months later, compared to at the beginning of camp. Camper reports of social acceptance did not increase overall, but there were differences based on diagnostic group (i.e., LD or LD+ADHD). Those with LD reported feeling less socially accepted by the end of camp, than those with LD+ADHD, but acceptance improved at follow-up; while those with LD+ADHD reported feeling more socially accepted by the end of camp, than those with LD, but acceptance declined at the follow-up (Case et al., 2012).

Statistical Analyses

Exploratory analyses were completed to investigate the existence of outliers and skew within the data. Conflict scores were significantly skewed. Outliers were transformed using the Winsorizing method (e.g., Wainer, 1976), whereby the lowest and highest outcome scores were set equal to the score within the boundary of each end of the distribution. Preliminary investigations were completed using age group (children and adolescents) and gender (male and female), separately, as between-subject factors. However, as no significant differences were

found between the groups, subsequent analyses were conducted with the whole sample, collapsing across age and gender.

Due to significant participant attrition between the end of camp and the follow-up, analyses were completed, first, across the initial two time points (i.e., the beginning and the end of camp), and, second, across all three time points. Across the initial two time points, 45 campers (71% of the total sample, and 46% of the potential sample) completed the friendship questionnaire, with 43 completing the closeness scale and 42 completing the conflict scale. Across all three time points, 23 campers (37% of the total sample, and 23% of the potential sample) completed the friendship questionnaire and 17 of those campers completed the quality scales (i.e., both closeness and conflict scales). Overall, 65% of the sample did not complete the follow-up measures. When separated by group, 74% of first-time campers and 60% of returning campers did not complete the follow-up measures; and 62% of campers with LD and 25% of campers with LD+ADHD did not complete the follow-up measures. The characteristics of the participants who did and did not complete the follow-up measures were examined, but no significant differences were found.

To examine the development of friendship and friendship quality, a series of repeated measures Analyses of Variance (ANOVA) were conducted, with time (the beginning, the end, and four to five months after camp) as repeated measures, and with camp attendance (first-time or returning campers) and diagnosis (LD or LD+ADHD) as between-subject factors in separate analyses⁸. Bonferroni pair-wise comparisons were conducted as post-hoc analyses when significant differences were found.

To further examine friendship development, camper reports of having a best friend were designated as a categorical variable. A Cochran's Q test was used to determine differences at the beginning of camp, at the end of camp, and four to five months after camp, with the Wilcoxon

⁸ Statistical issues and rationale are further discussed in Appendix C on page 191.

signed-rank test used for post-hoc analysis and the Kruskal-Wallis test used to examine group differences (first-time or returning campers; LD or LD+ADHD). A qualitative examination of who campers listed as their best friend was completed, to determine if campers listed the same best friend at each time point.

Finally, to investigate factors that might predict changes in parent and camper reported feelings of social acceptance, multiple regression analyses were used. Outcome variables (reciprocal friends, friendship quality, having a best friend) were added individually and separately (due to the small sample size) to the regression equation as possible predictors of parent and camper reported social acceptance, at the end of camp.

Results

Friendship Characteristics at the Beginning of Camp

At the beginning of camp, campers reported having between zero and six reciprocal friends ($M = 2.09$, $SD = 1.55$, $Mdn = 2.0$). Only 15% of all campers reported having no friends at the beginning of camp, and the majority (88%) of those who reported friendlessness were first-time campers. Reciprocal friendships were rated as close, overall, with a mean closeness score of 75.0 ($SD = 17.86$; range = 12.0 - 100.0), where a rating of 100 indicated friends who were very close. Reciprocal friendships were also rated as having low levels of conflict, overall, with a mean conflict score of 90.38 ($SD = 12.70$; range = 49.0 - 100.0), where a rating of 100 indicated friendships with no conflict.

Characteristics by Camp Attendance. Of campers who were attending for the first time, 71% reported having at least one camp friend at the beginning of camp ($M = 1.38$, $SD = 1.41$, range = 0 - 5). These friendships were rated as close ($M = 69.1$, $SD = 22.96$), with low levels of conflict ($M = 91.81$, $SD = 12.67$). Of campers who were returning to this camp, 96% reported having at least one camp friend at the beginning of camp ($M = 2.69$, $SD = 1.42$, range = 0 - 6).

These friendships were also rated as close ($M = 72.23$, $SD = 24.64$), with low levels of conflict ($M = 89.50$, $SD = 12.88$). There was a significant difference between first-time and returning campers' reports of reciprocal friendships ($t = -3.37$, $p < .001$), indicating that first-time campers had fewer reciprocal friends than returning campers at the beginning of camp. No differences were found across the camp attendance groups on either closeness or conflict ratings at the beginning of camp.

Characteristics by Diagnosis. Almost 87% of campers with LD reported having at least one camp friend at the beginning of camp ($M = 1.96$, $SD = 1.43$, range = 0 – 5). These friendships were rated as close ($M = 73.05$, $SD = 23.37$), with low levels of conflict ($M = 91.74$, $SD = 11.87$). Of campers with LD+ADHD, 83% reported having at least one camp friend at the beginning of camp ($M = 2.20$, $SD = 1.65$, range = 0 – 6). These friendships were also rated as close ($M = 69.33$, $SD = 24.44$), with low levels of conflict ($M = 89.26$, $SD = 13.5$). No significant differences were found between campers with LD and LD+ADHD on reciprocal friendships, closeness ratings, or conflict ratings, at the beginning of camp.

Friendship Development

Friendship development was examined across four outcome variables: total reciprocal camp friendships, reciprocal friendships with cabin mates, reciprocal friendships with non-cabin mates (see Tables 3.2, p. 177 and 3.3, p. 178; Figure 3.1, p. 184), and having a best camp friend. Each variable is discussed in turn, with results presented, first, for analyses across the initial two time points (i.e., from the beginning to the end of camp); and second, for analyses across all three time points (i.e., at the beginning, the end, and four to five months after camp). Within each of these subsections, results are presented, first, using the whole sample; second, using camp attendance (first-time or returning campers) as a between-subject factor; and third, using diagnosis (LD or LD+ADHD) as a between-subject factor.

Total Reciprocal Camp Friendships. The examination across the initial two time points revealed a significant increase in camper reported reciprocal friendships from the beginning to the end of camp ($F(2, 43) = 33.73, p < .001, \eta^2 = .44$). When using camp attendance (first-time or returning campers) as a between-subject factor, first-time campers reported fewer reciprocal friendships than returning campers, in general ($F(2, 43) = 10.06, p < .01, \eta^2 = .19$); but group x time interactions were not found. When using diagnosis (LD or LD+ADHD) as a between-subject factor, there were no significant main effects or group x time interactions found.

The examination across all three time points revealed a significant increase in camper reported reciprocal friendships from the beginning to the end of camp ($F(2, 22) = 11.47, p < .01, \eta^2 = .32$). These gains were not maintained at follow-up, four to five months later. When using camp attendance (first-time or returning campers) as a between-subject factor, no main effects were found, but there was a significant group x time interaction ($F(2, 22) = 3.56, p < .05, \eta^2 = .10$). First-time campers reported more reciprocal camp friendships at follow-up than returning campers; however, returning campers reported more reciprocal camp friendships at the end of camp, than first-time campers. When using diagnosis (LD or LD+ADHD) as a between-subject factor, no main effects or group x time interactions were found.

Reciprocal Friendships with Cabin Mates. The examination across the initial two time points revealed a significant increase in camper reported reciprocal friendships with cabin mates from the beginning to the end of camp ($F(2, 43) = 13.31, p < .001, \eta^2 = .24$). When using camp attendance (first-time or returning campers) as a between-subject factor, first-time campers reported fewer cabin mate friends than returning campers, overall ($F(2, 43), p < .05, \eta^2 = .09$). A group x time interaction was not found for camp attendance. Likewise, when using diagnosis (LD or LD+ADHD) as a between-subject factor, no significant main effects or group x time interactions were found.

The examination across all three time points revealed a significant increase in camper reported reciprocal friendships with cabin mates from the beginning to the end of camp ($F(2, 22) = 7.21, p < .01, \eta^2 = .25$). These friendships were not maintained at follow-up four to five months later. When camp attendance (first-time or returning campers) was used as a between-subject factor, no main effects or group x time interactions were found. Similarly, when diagnosis (LD or LD+ADHD) was used as a between-subject factor, no main effects or group x time interactions were found.

Reciprocal Friendships with Non-Cabin Mates. The examination across the initial two time points revealed a significant increase in camper reported reciprocal friendships with non-cabin mates from the beginning to the end of camp ($F(2, 42) = 11.97, p < .001, \eta^2 = .22$). When using camp attendance (first-time or returning camper) as a between-subject factor, no significant main effects or group x time interactions were found. Similarly, when using diagnosis (LD or LD+ADHD) as a between-subject factor, no significant main effects or group x time interactions were found.

The examination across all three time points revealed no significant changes in the number of reciprocal friendships with non-cabin mates. This indicated that campers had a stable number of non-cabin friends from the beginning to the end of camp, and from the end of camp to the follow-up, four to five months later. While there was no main effect for camp attendance (first-time or returning campers), there was a significant group x time interaction ($F(2, 21) = 3.6, p < .04, \eta^2 = .14$). First-time campers reported more non-cabin friends at the follow-up than returning campers, whereas returning campers reported more non-cabin friends at the end of camp than first-time campers. When diagnosis (LD or LD+ADHD) was used as a between-subject factor, no main effects or group x time interactions were found.

Having a Best Camp Friend. When examining if campers listed having a best camp friend across two time points, a significant difference was found ($\chi^2(2) = 20.87, p < .001$), where more campers indicated having a best camp friend at the end of camp than at the beginning ($z = -2.53, r = -.63, p < .01$). When camp attendance (first-time or returning campers) was used as a between-subjects factor, no main effects or group x time interactions were found. Similarly, when diagnosis (LD or LD+ADHD) was used as a between-subjects factor, no main effects of group x time interactions were found.

Across all three time points, significant differences were also found ($\chi^2(2) = 10.0, p < .01$). More campers indicated that they had a best camp friend at the end of camp, compared to at the beginning ($z = -2.53, r = -.63, p < .01$). Also, more campers indicated that they had a best camp friend at the follow-up, compared to at the beginning of camp ($z = -2.45, r = -.61, p < .01$). There were no differences between reports of having a best friend at the end of camp and at follow-up four to five months later. When camp attendance (first-time or returning campers) was used as a between-subjects factor, no main effects or group x time interactions were found. Similarly, when diagnosis (LD or LD+ADHD) was used as a between-subjects factor, no main effects of group x time interactions were found.

A qualitative examination of who campers listed as their best friend revealed that, in total, 17 campers listed having the same best friend during at least two time points (i.e., either at the beginning of camp and at the end of camp; or at the end of camp and at the follow-up). Five of these campers listed having the same best friend at all three time points (i.e., from the beginning to the end of camp, and at the follow-up). Only four campers who listed that they had a best camp friend reported a different best friend at each time point.

Friendship Quality

Friendship quality was examined across two outcome variables: closeness and conflict. Results are first presented for each variable across the initial two time points (i.e., the beginning to the end of camp; see Table 3.4, p. 180) and then, across all three time points (i.e., at the beginning, the end, and four to five months after camp; see Table 3.5, p. 181). Each outcome variable is also examined using camp attendance (first-time or returning campers) and diagnosis (LD or LD+ADHD) separately as between-subject factors.

Closeness. The examination across two time points revealed a significant improvement in closeness from the beginning to the end of camp ($F(2, 31) = 15.87, p < .001, \eta^2 = .32$). When camp attendance (first-time or returning campers) was used as a between-subjects factor, no main effects or group x time interactions were found. Similarly, when diagnosis (LD or LD+ADHD) was used as a between-subjects factor, no main effects or group x time interactions were found.

The examination across three time points revealed a significant improvement in closeness from the beginning to the end of camp ($F(2, 16) = 4.44, p = .02, \eta^2 = .22$); however, these gains were not maintained at the follow-up. When camp attendance (first-time or returning campers) was used as a between-subjects factor, no main effects or group x time interactions were found. Similarly, when diagnosis (LD or LD+ADHD) was used as a between-subjects factor, no main effects or group x time interactions were found.

Conflict. The examination across the initial two time points revealed no significant changes from the beginning to the end of camp. When camp attendance (first-time or returning campers) was used as a between-subjects factor, no main effects or group x time interactions were found. Similarly, when diagnosis (LD or LD+ADHD) was used as a between-subjects factor, no main effects of group x time interactions were found.

The examination across all three time points revealed no changes in ratings of conflict (i.e., either from the beginning to the end of camp, or from the end of camp to the follow-up measures). This indicated that campers reported stable, albeit low, levels of conflict within dyads. When using camp attendance (first-time or returning campers) as a between-subject factor, no significant main effects were found, but there was a significant group x time interaction ($F(2, 14) = 4.54, p = .02, \eta^2 = .23$). First-time campers' ratings of conflict significantly decreased from the beginning to the end of camp, but returning campers' ratings of conflict remained stable across all three time points. When using diagnosis (LD or LD+ADHD) as a between-subject factor, no significant main effects or group x time interactions were found.

Friendship and Social Acceptance

Parental ratings of their children's social acceptance were significantly correlated with both total reciprocal friendships ($r = .34, p = .02$) and closeness ($r = .35, p = .02$). There were no significant correlations between social acceptance and having a best friend or the conflict level. When entered individually into the regression equation, total reciprocal friendships and closeness ratings were each significant predictors of parent reported social acceptance. More specifically, reciprocal friendships accounted for a moderate amount (11.6%) of the variance ($F(1, 34) = 4.48, p < .05, R^2 = .116$) and closeness accounted for a moderate amount (12.3%) of the variance ($F(1, 31) = 4.34, p < .05, R^2 = .123$) in social acceptance at the end of camp.

Similarly, camper ratings of their social acceptance were significantly correlated with total reciprocal friendships ($r = .37, p < .01$), but not with having a best friend, closeness, or conflict level. When entered into the regression equation, total reciprocal friendships significantly predicted changes in camper reported social acceptance, accounting for a moderate amount (13.9%) of the variance ($F(1, 46) = 7.45, p < .01, R^2 = .139$) in social acceptance at the end of camp.

Discussion

The study of friendship development in children and adolescents with LD in non-academic environments is limited. The existing studies have either focused on social competence development at camp (e.g., Michalski et al., 2003) or on friendship development at school (e.g., Estell et al., 2009). The present study was the first to examine the friendship development of campers with LD, within the context of a summer camp specifically designed for children and adolescents with LD. There were four major findings: First, at the beginning of camp, the majority of campers reported that they already had reciprocal camp friends, and that these relationships were close, with little conflict (i.e., high-quality). Second, campers with LD, irrespective of co-existing ADHD, reported having more high-quality, reciprocal friendships by the end of camp, as compared to the beginning, with medium to large effect sizes overall. Third, more campers reported having a best friend by the end of camp than at the beginning, and continued to report having a best camp friend four to five months later. Best friendships tended to be with the same camper across time. Finally, high-quality and reciprocal friendships were correlated with and predicted a moderate proportion of social acceptance change, according to parents, at the end of camp. Moreover, reciprocal friendships correlated with and predicted a moderate proportion of social acceptance change, according to campers, at the end of camp.

Friendships play an essential role in child and adolescent development (Sullivan, 1953). Campers in the present study reported having high-quality, reciprocal friendships after only having been at camp for a few hours. Many of these campers were returning and likely had maintained friends from a previous summer. Yet, even many of the first-time campers reported having friends right away. These friendships may have begun at the Camp Information Day or through a therapy group at the host agency. The nature of these friendships contradicts much of the available literature regarding the friendship characteristics of individuals with LD (e.g., Estell

et al., 2009; Wiener & Schneider, 2002). Although prior studies have reported children with LD to have more conflictual and less stable friendships than those of their typically developing peers (e.g., Estell et al., 2009), campers in this study reported having more reciprocal friendships, and closer relationships by the end of camp. Friendships were corroborated by outside sources, but quality ratings were not. Even if outside observers do not perceive relationships to be high-quality, the perception of the individual camper and the importance he/she places on a friendship cannot be discounted (e.g., Cardoos & Hinshaw, 2011).

Research that indicates that children with LD have few, low-quality, and unstable friendships has generally been conducted within the academic setting (e.g., Estell et al., 2009; Weiner & Schneider, 2002). However, according to theoretical models of friendship development (e.g., Adams & Blieszner, 1994; Sullivan, 1953), the immediate social context plays a crucial role in the development of friendships. At school, children with LD may feel misunderstood and alienated by peers, teachers, and principals alike (e.g., Medina & Luna, 2004; Praisner, 2003). These factors may be absent in the context of a specialized summer camp dedicated to children and adolescents with LD. While causal conclusions cannot be made due to the lack of a comparison group, other research supports the premise that children with a variety of disabilities can develop meaningful friendships, while in non-academic settings (e.g., Buysse et al., 2002). Taken together, the present findings and other empirical evidence (e.g., Buysse et al., 2002) suggest that supportive environments, less structured than school, offer a unique context where children with LD can develop high-quality, reciprocal friendships.

Furthermore, the formation of friendships is thought to be facilitated by children's unconscious mimicry of the behaviours of their peers (i.e., the chameleon effect; e.g., Chartrand & Bargh, 1999; Marsh & Yeung, 1999). It is possible that in groups of children and adolescents with LD, given their difficulties with social skills and social problem solving (e.g., Lyon, 1996),

they might copy peers' maladaptive social behaviours. Yet campers in the present study made more friends with their cabin mates over time, and reported high levels of closeness and low levels of conflict, suggesting that they did not pick up maladaptive behaviours from peers. The chameleon effect (e.g., Marsh & Yeung, 1999) may explain the formation of these friendships, as campers are grouped into cabins based on a variety of factors (e.g., maturity, age, nature of LD, interests). Conceivably, environmental factors, such as proximity and time spent together, also played an important role (e.g., Adams & Blieszner, 1994), but being with like-peers makes interactions easier and more likely to result in friendship (e.g., Chartrand & Bargh, 1999; Marsh & Yeung, 1999).

Across the latter three friendship variables (total reciprocal friendships, cabin mate friends, and non-cabin mate friends) discussed, reciprocal friendships were not maintained at the follow-up, four to five months after camp. These findings are consistent with those of other studies that indicate that children with LD struggle to maintain relationships over the long-term (e.g., Estell et al., 2009). However, campers in the present study reported having a best friend more often at the end of camp and at the follow-up, as compared to at the beginning of camp. For the most part, these best friendships were maintained with the same camper over time. This finding is particularly salient for children with LD, given that having a best friend can protect against a variety of psychosocial problems in the future (e.g., Bukowski et al., 1996; Wiener & Sunohara, 1998). This best friendship, if maintained in the long-term, could alter the trajectory of children's social competence and self-concept development. Specialized summer camps could act as a conduit to facilitate best friendship development for children and adolescents with LD.

The Theory of Interpersonal Relations postulates that friendships act as a unique context where children and adolescents can develop more complex social skills, like turn taking and keeping confidences (e.g., Sullivan, 1953). Friendships and social competence are intimately

connected; social skills are essential to the development of friendships (e.g., Ladd, 1999) and social skill deficits are related to victimization from peers (Fox & Boulton, 2006). In the present study, high-quality, reciprocal friendships were not only correlated with, but also predicted the variance in parental reports of campers' social acceptance. Similarly, reciprocal friendships were correlated with and significantly predicted change in campers' self-reports of social acceptance at the end of camp. These findings provide further support for the Theory of Interpersonal Relations (Sullivan, 1953) by highlighting the interconnections between friendship and other aspects of social competence. Other research has indicated that, while campers were more accepted based on peer nominations, they did not necessarily form high-quality friendships by the end of camp (Hanna, 1998). Moreover, research has indicated that having a friend at camp can protect against bullying (Cardoos & Hinshaw, 2011). Taken together, these findings suggest that the development of friendships at camp is important for future social outcomes. Given their struggles within social competence domains (e.g., Wiener & Sunohara, 1998), specialized summer camps for children and adolescents with LD offer a context where these campers can develop friends (e.g., Buysse et al., 2002) and feel accepted by others (e.g., Parker & Seal, 1996).

The Role of Camp Attendance. The findings indicated that first-time campers reported fewer reciprocal friendships (in total and with cabin mates) than returning campers, in general. This would be expected, given that returning campers likely know each other from previous camp experiences or through therapeutic groups offered at the host agency. However, four to five months after camp was over, first-time campers reported more non-cabin friends, as well as less relationship conflict, than returning campers. The timing of the agency's services may explain some of these differences. Often summer camp is used by the agency staff as a way to close services to returning campers, and so, these campers often are no longer participating in social skills programs or individual therapy through the school year. It could be that the first-time

campers were becoming more involved in group therapies at the time of follow-up measures. These groups afford first-time campers more opportunities to engage with friends made at camp, while also receiving social skills support and teaching that could further assist with maintaining friendships. Similarly, first-time campers are typically younger, and so, are more likely to be involved with the social skills program through the host agency, which could impact the differences observed at follow-up. Previous camp researchers (e.g., Michalski et al., 2003; Thurber et al., 2007) have neither distinguished between first-time and returning campers, nor discussed the influence that repeating camp might have on outcomes. The number of camp attendances seems to play an important role in the development of friendship at camp, so more information is needed to determine how each camper can benefit from the specialized summer camp environment.

The Role of Co-Existing ADHD. It is noteworthy that there were no significant differences between campers with and without co-existing ADHD. On the one hand, the impact of co-existing ADHD may have been masked because the majority of children in the sample had other mental health challenges that could impact friendship development. Alternatively, the results indicated that children and adolescents with LD+ADHD were able to develop high-quality, reciprocal friendships at camp just as effectively as those with LD. The results do not support the prediction, based on empirical evidence, that co-existing ADHD would have a detrimental impact on friendship development (e.g., Blachman & Hinshaw, 2002; Hoza et al., 2005; McNamara et al., 2005). For children with ADHD, having friendships at summer camp protects against bullying (e.g., Cardoos & Hinshaw, 2011), making camp for those with LD+ADHD an important environment for the development of friendships and future well-being (e.g., Hantson et al., 2011).

Limitations and Future Directions

This study is not without limitations. The small sample size and considerable attrition of participants at the follow-up measures limited the statistical power during analyses, as well as generalization of the results. Despite the small sample size, there were no systematic differences between campers who did and did not complete the follow-up measures. Nevertheless, to account for this, analyses were conducted first, across the initial two time points (i.e., the beginning to the end of camp), and second, across all three time points. Effect sizes across both analyses (two time points and three time points) mostly ranged between medium and large, but effect sizes provided across the three time points should be interpreted with caution, given the sample size. While results mostly held true in both examinations, with the exception of group differences by camp attendance, the stability of camp friendships could not be fully investigated. Future researchers might wish to use other means to obtain follow-up measures (e.g., incentives, use of computer/internet technology), in order to increase the rate of return. Alternatively, camp researchers could aggregate friendship reports over multiple summers to increase sample size.

A further limitation of the present study was the measurement tools used to examine friendship quality (closeness and conflict). While visual analog scales can be more sensitive to small changes over time (e.g., Gift, 1989), the definitions of closeness and conflict used were global in nature and provided the child's perspective only, which, could be impacted by social desirability effects. Future research could ask participants to rate friendship quality using visual analog scales on desirable and non-desirable behaviours, such as telling secrets to each other or arguing. The timing and setting of measurement may have also impacted the results. Being at camp already, with peers within sight during testing, could have biased the reports. Future researchers may wish to use pre-baseline measures, while campers are still in school prior to attending camp, or a multiple baseline approach could be used in camps with multiple sessions. Also, future researchers may wish to use a mixed-methods design to include qualitative and

quantitative information. Interviews or focused discussions with campers may reveal further information about friendship development in this population.

Although typical in clinic-referred samples, the characteristics of the children and adolescents included in this study were fairly complex and heterogeneous, so limitations exist with respect to the generalization of results to alternate samples. Due to sample size limitations, it was beyond the scope of this study to use each diagnostic group as a between-subject factor, so the impact of diagnoses like ASD, anxiety, and Non-Verbal LD is unknown in this sample. These diagnoses are often associated with social competence and friendship difficulties (e.g., APA, 2000), so it is important to understand how the camp context might influence friendship development for children with other diagnostic profiles. While information was garnered from a single, unique camp, which could limit the generalizability of the findings, this camp abides by the same philosophies as many other specialized summer camps and, therefore, may reflect the importance of the camp context more generally. It will be important for results to be replicated across alternate samples of campers.

Finally, causal information about the impact of camp on friendship development was not investigated due to ethical and research design difficulties inherent in using a control group with this particular camp (i.e., researchers could not randomly assign individuals to camp or control groups). Much more information is needed within specialized summer camp programs in order to highlight the importance of these environments for the development of high-quality, reciprocal friendships in children and adolescents with LD.

Summary

Specialized summer camps offer many clinical benefits in terms of the development and maintenance of friendships. Children and adolescents with LD were able to develop high-quality, reciprocal friendships and maintain a best friend four to five months after camp. High-quality,

reciprocal friendships additionally predicted improvements in campers' social acceptance, from both parental and camper perspectives. While the number of camp attendances may have somewhat influenced these friendships (i.e., returning campers had more friends, overall, but first-time campers had more friends at follow-up), having a co-morbid diagnosis of ADHD was not a significant factor in whether or not campers developed reciprocal friendships. This study provides important preliminary information regarding friendship development in campers with LD within a specialized summer camp context. Also, the findings fill a gap within both the LD and summer camp literatures. The results of the present study provide promising evidence for the clinical benefits of specialized summer camps for children and adolescents with LD in the friendship domain.

CHAPTER FOUR

General Discussion

4.1 Summary of Findings

The overarching goal of the present research was to explore the social competence and self-concept development of campers with LD within the context of a specialized summer camp. There were five specific objectives. Each, with its corresponding findings, is summarized below.

The first objective was to determine whether or not campers with LD demonstrate improvements in social competence (social skills and social acceptance) and self-concept (self-worth and self-esteem) within the supportive milieu of camp. In general, findings were not particularly robust, suggesting that campers either do not improve or demonstrate only minor improvements in social competence and self-concept domains after attending a specialized summer camp. Parent ratings of social skills, social acceptance, and self-worth increased by the end of camp, indicating small gains in these areas, and the improvements in social acceptance and self-worth were maintained four to five months later. Camper ratings did not change, suggesting that campers did not improve on any of the constructs; but some differential development of skills was observed across diagnosis (LD or LD+ADHD). Parent and camper ratings of self-esteem decreased at the follow-up, indicating declines in camper self-esteem four to five months after camp.

The second objective was to describe the friendship characteristics of campers with LD at the beginning of camp. Based on camper reports, many already had camp friends when they arrived, with very few campers reporting friendlessness. These relationships were rated as high-quality by campers. Camp attendance played an important role in friendship characteristics. Returning campers reported more friends at the beginning of camp than first-time campers. Co-existing ADHD was not a significant between-subject factor on friendship characteristics, or any other friendship variable.

The third and fourth objectives were to examine the development and the quality of camp friendships. Campers reported having more reciprocal friends, particularly with those from their own cabin, at the end of camp than at the beginning, but these relationships were not maintained four to five months later. Additionally, more campers reported having a best friend at the end of camp than at the beginning, and maintained a best camp friend (typically the same one) four to five months later. Friendship quality was high, overall, yet friendships became closer by the end of camp.

The final objective of this study was to investigate friendship variables as predictors of change in social competence. High-quality and reciprocal friendships predicted a moderate amount of the variance in parent reported social acceptance. Reciprocal friendships also predicted a moderate amount of the variance in camper reported social acceptance.

In general, the findings from the friendship investigation (Chapter Three) were more robust than the findings regarding social competence and self-concept development (Chapter Two). The conclusions from Chapters Two and Three are discussed and integrated below. Theoretical, clinical, and research implications are then discussed in detail.

4.2 Discussion of Findings across Chapters Two and Three

4.2.1 *Overview*

Early theorists have maintained that the social environment plays an important role in the development of social competence (Sullivan, 1953) and self-concept (Festinger, 1954).

Individuals compare themselves, albeit unconsciously, to their immediate peer group and try to mimic those around them (i.e., the chameleon effect; Chartrand & Bargh, 1999). When children are successful, social interactions are easy and are then more likely to result in social competence (e.g., Marsh & Yeung, 1999; Sullivan, 1953) and self-concept (e.g., Festinger, 1954) improvements. When children are unsuccessful, social interactions are more difficult, leading to

fewer friendships and lowered self-concept (e.g., Marsh & Yeung, 1999). Other factors including child characteristics (e.g., Beauchamp & Anderson, 2010) and proximity (e.g., Back et al., 2008) are also at play. Strengths in social competence and self-concept are associated with positive developmental trajectories across the lifespan (e.g., Denham et al., 2009; Trzesniewski et al., 2006), but children and adolescents with LD struggle in these domains (e.g., Capozzi et al., 2008; LDAC, 2006), which can negatively impact future development (e.g., Denham et al., 2009). Current interventions are not sufficient in helping children and adolescents with LD enhance their social competence (Forness & Kavale, 1996) or self-concept (Elbaum & Vaughn, 2001). Alternatives to clinic settings, such as specialized summer camps, may provide a supportive milieu where children with LD can make high-quality, reciprocal friendships. However, given the present findings, the utility of this type of environment for improving social competence and self-concept is still unclear.

Camp Towhee is a specialized summer camp specifically designed to support the individual learning and socio-emotional needs of children and adolescents with LD. This camp has two main goals: to help campers improve their social competence and to help campers enhance their self-concept. The current study, which took place at Camp Towhee, did not reveal robust improvements in either the social competence or self-concept domains for campers with LD. However, findings from the friendship investigation provided strong evidence that campers with LD were able to develop high-quality, reciprocal friendships within this supportive milieu.

4.2.2 Social Competence and Friendship

There is some evidence to support the utility of specialized summer camp as a context for social competence development, across a variety of camper populations (e.g., Hunter et al., 2006; Michalski et al., 2003; Rinn, 2005). Yet camp research is rife with methodological challenges that limit the generalizability of the results (e.g., Henderson, Bialeschki, & James, 2007),

including small sample sizes, dependence on self-reports, no control groups, and measurement limitations. In the present study, many of these research challenges persisted due to the nature of camp. For instance, this camp only invites 100 campers each summer, causing significant limitations to the sample size. Parent, but not camper, ratings of social competence produced only small to moderate effects for social skills and social acceptance gains at camp. In an effort to mitigate the reliance on participant reports, and support quantitative social competence data, direct observations of social engagement were also completed at camp (see Appendix B, p. 200). However, these findings, consistent with camper reports, further suggested that campers did not make great strides in social competence while at camp. Informant effects could be at play here, as like others, child reports were more consistent with behavioural observations than with parent reports (e.g., McCabe & Marshal, 2007; Sessa, Avenevoli, Steinberg, & Morris, 2001). Other factors could have also impacted the findings, but methodological limitations and camper diagnoses, in particular, should be highlighted. It could be that campers develop in the areas where they demonstrate the most need (e.g., emotion regulation, understanding social cues), but each camper's individual goals for camp were not examined in the present study. The measurement tools that are relied upon in camp research do not seem sensitive enough to detect changes over a short period of time, specifically in campers with LD. On the other hand, it could just as easily be that these campers did not actually make significant improvements in social competence over their time at camp. The symptoms associated with their complex diagnostic profiles may have prevented actual gains. This would suggest that this specific goal of this study was not met within this sample.

However, friendship is one aspect of social competence and campers developed high-quality, reciprocal friendships while attending Camp Towhee, with ratings producing moderate to large effect sizes, overall. Consistent with theoretical models (e.g., Chartrand & Bargh, 1999)

and empirical investigations of friendship formation at camp (e.g., Cardoos & Hinshaw, 2011; Parker & Seal, 1996), these findings speak to the utility of specialized summer camps as a context where children with special needs can develop friendships. Research indicates that individuals with LD struggle within the friendship domain, particularly when assessed at school (Estell et al., 2009), but they were able to create friendships within the camp environment. The major difference between the present research and that of other authors is the immediate social context where research takes place. At school, children with LD may often feel marginalized and misunderstood; they often are rejected and bullied by peers, and sometimes by teachers (e.g., Humphrey & Mullins, 2002; Praisner, 2003). It can be difficult to make friends in this type of environment. At camp, children with LD are treated in a way that is supportive of individual learning needs and non-judgmental of behaviour, making friendship development easier (Kronick, 1973). These findings suggest that, in an appropriate and supportive context, children and adolescents with LD can develop high-quality, reciprocal friendships.

Campers also developed and sustained a relationship with a best friend, a particularly salient finding, given that having a best friend can protect against future maladaptive outcomes (e.g., Laursen et al, 2007). The stability of friendship over time further contributes to friendship quality and well-being (e.g., Bowker, 2004). For children and adolescents with LD, maintaining stable friendships can be difficult (e.g., Estell et al., 2009), but specialized summer camps can act as a context where these children can develop and maintain a best friend. As suggested by Hoza and colleagues (2003), parental involvement may be helpful for these relationships to be maintained in the long term. Nevertheless, this finding is quite promising for altering the social competence trajectories of children and adolescents with LD.

The Relationship between Aspects of Social Competence and Friendship. The same methodological issues (e.g., sample size) existed in both the social competence and friendship

investigations, so the differing outcomes were somewhat puzzling. When the Theory of Interpersonal Relations (Sullivan, 1953) is considered, the contradictory findings begin to make sense. Friendships provide a unique context for the development of complex social skills, such as social perspective taking (Marsh & Craven, 2006; Selman, 1971 Sullivan, 1953), indicating that having friendships may be a first step toward improving social skills. If this were the case, then it is likely that three weeks at camp was not a sufficient amount of time to interact with peers, form friendship bonds, and then learn and solidify new social skills.

O'Halloran and Ellsworth (1996) reported a similar pattern of findings to those of the current study: no gains in social skill use in campers with LD, but improvements in their awareness of socially appropriate behaviours. These authors posited that the brief camp period was not sufficient to improve social skills, but that awareness of social behaviour was a step in the right direction and, likely, a precursor to behaviour change (O'Halloran & Ellsworth, 1996). The relationship between social competence and friendship, in this study, might be conceptualized in a similar fashion. In this way, peer interactions at camp were likely successful, leading to friendship development (e.g., Chartrand & Bargh, 1999). Friendship variables then predicted changes in social acceptance at the end of camp. It could be that feeling socially accepted within a friendship dyad was the precursor to developing complex social skills, and this process likely takes longer than three weeks.

On the other hand, if a three-week camp experience is not sufficient to develop complex social skills, then the role of camp attendance needs to be considered. Returning campers, in general, had more friends than first-time campers, which would be expected. However, no impact of camp attendance was found on social competence ratings. This discrepancy was likely a function of measurement sensitivity or ceiling effect, but more information is required to determine the effects of multiple camp attendances on social competence.

4.2.3 *Self-Concept*

The social realm also plays an essential role in the development of self-concept (Festinger, 1954). Children derive self-concept from self-comparisons with their immediate peer group (i.e., Theory of Social Comparisons; Festinger, 1954). The importance of social context was particularly evident in the self-concept findings from the present study. Parents, but not campers, reported improvements in camper self-worth. Parents may have compared campers to typically developing school peers, while campers compared themselves to their camp peers, consistent with the tenets of the BFLPE (e.g., Marsh et al., 2004; 2008). Other authors argue that environment does not change to whom children with LD compare themselves (e.g., Bear et al., 2002), but these findings were mostly based on classroom placement. This suggests that there may be something inherent to the camp milieu that contributes to positive camper ratings of self-concept, to which parents are not aware until campers return home. Both parents and campers reported declines in self-esteem once children returned to school, highlighting the importance of the environment. These findings both support (e.g., self-worth gains) and contradict (e.g., self-esteem declines) the findings from other camp research (Henderson et al., 2007; Michalski et al., 2003).

Given the, often, negative attitude towards individuals with LD in many schools (e.g., Humphrey & Mullins, 2002; Praisner, 2003), it is not surprising that these children struggled with self-esteem at the time of the follow-up measures. What becomes difficult to explain is the difference between parental ratings of self-worth and self-esteem after camp. Self-concept theories (Chartrand & Bargh, 1999; Festinger, 1954; Marsh et al., 2004) predict that campers' self-concept would be positive and stable while at camp, but may decrease once campers returned to school. In contrast self-worth gains, as reported by parents, as well as the findings of other camp researchers (e.g., Michalski et al., 2003; Yssel et al., 2005), do not fit with these

theories. The construct definitions or tools used to measure self-concept may explain these differences.

However, explaining these differences may not be the relevant issue. Instead, from a clinical perspective, stating that a goal of camp is to enhance self-concept may not be helpful. Knowing the importance of social context in the derivation of self-concept (Festinger, 1954), it may be particularly difficult for students with LD to hold on to self-concept gains once back at school. This camp goal might be easily accomplished while within the supportive milieu, but when taken out of this environment and placed in a less supportive, more demanding context (e.g., school), it is unlikely that self-concept will remain high. What, then, is the impact of the drastic decline in self-esteem to a child's well-being? Children with LD are more at-risk for developing internalizing disorders than children without LD (e.g., Capozzi et al., 2008). Combined with evidence of negative school climates (e.g., Medina & Luna, 2004), working toward higher self-concept may be unrealistic for children and adolescents with LD. Ideally, school climates need to change to allow students with LD to feel understood, successful, and supported, like they feel at camp; however, much would need to change in the school system for this to be a realistic possibility (e.g., Praisner, 2003). What can be influenced by the present findings are the methods used by Camp Towhee staff. It may be more helpful for children if camp objectives were altered to reflect more attainable, concrete goals. Camps may also need to include a therapeutic component to help campers cope with the changes that occur once they return to school.

4.2.4 Informal Observations at Camp

My experiences of completing research at Camp Towhee generally were consistent with the robustness of the friendship findings, but not with the limited social competence and self-concept findings. The benefits for individual campers were evident during informal observations

at Camp Towhee and my discussions with campers and staff. Campers' personal development may not necessarily fit within the variables, as they were defined, and so may go undetected by questionnaires. For instance, one camper frequently explored the beach along the water hunting for snails. Although he struggled to initiate and maintain social interactions, his search became so engaging that other campers wanted to help. He became an expert whom other campers sought out when wanting answers about snails and other such creatures. For another shy, young teenager, who reported being bullied at school about his looks, a small gesture from an older, "popular" teen seemed to make a difference. One day, the older boy sat down and asked this camper for hair styling tips. After he left, the young teen told this researcher that no one had ever complimented his unique hair style in that way. Another camper confided in this researcher about his crush on a female camper. He spoke about how, although she was "popular," at Camp Towhee he had the confidence to speak to her, which he would have never done at school. These fleeting interactions that seem to mean so much in the moment may not come to mind when campers completed their questionnaires, but they are just a few of many examples of observable improvements in social competence and self-concept.

Each camper appeared to benefit from Camp Towhee in his or her own way. Parents and campers talk candidly with camp and Integra staff about the positive environment that Towhee provides. The positive milieu seems to stay with campers long after camp is over. An 18-year-old camper, knowing it would be his final year after attending Camp Towhee for five summers, devoted his academic woodworking project to a plaque honoring Towhee's 40th anniversary. That plaque remains in a place of honour at the front of the dining hall. Campers display their love for Towhee in other ways, as well. For instance, one camper returned after many years to work for the maintenance team, while another became a cabin counselor. Parents and campers talk of the hope that Camp Towhee brings to their lives every summer. This is evident in the

number of campers who wish to return year after year, including adolescents who choose to return up to their 18th birthday. At Camp Towhee, campers are free to be themselves without the stress that their LD may cause in everyday life. Each camper is a unique individual and benefits in his or her own way, making it difficult to design a study where the outcome variables are applicable to all campers. These observations clearly indicate that camp research must move towards a more qualitative or mixed-methods focus, discussed in more detail below.

4.3 Implications for Social Competence and Friendship Theory

In his Theory of Interpersonal Relations, Sullivan (1953) indicated that a best friend is one of the most significant relationships in one's life. Having a best friend, even more so than multiple friendships or large peer groups, is related to adaptive social and emotional outcomes, including enhanced social skills and self-esteem (e.g., Hartup, 1996; Sullivan, 1953). Children and adolescents with LD were able to develop a relationship with a best friend within the context of a specialized summer camp program, and sustain that relationship for at least four months after camp. These findings offer support for Sullivan's theory within a sample of individuals with LD. The Theory of Interpersonal Relations also highlights the necessity of friendships to the development of other aspects of social competence (Sullivan, 1953). The results of the present study also support this notion, as high-quality, reciprocal friendships accounted for much of the variance in social acceptance for children and adolescents with LD, with moderate effect sizes. This suggests that friendships positively influence at least one aspect of social competence while at camp.

The results also add to the present understanding of friendship development in children and adolescents with LD, with and without co-existing ADHD. The information garnered from this study demonstrated that children with LD can develop reciprocal friendships, as corroborated from an outside source. While not corroborated, these campers also reported that

the quality of their friendships increased over the time at camp. In this sample and in the context of this camp, a co-morbid diagnosis of ADHD did not seem to impact campers' abilities to make friends. Individuals with a variety of disabilities make friends when in non-academic environments (e.g., Buysse et al., 2002), yet behaviour (e.g., impulsivity, emotion regulation) can influence one's ability to maintain friendships in the long term (e.g., Parker & Seal, 1996). It could be that campers with LD+ADHD make many more friendships that do not last for the duration of camp (e.g., Parker & Seal, 1996), but without examination of the formation and dissolution of each individual friendship throughout the three-week period, this is difficult to know.

Finally, the present findings provide important additions to the literature regarding specialized summer camps, specifically for campers with LD. As mentioned above, the finding that campers with LD developed high-quality, reciprocal friendships was novel within the literature. Similarly, camper reports of having and sustaining a best camp friend was novel within the LD literature. On the other hand, the limited findings in the examination of social competence and self-concept development provided an alternate perspective of the utility of the camp milieu. These findings call for more research to determine the importance of using specialized summer camps as contexts for psychosocial development.

4.4 Implications for Camp Research

The challenges inherent in camp research have been well delineated (e.g., Henderson, Bialeschki, & James, 2007). The dependence on parental and camper reports, as well as the challenges of including control groups, make for only tentative conclusions regarding the utility of specialized summer camps for psychosocial development. There is a strong need for mixed-methods designs in this area. For instance, researchers should use videotaped coding of social interactions to examine the development of specific social skills throughout camp. Multiple time

points through the course of camp would also be required in order to rule out camper fatigue and/or irritability at the end of camp. Interview data are also a rich source of information. The use of semi-structured interviews could be helpful to evaluate outcomes for individual campers and the group as a whole.

The present researcher attempted to circumvent some of the camp research challenges by including direct observations of social engagement (see Appendix B, p. 200), a friendship questionnaire, and visual analog scales to measure friendship quality. While the direct observation tool was effective in the sense that observations were feasible and unobtrusive at camp, the results did not yield significant changes in positive social engagement. More frequent observation points were needed throughout the duration of camp. Additionally, the observed behaviours should be more specific and concrete. Alternatively, the friendship questionnaire was quite useful within this setting. Campers, for the most part, found it easy and quick to complete, and it yielded important findings. The visual analog scales, on the other hand, would require revisions if used again. These scales appeared to be susceptible to social desirability effects and could not be corroborated by outside sources. Future researchers may wish to have campers rate concrete behavioural traits (e.g., keeping secrets, arguing) of friends on visual analog scales.

The present findings also raised many questions about the research methods used to investigate summer camp programs. In similar evaluations, with similar samples of campers, other authors have consistently reported social competence and/or self-concept improvements, from both parental and camper perspectives (e.g., Michalski et al., 2003; Rinn, 2005). Differences are likely due to the operational definitions of constructs and measurement tools used. However, the possibility of some other factor contributing to these differences, such as the timing of measurement and/or unique camper characteristics must also be considered. For future research within the context of specialized summer camps, it may be necessary to reframe

research questions. It is likely unrealistic to think that a one-time experience in a three-week specialized camp could be a catalyst for long lasting improvements in social competence and self-concept (e.g., Marsh & Yeung, 1999). To this end, future researchers may wish to move away from evaluating camper outcomes and toward the investigation of mechanisms of change (i.e., what is it, specifically, about the camp milieu that contributes to friendship development?). These types of research questions would provide valuable information about what methods are effective within a camp setting, so they can be transferred to other environments, like school.

4.5 Implications for Clinical Practice

4.5.1 *Implications for Practice within Specialized Summer Camps*

Children and adolescents with LD do well when they feel supported and successful (e.g., DuPaul & Eckert, 1994). Specialized summer camps offer this type of inclusive milieu where campers with LD can interact successfully with their peers and challenge themselves to overcome obstacles, both physical and interpersonal. Campers are able to better relate to their peers (e.g., Meltzer & Rourke, 2005), and feel a sense of belonging (e.g., Stoch, 2000). Substantial costs are associated with specialized summer camps, so it is important to be able to provide clear evidence that children and adolescents with LD benefit from camp. Ideally, regular program evaluations need to be completed to inform program changes and goals for camp. Below is a discussion of changes that could be made to the structure of Camp Towhee so that benefits for campers are clear and measureable. These changes may also be useful for other specialized summer camp programs that use a challenge-by-choice and/or an adventure based counseling model.

Camp Towhee offers an environment where campers with LD can develop friends. It is important for psychosocial development to foster these friendships (Sullivan, 1953). One suggestion for camp and Integra staff is to actively set up and encourage the use of social

networking for campers to maintain a connection with friends (e.g., a private networking page with posts from camp staff or campers). Similarly, parents should be given the opportunity to support their children's friendships (e.g., Hoza et al., 2003). This could be accomplished by actively using family day as a means to connect parents with each other, so they can facilitate friendships after camp. Summer camp programmers should investigate friendship specifically, in order to develop an understanding of how these relationships are formed and maintained throughout camp. This could help camp staff provide the optimal level of support and teaching to facilitate friendships.

The friendship results suggested that there might be benefits to attending Camp Towhee over multiple summers. Returning campers started camp with more friends than first-time campers, and continued to develop new friendships throughout the duration of the program. It could be that returning annually to summer camp facilitates the maintenance of friendships outside of the camp setting. As stated above, Integra staff and parents would need to actively help campers maintain friendships outside of camp. Returning campers may have less access to interventions during the year, as compared to first-time campers, by virtue of the agency's service model. It is recommended that Integra staff offer returning campers a friendship group to assist these children in the maintenance of friendships. This could be a monthly, unstructured or semi-structured meeting with staff, volunteer, and/or parent facilitation.

While the development of high-quality, reciprocal friendships is a major step for campers with LD, it is essential to move towards isolating social competence and self-concept improvements. To this end, it may be necessary to change parts of the Camp Towhee program to optimize the benefits for campers. For instance, in a day camp for children and adolescents with ADHD, significant gains were found across social competence and self-concept variables through the use of social skills training and parental psycho-education (Hantson et al., 2011).

Camp Towhee and Integra staff may wish to consider alternative methods, such as direct teaching and parent education, to enhance campers' experiences and personal gains. Staff may also wish to alter the goals of camp so that they are more concrete and specific. In this way, goals could be based on skill development and, thereby, more attainable. Tracking goals with campers could also be helpful in the transfer of skills from camp to school or home.

One of the tenets of adventure based counseling (ABC) is to explicitly highlight campers' strengths and coping mechanisms and, subsequently, connect these strengths with everyday problem solving (Carlson & Cook, 2007). Camp Towhee staff presently use a challenge-by-choice model, whereby campers set personal goals and choose their own level of participation. While this encourages success and teamwork, direct teaching and discussions regarding skill use outside of camp is not the focus. By extending the use of the ABC model, Camp Towhee staff could explicitly teach and reinforce skills learned while at camp. This practice might help campers to transfer skills outside of camp. For other camp settings, adopting an ABC model may be helpful for campers to experience deeper meaning in their camp accomplishments. Direct training in the model for all camp staff is recommended to support camper growth and development.

4.5.2 Implications for School and Clinical Psychology

The previous two sections discussed the implications for the findings of this study in terms of the applicability to the summer camp setting. What must be further delineated are the implications of these findings to the general field of psychology. The main challenge that faces clinicians and researchers is how to best transfer the knowledge gained from camp research to alternate environments, particularly school, for children and adolescents with LD. Empirical information regarding the friendships of children and adolescents with LD has been somewhat limited to academic settings, and points to the difficulties that individuals with LD have in this

domain (e.g., Estell et al., 2009). By completing friendship research with children and adolescents in one domain (that is, school), a biased understanding of friendship characteristics could result. The present findings indicated that children and adolescents with LD could develop high-quality, reciprocal friendships within the summer camp context. This supports the idea that children, in general, fare better when they feel supported in their environment (e.g., Wiener & Tardif, 2004).

For children and adolescents with LD, school is often an environment where they struggle to be successful. They feel misunderstood and alienated (e.g., Humphrey & Mullins, Medina & Luna, 2004), often by teachers and principals (e.g., Praisner, 2003). By taking what is learned from camp research, and transferring it to school, students with LD may be able to demonstrate greater strides in social competence and self-concept development (e.g., Schoel et al., 1988). For instance, children are better able to form friendships when they feel supported and successful in their environment (e.g., Wiener & Tardif, 2004), and using children's natural environment as a context for intervention increases the likelihood of success (e.g., Wiener & Harris, 1997). It would be interesting to see the application of a challenge-by-choice philosophy within modern school settings. However, the attitudes towards individuals with LD, and disabilities in general, would have to drastically change for this approach to be feasible. For instance, the attitudes of teachers and principals towards students with disabilities would need to shift to a more positive perspective (e.g., Praisner, 2003). Teachers would also need more education surrounding strengths-based approaches and programming for differing learning needs (e.g., Milsom, 2006).

Finally, it may not be enough to conclude that children and adolescents with LD can establish high-quality, reciprocal friendships in settings other than school. The meaning of these friendships to the individual child must also be examined. The meaning of friendships changes

over the lifespan, with the deeper importance of friendships becoming apparent in later adulthood (e.g., Patterson, Bettini, & Nussbaum, 1993). In this way, the meaning of friendships to children with LD may be quite different from what a researcher would expect. Qualitative research becomes essential in this regard, both in the summer camp context and elsewhere.

4.6 Conclusion

Findings from this project indicated that a specialized summer camp can provide a supportive milieu where children and adolescents with LD develop high-quality, reciprocal friendships. Moreover, at camp, children and adolescents with LD form a relationship with a best friend, which was sustained outside of camp for at least four months. These friendships played an important role in parent and camper reported social acceptance improvements at the end of camp. Social competence and self-concept gains were observed as reported by parents, but were less pronounced than friendship gains. Informally, campers appeared to benefit from being at camp, but these benefits were difficult to quantify when measuring specific constructs (e.g., social skills, self-esteem). Moreover, methodological issues in the present study may have stood in the way of demonstrating the benefits reported informally by campers. The addition of a therapeutic component, along with incorporating generalization strategies, are recommended for specialized summer camp programs, in order to optimize the benefits of camp for children and adolescents with LD. Camp Towhee is a uniquely supportive milieu where campers with LD can be themselves and experience success in both personal and interpersonal domains.

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Tables and Figures

Table 1.1 and 2.1

A Comparison of Camp Towhee and Typical Summer Camp (adapted from ACA, 2005; Integra, 2009)

Camp Towhee	Typical Summer Camp
Low camper to staff ratio (2:1), with flexibility to have a 1:1 ratio should a camper require additional support	High camper to staff ration (can be 6:1 or higher), with limited flexibility to offer one-to-one assistance
Small camp size (< 50 campers per session)	Large camp size (numbers are widely varied)
Staff are mature students and young professionals, often from a 'helping' background (e.g., teaching, social work, psychology)	Staff are mostly high-school students or undergraduate students; often campers are supported by 'counselors in training', who can be middle school students
Training for staff focuses on anti-bullying, conflict resolution, specific information regarding the impact of LD on activities at camp and interactions with peers	Training for staff often uses a 'counselor in training' (CIT) model, where junior counselors shadow counselors during camp time
Campers are matched into cabins based on a variety of factors, including gender, diagnoses, and maturity level. This is an in-depth process	Often campers are matched in cabins based on age and gender

completed by Integra staff.

Table 2.2 and 3.1

Participant Characteristics (with and without ADHD)

Characteristic	LD		LD+ADHD	
	Mean (SD)		Mean (SD)	
Age	13.75 (2.07)		13.10 (1.54)	
Camp Attendance	1.77 (.95)		2.00 (.85)	
	N (Percentage)		N (Percentage)	
Gender				
Male	14 (22.0)		32 (50.8)	
Female	12 (19.0)		5 (7.9)	
SDQ Subscale Scores	M (SD)	Classification	M (SD)	Classification
Emotional Distress	3.75 (2.80)	Raised ⁹	3.39 (2.52)	Raised
Behavioural Difficulties	1.83 (1.93)	Average ¹⁰	3.37 (2.17)	Raised
Hyperactivity/Inattention	4.67 (1.93)	Average	7.72 (1.81)	High ¹¹
Peer Relationships	4.08 (1.86)	High	4.56 (2.53)	High
Prosocial Behaviour	7.63 (2.14)	Average	7.23 (2.37)	Average

* Other category includes processing deficits, language-based LD, and executive functioning difficulties

⁹ Raised may reflect clinically significant problems

¹⁰ Average scores are unlikely to be clinically significant

¹¹ High scores reflect substantial risk of clinically significant problems

Table 2.3

Parental Ratings of Camper Outcomes across Three Time Points

Domain	N	Measure Subscale	Pre-Camp Mean (SD)	Post-Camp Mean (SD)	Follow-Up Mean (SD)
Social Skills					
<i>Peer Relations (CGI)</i>					
	31	Total	9.19 (1.62)	9.84 (1.49)	9.42 (.89) ^a
	13	LD	9.23 (1.59)	9.92 (1.66)	9.62 (.87)
	18	LD+ADHD	9.17 (1.69)	9.78 (1.4)	9.28 (.89)
<i>Leadership (CGI)</i>					
	30	Total	13.22 (3.95)	13.37 (4.8)	14.0 (4.66)
	13	LD	13.46 (4.7)	13.38 (5.62)	14.31 (5.15)
	17	LD+ADHD	13.04 (3.41)	13.35 (4.24)	13.76 (4.4)
<i>Making Friends (CGI)</i>					
	30	Total	11.57 (2.99)	12.1 (3.16)	12.17 (2.6)
	13	LD	10.54 (3.26)	11.23 (3.24)	11.69 (2.78)
	17	LD+ADHD	12.35 (2.6)	12.76 (3.01)	12.53 (2.48)
Social Acceptance					
<i>Social Acceptance (SPPC)</i>					
	30	Total	12.93 (4.37)	14.13 (3.76) ^b	14.22 (3.81) ^a
	13	LD	12.69 (4.15)	14.54 (2.88)	15.15 (3.11)
	17	LD+ADHD	13.12 (4.65)	13.82 (4.38)	13.50 (4.22)
<i>Social Comfort (CGI)^c</i>					
	30	Total	9.78 (3.16)	9.94 (2.8)	10.17 (2.55)

	13	LD	8.85 (3.26)	9.85 (2.58)	10.31 (2.06)
	17	LD+ADHD	10.49 (2.97)	10.02 (3.03)	10.06 (2.92)
Self-Worth					
<i>Global Self-Worth (SPPC)</i>					
	29	Total	16.89 (3.51)	18.10 (3.06) ^b	18.13 (2.55) ^a
	13	LD	16.0 (4.02)	17.77 (3.75)	18.38 (2.47)
	16	LD+ADHD	17.6 (2.98)	18.38 (2.47)	17.93 (2.68)
Self-Esteem					
<i>Positive Identity (CGI)</i>					
	29	Total	18.0 (1.75)	18.45 (1.82)	14.21 (2.21) ^{a,d}
	13	LD	17.92 (1.75)	18.38 (2.06)	14.62 (2.18)
	16	LD+ADHD	18.06 (1.81)	18.5 (1.67)	13.88 (2.45)
<i>Independence (CGI)</i>					
	30	Total	10.2 (3.09)	10.40 (3.15)	10.6 (3.19)
	13	LD	10.08 (3.59)	10.15 (3.46)	11.15 (3.29)
	17	LD+ADHD	10.29 (2.76)	10.59 (2.98)	10.18 (3.15)

a. Significant difference between pre-camp and follow-up scores

b. Significant difference between pre-camp and post-camp scores

c. Significant two-way interaction between diagnostic group and time; indicating that for campers with LD+ADHD scores were stable over time, but for campers with LD scores increased over time, according to parents

d. Significant difference between post-camp and follow-up scores

Table 2.4

Camper Ratings of Outcomes across Three Time Points

Domain	N	Measure Subscale	Pre-Camp Mean (SD)	Post-Camp Mean (SD)	Follow-Up Mean (SD)
Social Skills					
<i>Peer Relations (CGI)</i>					
	27	Total	9.85 (1.75)	9.96 (1.58)	9.96 (1.53)
	12	LD	9.83 (1.95)	10.0 (1.86)	10.33 (1.56)
	15	LD+ADHD	9.87 (1.64)	9.93 (1.39)	9.67 (1.5)
<i>Leadership (CGI)</i>					
	28	Total	16.43 (3.78)	16.54 (4.1)	16.91 (3.17)
	13	LD	16.77 (3.83)	16.46 (4.75)	17.44 (2.78)
	15	LD+ADHD	16.13 (3.83)	16.6 (3.6)	16.45 (3.5)
<i>Making Friends (CGI)^a</i>					
	27	Total	12.0 (2.45)	12.07 (2.16)	12.3 (1.71)
	12	LD	11.0 (2.49)	11.33 (2.15)	12.42 (1.56)
	15	LD+ADHD	12.80 (2.18)	12.67 (2.06)	12.2 (1.86)
Social Acceptance					
<i>Social Acceptance (SPPC)</i>					
	28	Total	16.95 (4.52)	17.19 (4.95)	17.21 (4.15)
	12	LD	15.97 (4.96)	15.87 (4.95)	17.0 (3.69)
	16	LD+ADHD	17.69 (4.17)	18.19 (3.73)	17.38 (4.57)
<i>Social Comfort (CGI)^b</i>					
	28	Total	10.5 (3.2)	10.7 (2.69)	10.22 (2.65)

	13	LD	9.15 (3.21)	9.38 (2.43)	10.65 (2.59)
	15	LD+ADHD	11.67 (2.79)	11.84 (2.43)	9.84 (2.73)
Self-Worth					
<i>Global Self-Worth (SPPC)</i>					
	28	Total	20.25 (3.43)	20.57 (3.7)	20.07 (3.66)
	12	LD	18.92 (3.8)	18.92 (4.76)	19.0 (4.18)
	16	LD+ADHD	21.25 (2.84)	21.81 (2.04)	20.88 (3.12)
Self-Esteem					
<i>Positive Identity (CGI)</i>					
	28	Total	20.71 (3.28)	21.07 (3.27)	17.31 (2.51) ^{c d}
	13	LD	19.38 (3.75)	19.69 (4.05)	17.31 (3.12)
	15	LD+ADHD	21.87 (2.36)	22.27 (1.79)	18.47 (1.77)
<i>Independence (CGI)</i>					
	28	Total	12.39 (2.18)	12.48 (2.6)	12.91 (1.82)
	13	LD	11.79 (2.5)	12.21 (3.02)	12.81 (2.07)
	15	LD+ADHD	12.91 (1.78)	12.71 (2.27)	13.0 (1.65)

-
- a. Significant two-way interaction between diagnostic group and time, indicating that campers with LD+ADHD had stable scores across time, while campers with LD had increased scores over time
- b. Significant two-way interaction between diagnostic group and time, indicating that campers with LD+ADHD had higher scores at camp and decreased at follow-up, while campers with LD had lower scores at camp and increased at follow-up
- c. Significant difference between pre-camp and follow-up scores
- d. Significant difference between post-camp and follow-up scores

Table 3.2

Development of Friendship across Initial Two Time Points

N		Pre-Camp (SD)	Post-Camp (SD)
Reciprocal Friendships ^a			
45	Total	2.24 (1.55)	3.84 (2.00)
19	First-time campers ^b	1.53 (1.50)	3.00 (1.67)
26	Returning campers	2.27 (1.39)	4.46 (2.02)
21	LD	2.10 (1.48)	3.86 (2.06)
24	LD+ADHD	2.38 (1.69)	3.83 (1.99)
Reciprocal Cabin mates ^a			
45	Total	1.82 (1.31)	2.82 (1.71)
19	First-time campers ^b	1.37 (1.42)	2.42 (1.80)
26	Returning campers	2.15 (1.12)	3.12 (1.61)
21	LD	1.71 (1.27)	2.90 (1.67)
24	LD+ADHD	1.92 (1.35)	2.75 (1.78)
Reciprocal Non-Cabin mates ^a			
44	Total	.41 (.62)	.75 (.78)
19	First-time campers	.16 (.50)	.63 (.59)
25	Returning campers	.60 (.64)	.84 (.90)
21	LD	.38 (.59)	.86 (.79)
23	LD+ADHD	.43 (.66)	.65 (.78)

a. Significant main effect for time, indicating that campers reported more friendships at the end than at the beginning of camp.

b. Significant main effect for camp attendance, indicating that returning campers reported more friendships overall than first-time campers.

Table 3.3

Development of Friendship across Three Time Points

N		Pre-Camp (SD)	Post-Camp (SD)	Follow-Up (SD)
Reciprocal Friendships ^a				
23	Total	2.7 (1.61)	4.7 (1.96) ^b	2.35 (1.56) ^c
7	First-time campers	2.57 (1.72)	3.71 (1.5)	3.00 (1.29)
16	Returning campers	2.75 (1.61)	5.13 (2.03)	2.06 (1.61)
10	LD	2.8 (1.48)	4.8 (2.15)	2.8 (1.48)
13	LD+ADHD	2.62 (1.76)	4.62 (1.9)	2.0 (1.58)
Reciprocal Cabin mates				
23	Total	2.0 (1.21)	3.35 (1.5) ^b	1.83 (1.19) ^c
7	First-time campers	2.29 (1.6)	3.43 (1.13)	2.43 (.98)
16	Returning campers	1.87 (1.03)	3.31 (1.66)	1.56 (1.21)
10	LD	2.2 (1.32)	3.20 (1.55)	2.10 (1.1)
13	LD+ADHD	1.85 (1.14)	3.46 (1.51)	1.62 (1.26)
Reciprocal Non-Cabin mates ^d				
22	Total	.73 (.88)	1.18 (1.33)	.55 (.74)
7	First-time campers	.29 (.76)	.29 (.49)	.57 (.79)
15	Returning campers	.93 (.88)	1.6 (1.4)	.53 (.74)
10	LD	.6 (.7)	1.6 (1.4)	.7 (.68)
12	LD+ADHD	.83 (1.03)	.83 (1.19)	.42 (.79)

a. Significant two-way interaction between camp attendance and time, indicating that campers with several attendances had more friends during camp, but first-time campers had more friends at follow-up

b. Significant difference between pre-camp and post-camp scores

c. Significant difference between post-camp and follow-up scores

- d. Significant two-way interaction between camp attendance and time, indicating that campers with several attendances had more non-cabin friends at post-camp and first-time campers had more non-cabin friends at follow-up

Table 3.4

Camper Ratings of Closeness and Conflict within Friendships across Initial Two Time Points

N		Pre-Camp (SD)	Post-Camp (SD)
Closeness Ratings			
33	Total ^a	70.79 (25.18)	86.15 (15.52)
14	First-time campers	66.93 (24.62)	87.79 (10.89)
19	Returning campers	73.63 (25.87)	84.95 (18.38)
15	LD	70.20 (25.57)	86.40 (14.30)
18	LD+ADHD	71.28 (25.58)	85.94 (16.89)
Conflict Ratings			
32	Total	89.63 (19.30)	92.03 (10.29)
14	First-time campers	91.35 (13.40)	88.14 (12.68)
18	Returning campers	88.28 (23.18)	95.06 (6.89)
17	LD	91.88 (12.43)	91.53 (10.17)
15	LD+ADHD	87.07 (25.19)	92.60 (10.72)

a. Significant main effect for time, indicating that campers reported closer friendships at the end, compared to the beginning, of camp.

Table 3.5

Camper Ratings of Closeness and Conflict within Friendships across Three Time Points

N		Pre-Camp (SD)	Post-Camp (SD)	Follow-Up (SD)
Closeness Ratings				
17	Total	75.00 (17.86)	86.76 (13.43) ^a	81.71 (21.69)
7	First-time campers	68.86 (18.98)	85.29 (11.34)	81.86 (16.31)
10	Returning campers	79.30 (16.65)	87.80 (15.24)	81.6 (25.67)
7	LD	75.71 (17.02)	86.57 (7.63)	84.14 (11.35)
10	LD+ADHD	75.5 (19.33)	86.9 (16.79)	80.0 (27.26)
Conflict Ratings ^b				
17	Total	92.73 (8.99)	88.87 (11.99)	89.8 (11.44)
7	First-time campers	97.2 (2.17)	81.0 (15.25)	84.8 (18.59)
10	Returning campers	90.5 (10.34)	92.8 (8.28)	92.3 (5.4)
7	LD	93.38 (6.0)	89.75 (10.66)	85.75 (14.21)
10	LD+ADHD	92.0 (12.06)	87.86 (14.16)	94.43 (4.79)

a. Significant difference between pre-camp and post-camp scores

b. Significant two-way interaction between camp attendance and time, indicating that first-time campers reported conflict scores decreased at post-camp, but campers with several attendances reported stable conflict scores across time

Figure 1.1. Schematic of Overarching Domains and Constructs Examined

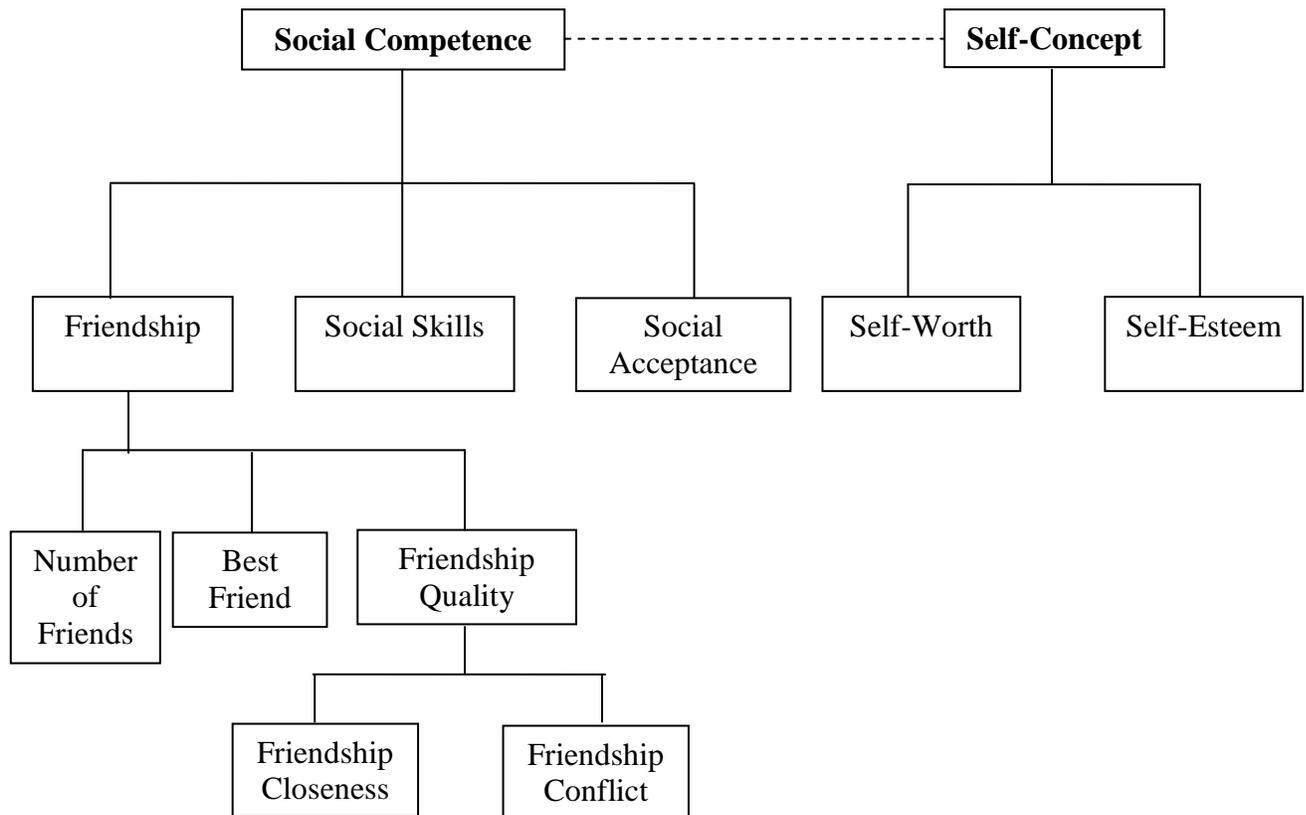


Figure 1.1. Schematic map of the overarching domains and constructs examined in the present dissertation. The two overarching domains are social competence and self-concept, which are then further subdivided into constructs. Friendship acts as a sub-domain of social competence and is also further subdivided into its constructs.

Figure 1.2. Model of Self-Concept

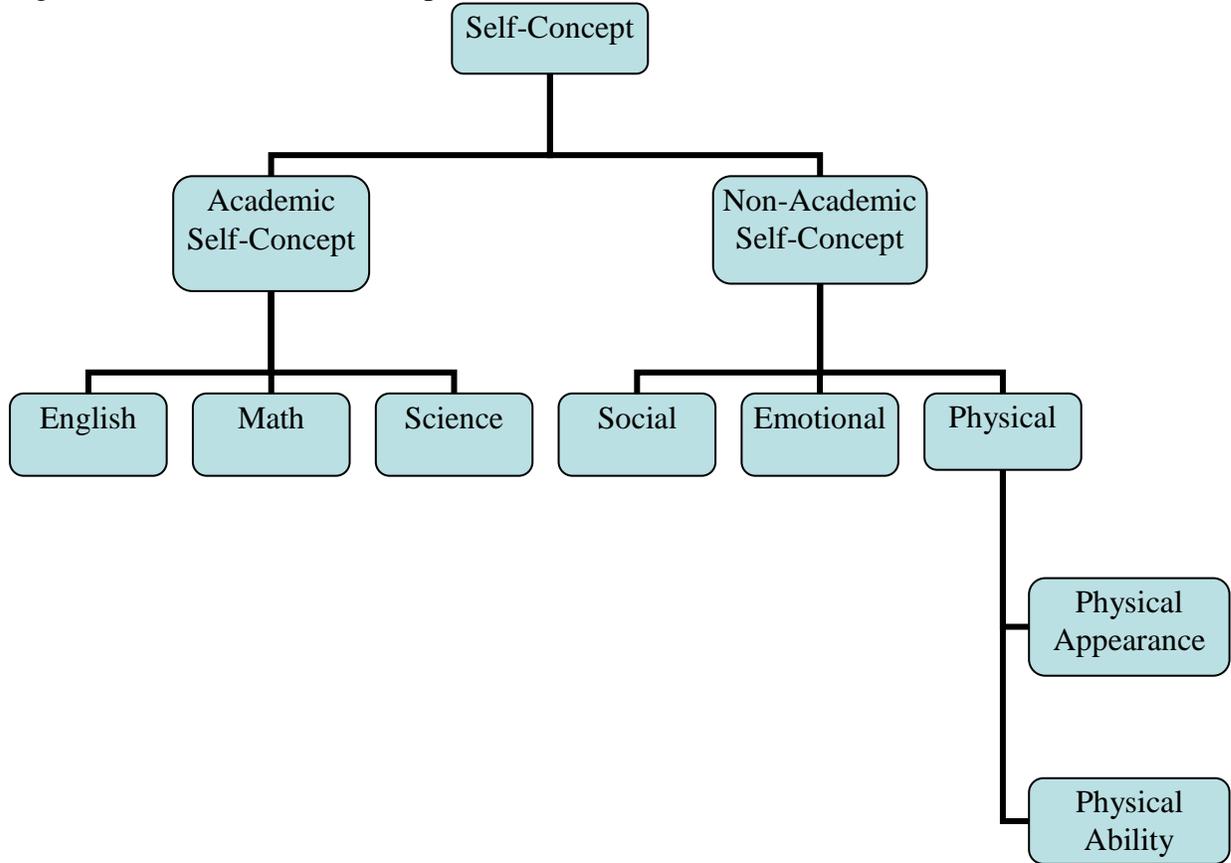
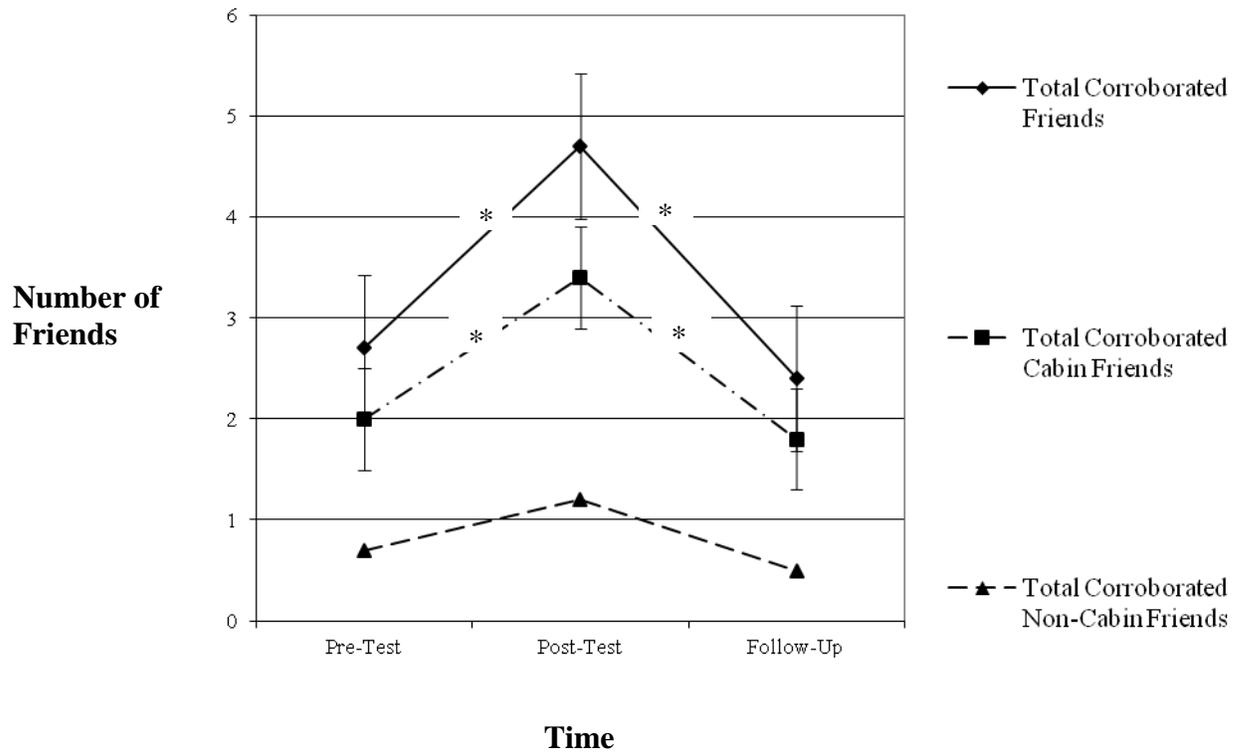


Figure 1.2. This model of self-concept was adapted from Shavelson et al. (1976). It highlights the sub-components of self-concept, as a global construct, including academic and non-academic self-concept.

Figure 3.1. Number of Reciprocal Friends across Three Time Points



**Significant at the $p < .01$ level

Figure 3.1. The number of reciprocal friendships (total friends over the whole camp, total friends from within one's cabin, and total friends not within one's cabin) as reported by campers across time (from the beginning of camp, to the end of camp, and again four to five months later). Error bars represent standard errors.

Appendices

Appendix A

Pilot Project

Prior to conducting the study, a pilot project was undertaken to determine the feasibility of completing research in a summer camp setting and the utility of the intended questionnaire and observational measures. The pilot project had four main objectives: (1) to test recruitment procedures and ascertain likely participation rates; (2) to examine whether or not campers' social skills and self-esteem changed over their time at camp, according to parent and camper ratings; (3) to examine the use of the *Campers' Growth Index (CGI)* (Henderson et al., 2006) and *Social Skills Rating System (SSRS)* (Gresham & Elliot, 1990) with an LD population within the context of summer camp; and (4) to ascertain the feasibility and utility of using a direct observational measure within a camp setting. The research design was similar to that of the present study, which is described in Chapters Two and Three. One procedural difference between the pilot project and the present study was around the timing and dissemination of the parent consent forms and initial questionnaires. Initial forms were sent to parents in the camp information package. However, the return rate, even with reminder phone calls, was low. The researcher then attended the Camp Information Day one month prior to the beginning of the first session. Here the researcher explained the purpose of the research and answered questions from parents. Parents were then given the opportunity to complete consent forms and initial questionnaires.

All campers and parents were invited to participate. Forty-four campers (33 males) and their parents participated in the pilot study, representing 43.1% of the potential sample of 102 campers. Measures used included a demographic questionnaire, the *CGI* (Henderson et al., 2006), and the *SSRS* (child and adolescent versions; Gresham & Elliott, 1990). Social skills were examined using the *social skills* domain on the *CGI* and the total score on the *SSRS*. Self-esteem

was examined using the *positive identity* and *positive values and decision making skills* subscales on the *CGI*. Also, a modified version of the *Behavioural Observation Schedule for Schools (BOSS)* was used to investigate passive engagement, active engagement, and off-task behaviour during structured camp activities (Shapiro, 1996). The demographic and *CGI* questionnaires are discussed in Chapter Two; however, the *SSRS* and *BOSS* are presented below, as these two measures were unique to the pilot project.

Social Skills Rating System (SSRS). The *SSRS* (Gresham & Elliott, 1990) is a standardized measure of a child's social skills, including cooperation, empathy, assertion, self control, and responsibility (Appendix I, p. 220). Child, adolescent, and parent versions exist. Problem behaviours, including externalizing problems, internalizing problems, and hyperactivity, are also examined on the parental measure. This scale has been shown to have high psychometric properties, for instance, there is a high degree of scale homogeneity (Gresham & Elliott, 1990). Similarly, Gresham and Elliott maintain that the questionnaire has adequate construct validity.

Behavioural Observation Schedule for Schools (BOSS). The *BOSS* (Shapiro, 1996) is a direct observational measure of students' engagement and off-task behaviours during academic tasks. In the school setting, the *BOSS* examines the number of intervals that a student is either mostly on-task or off-task. If a student is mostly on-task, this behaviour is then further categorized as 'actively engaged' (e.g., asking a question), or 'passively engaged' (e.g., listening to peers speak about the task). If a student is mostly off-task, this behaviour is then further subdivided as either 'motor' (e.g., moving around the room), 'verbal' (e.g., talking with a peer about an unrelated topic), or 'passive' (e.g., daydreaming). The amount of teacher directed instruction is also noted. An interval of observation is generally 15 seconds over 60 intervals,

totaling 15 minutes of observation per student, but this can be adapted for the context or the child being observed. In order for the focus of the observer to be completely on the student, the observer uses headphones to listen to a recording of beeps. The first beep indicates the beginning of an observation interval, followed by a second beep indicating the end of that interval. The observer then has five seconds to note the student's behaviour before the beginning of the next interval.

A modified version of the *BOSS* was used as a direct observational measure of campers' engagement during activities. This modified system allows an observer to record whether a child is actively or passively engaged in activities, as well as the frequency of off-task behaviour. Active engagement refers to involvement in activities by completing a task, asking questions, and/or discussing the task. Passive engagement includes behaviours such as listening or watching others complete the task. Off-task behaviour refers to times when a child is not engaged in the task, for instance, talking, walking around the room, or leaving the area. The modifications from the original *BOSS* included the use of the camp setting, where children were not observed during academic tasks; and the observer did not delineate off-task behaviour into 'motor', 'verbal', or 'passive' behaviours. Instead of teacher directed instruction, staff directed instruction was noted when a staff member was explaining the current project to the group or helping the camper individually. Observations were completed during structured music or art programs in the camp environment. Programs lasted for one hour each, with brief staff instruction at the beginning of the period. Observations began following staff instruction. Each camper was observed for 15 minutes over 60 intervals of 15 seconds each.

Results and Conclusions

Recruitment and Participation Rates

The mean age of the sample was 12.73 years ($SD = 1.92$), and ranged from 10 to 17 years. Individuals had attended Camp Towhee between one and five times ($M = 1.86$, $SD = .98$). Of the participating campers, 46.5% had a co-morbid diagnosis of ADHD. Complete data (pre-test, post-test, and follow-up measures) were obtained from 34 campers (77.27%) and 36 parents (81.82%), representing attrition rates of 23% and 18%, respectively. Given the initial small sample size of participants ($n = 44$), along with the attrition rates through the follow-up measures, it was determined that a small sample size was likely to occur again in the subsequent study. To attempt to prevent this challenge, the researcher changed the recruiting procedure in the present study by asking for parents to participate at the Camp Information Day. A brief presentation regarding the pilot study results and the importance of research was given, followed by time for questions. Following this presentation, consent forms and initial parent questionnaires were handed out. The researcher encouraged those interested to complete the forms at the information session and return them to the researcher, for which time was allotted. The other procedural change between the two studies was regarding the dissemination of the follow-up measures. In the pilot study, these questionnaires were mailed to participants. In the subsequent study, the questionnaires were also mailed to participants, but, in addition, questionnaires were available for parents to complete at the Camp Reunion Day in November while they waited for their children.

Social Skills

In general, campers and parents reported gains in campers' social skills following their attendance at Camp Towhee, albeit across different measures. Results are presented in Table A.1

(p.198). Parents reported social skills gains in their campers at the end of camp on the *SSRS*, and these gains were maintained on follow-up measures ($F(1, 12) = 5.08, p < .01, \eta^2 = .30$). Campers reported improvements in social skills, as measured by the *CGI Social Skills* domain, following camp, but these gains were not maintained on follow-up measures ($F(1, 33) = 4.69, p = .02, \eta^2 = .26$). These results are consistent with conclusions of similar studies conducted with both LD populations (e.g., Michalski et al., 2003; Westervelt et al., 1998) and typically developing peers (e.g., Henderson, Whitaker et al., 2007; Thurber et al., 2007). Taken together, parents and campers reported improvements in social skills while within the context of summer camp.

These results provided preliminary support for the overarching research hypothesis that campers with LD can improve their social skills while in the context of a specialized summer camp. Given that these results are to be interpreted with caution due to the small sample size, replication of these results is important in order to help establish summer camp as an important context for social skills development. In order to attempt to replicate and extend these results in the present study, the researcher chose to continue to use quantitative measures of social competence and add both a direct measure of social interaction and measures to examine friendship development and quality. In this way, the measures of friendship and social interaction could potentially substantiate any social competence improvements. Additionally, these constructs would provide important information regarding the possible mechanisms of change that predict changes in campers' social competence.

Self-Esteem

Parents did not perceive changes on campers' *positive identity* score over any of the time points (see Table A.2, p. 199). On the *CGI positive identity* subscale, campers indicated stable scores while at camp, but a significant decrease at follow-up ($F(1, 33) = 11.36, p < .01, \eta^2 = .26$).

These results were contradictory to many studies that reported self-esteem gains following participation at a specialized summer camp in both LD (e.g., Yssel, et al., 2005) and typically developing (e.g., Henderson, Bialeschki, & James, 2007) populations. The timing, and therefore, the context, of the follow-up measures likely impacted camper reports. As in the case of Zak, a 15-year-old teenager with LD+ADHD (Stoch, 2000), campers felt more comfortable at camp than at school. When campers feel understood and successful in their immediate environment, they also feel more confident in themselves (e.g., Forman, 1988).

These findings are unique to the literature as other researchers have found enhanced self-concept at the end of camp (e.g., Yssel et al., 2005). Again, due to the limited sample size, these results need to be interpreted with caution. Replication of these results is important to establish if there are true declines in self-esteem when campers return to school or if these results are an anomaly.

On the *positive values and decision making skills*, an indirect measure of self-esteem, parents reported increased scores for campers after camp, but gains were not maintained on follow-up measures ($F(1, 35) = 2.71, p < .05, \eta^2 = .25$). Camper reports did not reveal changes on this subscale. While the *CGI* has not been used before with campers with LD, gains have been reported by parents of typically developing campers on the *positive values and decision making skills* subscale (e.g., Henderson, Whitaker et al., 2007).

Measure Feasibility

This project was also conducted to investigate the feasibility of using the *CGI* and *SSRS* as appropriate tools for this context, with this population. Results from the pilot project indicated that the *CGI* was a helpful tool to examine social skills and self-esteem in campers, from both camper and parent perspectives. Campers reported, informally, to this researcher that most of the

questions were easy to answer. Most campers did not require additional assistance to complete the measure, even though it was offered and remained available. However, during the data collection, campers indicated that this measure took too much time to complete and they felt that they missed time away from their first day at camp. The *CGI* was retained for use as a questionnaire in the present study, in an attempt to replicate the pilot study results. However, only the *social skills* and *positive identity* domains on the *CGI* were used, in order to shorten the measure. The other domains regarding positive values and decision making, and environmental awareness were omitted given the camper feedback and the irrelevant nature of these domains to the variables being investigated (i.e., social competence and self-concept).

Alternatively, campers reported difficulties completing the *SSRS*. In particular, the adolescent version contains questions about dating relationships, but many campers expressed discomfort on these items and requested to leave them blank, often because they were not yet dating. The missing data rendered many of these questionnaires invalid. Some campers also seemed to misunderstand the intent of these items; for instance, on a question asking if he felt confident on dates, one child remarked, “Does this mean if I know when it’s Wednesday or Saturday?” Because of these issues, the *SSRS* was not used in the current study. Instead, the *Self-Perception Profile for Children (SPPC)*; Harter, 1985) was substituted to examine feelings of social acceptance and self-worth.

Observational Data

For the purposes of the observational data, 12 campers were observed. Two were excluded because of unavailability or atypical behaviour during observational periods. A modified version of the *BOSS* was used as a direct observational measure during structured camp activities. Observations from 10 campers (8 males) were included in the present study. For these

campers, their attendance at Camp Towhee ranged from one to three summers ($M = 1.6$, $SD = .70$) and their ages ranged from 11 to 17 years ($M = 13.44$, $SD = 2.09$). Four of these campers were diagnosed with co-existing ADHD. The intent of the *BOSS*, as described above, is to examine campers' active engagement, passive engagement, and off-task behaviour during tasks.

On the measure of active engagement, a significant main effect for time was found ($F(1, 9) = 10.30$, $p < .01$, $\eta^2 = .53$), where campers' active engagement in activities increased from the beginning of camp ($M = 3.97$, $SD = 10.45$) to the end of camp ($M = 57.51$, $SD = 11.77$). Additionally, a significant main effect for gender was found ($F(1, 9) = 48.08$, $p < .01$, $\eta^2 = .86$), where females demonstrated more active engagement than males, overall. No significant main effects for camp attendance (first-time or returning campers) or diagnosis (LD or LD+ADHD) were observed. Also, no interactions between time and gender, camp attendance, or diagnosis were observed. On the measure of passive engagement, a significant main effect for gender was found ($F(1, 9) = 12.32$, $p < .01$, $\eta^2 = .61$), where females demonstrated less passive engagement than males, overall. No significant main effects for time, camp attendance, or diagnosis were observed. Also, no interactions between time and gender, camp attendance, or diagnosis were observed. On the measure of off-task behaviour, a significant main effect for time was found ($F(1, 9) = 13.31$, $p < .01$, $\eta^2 = .60$), where campers' off-task behaviour decreased from the beginning ($M = 16.99$, $SD = 14.2$) to the end of camp ($M = 3.30$, $SD = 3.82$). No significant main effects for gender, camp attendance, or diagnosis were observed. Also, no interactions between time and gender, camp attendance, or diagnosis were observed. Due to the small sample of campers observed, these results need to be interpreted with caution. A similar pattern of results was also found when no extraneous variables (e.g., gender, diagnosis) were used in the analyses, indicating that campers' active engagement improved and off-task behaviour decreased at the

end of camp. These results are somewhat novel in this body of literature given that the *BOSS* has not been used in this setting before. The results might speak to the level of comfort and confidence that the campers gain with each other, the staff, and the camp activities by the end of the camp session. Similar results have been found when children with LD begin to feel supported and understood in their classroom (e.g., Stoch, 2000), indicating the possibility that the level of support and comfort experienced by a child with LD could impact upon psychosocial outcomes in differing environments (e.g., Forman, 1988).

One aim of the pilot study was to test the use of the *BOSS* in this specialized summer camp setting. While the *BOSS* was found to be an unobtrusive, straightforward tool to use in the environment, there were difficulties which caused changes to be made for the subsequent data collection period. First, the behaviours observed (active engagement, passive engagement, and off-task behaviour) did not correlate with the outcome variables (i.e., social competence or self-esteem). This necessitated alterations in the operational definitions of the behaviours being observed. Given that social interactions with other campers are both observable and a large part of the camp experience, the behaviours observed in the following wave of data collection were positive and negative social interactions between campers, along with non-engagement with peers. Upon reflecting on the observation time periods (i.e., during the structured activities of art and music), I decided that interactions may be better examined during a more naturalistic, unstructured setting, where there is less focus on a specific task. The number of intervals used was also decreased in order to be able to observe all participating campers (from 60 intervals to 30 intervals). These procedural changes were then applied to the present study.

Conclusion

The pilot project provided a preliminary understanding of the development of social competence and self-concept within a specialized summer camp for children and adolescents with LD. It also shed light on the challenges of conducting research within a camp setting, particularly at Camp Towhee. These findings led to a number of modifications to the procedures and tools used within the present study. In the main data collection period, quantitative measures continued to be used as a means to replicate the results of the pilot study. The limited information that exists with regards to psychosocial development within the camp context called for further research using parent and camper perceptions. Using quantitative methods was deemed the most efficient way to examine the perceptions of the majority of participants. Given that the potential sample was only 100 children, the friendship questionnaire and a modified version of the *BOSS* were added in order to corroborate any findings. The friendship questionnaire and the *BOSS* were used to extend the results of the pilot project and provide a glimpse into the social interactions of children and adolescents with LD at camp. Friendship development at camp has not been investigated to date within a sample of campers with LD. Direct observations of camper behaviour have also not been attempted within the specialized camp setting; thereby filling two major gaps in the literature.

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Table A.1

Parental Ratings of Camper Outcomes across Three Time Points during the Pilot Study

Domain	N	Measure Domain	Pre-Camp Mean (SD)	Post-Camp Mean (SD)	Follow-Up Mean (SD)
Social Skills					
	36	Social Skills (CGI)	45.19 (5.3)	46.0 (5.63)	46.17 (5.65)
	13	Social Skills (SSRS – elementary) ^a	40.08 (9.89)	44.38 (10.62)	44.62 (9.16)
	23	Social Skills (SSRS – adolescent)	45.04 (10.88)	46.09 (12.54)	47.09 (11.59)
Self-Esteem					
	36	Positive Identity (CGI)	29.72 (4.55)	29.62 (5.20)	29.35 (5.21)
	36	Positive Values and Decision Making (CGI) ^b	19.01 (4.31)	20.00 (4.50)	20.00 (4.40)

a. Significant difference from pre-camp to follow-up

b. Significant difference from pre-camp to post-camp

Table A.2

Camper Ratings of Outcomes across Three Time Points during the Pilot Study

Domain	N	Measure Domain	Pre-Camp Mean (SD)	Post-Camp Mean (SD)	Follow-Up Mean (SD)
Social Skills					
	34	Social Skills (CGI) ^a	50.48 (7.80)	53.44 (6.89)	51.14 (9.22)
	12	Social Skills (SSRS – elementary)	49.58 (6.16)	54.42 (6.71)	48.58 (7.56)
	22	Social Skills (SSRS – adolescent)	49.27 (9.52)	49.50 (9.78)	51.55 (8.39)
Self-Esteem					
	34	Positive Identity (CGI) ^b	35.13 (5.02)	36.77 (5.19)	32.90 (4.21)
	34	Positive Values and Decision Making (CGI)	23.15 (3.09)	23.18 (3.67)	22.46 (2.98)

a. Significant difference from pre-camp to post-camp

b. Significant difference from post-camp to follow-up

Appendix B

Behavioural Observation Data from the Current Study

In the present study, direct observations of social engagement were collected in an attempt to corroborate parent and camper reports of social competence. Most of the participating campers were observed both near the beginning and end of camp. Participant attrition was mostly due to campers being unavailable at the time of observation (e.g., illness). In total, the observations of 53 campers were included in the analyses. A modified version of the *Behavioural Observation Schedule for Schools (BOSS)*; Shapiro, 1996; see Appendix J, p. 221) was used to observe positive social engagement, negative social engagement, and non-engagement with peers. Positive social engagement was coded during any positive social overture (e.g., reciprocal play, initiating conversation, sharing, etc.); negative social engagement was coded when negative social interactions such as hitting, yelling, and bullying were observed; and non-engagement was coded when a camper was not playing with other campers or only interacting with camp staff. Observations were completed during unstructured camp activities, for instance during waterfront or evening programs. During these programs there was less staff instruction, allowing for more camper-initiated social interactions, compared to during more structured programs, like art and music, where teaching from staff was a larger focus taking campers' attention away from each other. Each camper was observed for 7.5 minutes over 30 intervals lasting 15 seconds each.

Similar to the other outcome variables, *BOSS* variables were examined using repeated measures ANOVAs using camp attendance (first-time or returning campers) and diagnosis (LD or LD+ADHD) as between-subject factors, separately. Results are presented in Table B.1 (p. 204). On observations of positive social engagement, no significant main effects were found (F

(1, 51) = 3.28, $p = .08$, $\eta^2 = .06$). No main effects or group x time interactions were found when using camp attendance (first-time or returning campers) as a between-subject factor. Similarly, main effects or group x time interactions were not found when using diagnosis (LD or LD+ADHD) as a between-subject factor.

On observations of negative social engagement, no significant main effects were found ($F(1, 51) = .02$, $p = .90$, $\eta^2 = .00$). No main effects or group x time interactions were found when using camp attendance (first-time or returning campers) as a between-subject factor. There was a main effect for diagnosis (LD or LD+ADHD; $F(2, 51) = 5.38$, $p < .05$, $\eta^2 = .10$) found, indicating that campers with LD+ADHD demonstrated more instances of negative engagement than those with LD. No group x time interactions were found when using diagnosis (LD or LD+ADHD) as a between-subject factor.

On observations of non-engagement, no significant main effects were found ($F(1, 51) = 1.25$, $p = .27$, $\eta^2 = .02$). No main effects or group x time interactions were found when using camp attendance (first-time or returning campers) as a between-subject factor. Similarly, main effects or group x time interactions were not found when using diagnosis (LD or LD+ADHD) as a between-subject factor.

Discussion

The results from the direct observations during unstructured camp activities did not reveal any significant differences, with the exception of a small effect for diagnostic group. Consistent with existing literature (e.g., Barkley, 2006; Wheeler & Carlson, 1994), campers with LD+ADHD were observed to participate in more instances of negative social engagement (e.g., aggression) than those with LD. This would likely impact upon social competence, as aggression can be a main reason why children are unable to maintain newly formed camp friendships (e.g.,

Parker & Seal, 1996). While this difference was statistically significant, it may not be clinically relevant, as both groups of campers demonstrated, on average, less than one instance of negative social engagement per observational period.

The lack of significant results could be due to a number of factors. Using only two time points may have provided a limited picture of social engagement development over the course of camp. It could be more helpful to follow fewer campers across multiple time points over the course of camp. In this way, it would be possible to track the development of social engagement over time. It may be that positive social engagement peaks at a certain time point but decreases near the end of camp, due to, for example, tiredness of campers. Parker and Seal (1996) also found, correspondingly, that as camp progressed towards the end, campers were more likely to report not having camp friends. These findings could speak to the importance of the length of the camp program. It could be that a longer time frame is required to see development in skills, but too much time impacts negatively on those skills or in other domains, like friendship. Similarly, it may be helpful for multiple researchers to observe each participant to ensure that coding is completed reliably. While the latter suggestions were beyond the scope and capabilities of the present research, it will be important for future researchers to continue within this vein of data collection to provide camping research with a more direct and unbiased outcome measure.

These results were not included in the prepared manuscripts (Chapters Two and Three) due to the lack of significant findings. Social engagement observations were consistent with the lack of robust results on social competence and self-concept measures. It is possible that improving social skills is not one of the immediate benefits of this summer camp context. Like O'Halloran and Ellsworth (1996), there was no change in social skill usage, but it could be that other, prerequisite skills, like the awareness of socially appropriate behaviour, were impacted.

The inclusion of direct observations of social behaviour was an innovative method for approaching summer camp research. There have been no other studies to use direct observations in a systematic way to support information garnered from camper and parent reports of psychosocial outcomes. While significant differences were not found, completing direct observations within a summer camp context to investigate social behaviour was a feasible endeavor.

Table B.1

Social Engagement based on BOSS Observations

N		Pre-Test Mean (SD)	Post-Test Mean (SD)
Positive Engagement			
53	Total	18.15 (9.65)	21.23 (8.49)
21	First-time campers	15.90 (10.40)	21.62 (8.04)
32	Returning campers	19.68 (9.12)	20.68 (8.88)
25	LD	19.76 (10.18)	23.16 (8.55)
28	LD+ADHD	16.71 (9.08)	19.50 (8.19)
Negative Engagement			
53	Total	.34 (.73)	.38 (1.60)
21	First-time campers	.19 (.51)	.62 (2.18)
32	Returning campers	.45 (.85)	.23 (1.09)
25	LD ^a	.12 (.33)	.00 (.00)
28	LD+ADHD	.54 (.92)	.71 (2.16)
Non-Engagement			
53	Total	11.51 (9.67)	9.26 (11.49)
21	First-time campers	13.90 (10.39)	7.76 (7.54)
32	Returning campers	9.87 (9.14)	10.57 (13.59)
25	LD	10.12 (10.20)	6.84 (8.55)
28	LD+ADHD	12.75 (9.19)	11.42 (13.34)

^a. Main effect for diagnostic group, indicating that campers with LD+ADHD displayed more intervals of negative social engagement than campers with LD

Appendix C

Statistical Issues

Exploratory Analyses and Data Cleaning

Exploratory analyses were completed to investigate the existence of outliers and skew within the data. Outliers were transformed using the Winsorizing method (e.g., Wainer, 1976), whereby the lowest and highest outcome scores (i.e., extreme outliers) were set equal to the score within the boundary of each end of the distribution. Outcomes for age were compared using camp session as a cut-off. Independent t-tests were conducted to investigate differences between age (either session one or session two) and gender (male or female), but no significant differences between groups were found, overall. Further analyses were collapsed across session and gender. Correlations between pre-test scores of each subscale were examined to determine measures used to investigate each construct. For instance, pre-test scores of camper reported *social comfort* were significantly correlated with pre-test scores of camper reported *social acceptance* (Pearson correlation = .63; $p < .01$), so these subscales were used to examine the social acceptance construct.

Rationale for Statistical Design

When using a pre-test, post-test, follow-up research design three statistical techniques might be used: Multi-Level Modeling (MLM), Analysis of Covariance (ANCOVA), and/or Analysis of Variance (ANOVA; Rausch, Maxwell, & Kelley, 2003). MLM is a statistical technique that allows researchers to investigate and predict change and/or growth over time, taking into account the nested structure of the data (Kreft & DeLeeuw, 1998). MLM was considered to be an effective method of statistical analysis for the present study, as it could account for missing data and manage a small sample size (Kreft & DeLeeuw, 1998). However,

the assumptions for MLM include having a linear data pattern, over time. Initial data analyses indicated that the present data violated this assumption, as the data fit a quadratic shape. While MLM could potentially account for quadratic data, analyses would require more than three time points (Kreft & DeLeeuw, 1998). Given this significant limitation, MLM was not chosen as an appropriate statistical method.

Completing an ANCOVA was then considered as a statistical technique. Two essential assumptions for the completion of an ANCOVA that need to be met are: (1) the covariate and the dependent variable are independent of one another; and (2) regression slopes are homogeneous (Field, 2009; Rausch et al., 2003). For the first assumption to be met pretest measures would need to be used as a covariate and be independent of posttest measures (e.g., Miller & Chapman, 2001); however, pretest measures were not independent of posttest measures in the current data set. Similarly, ANCOVAs can control for group differences if groups are independent and do not impact the treatment effects (Field, 2009). For instance, in the current study, group diagnosis (LD or LD+ADHD) defined the characteristics of each group, so an independent covariate could not be established (e.g., Miller & Chapman, 2001). Given that the current data violate the first assumption required for an ANCOVA, this was not considered to be an appropriate statistical test. As MLM and ANCOVAs were not appropriate statistical techniques for these data, repeated measure ANOVAs were used to examine the difference in campers' social competence and self-concept over time.

Appendix D

Demographic Questionnaire

Camper ID: _____

Child's Age: _____ (years) _____ (months)

Child's Grade: _____

How many summers has your child attended Camp Towhee (including this summer): _____

Please describe the nature of your child's Learning Disability: _____

Please list any of your child's other diagnoses (check all that apply):

Attention Deficit Hyperactivity Disorder _____

Oppositional Defiant Disorder _____

Conduct Disorder _____

Anxiety Disorder _____

Depressive Disorder _____

Other (please list all) _____

Please list any of your child's other difficulties (check only if not associated with a diagnosis):

Social difficulties (please describe) _____

Emotional difficulties (please describe) _____

Behavioural difficulties (please describe) _____

Appendix E

Strengths and Difficulties Questionnaire

Instructions: **For each item, please mark the box for Not True, Somewhat True, of Certainly True. It would help if you answered all items as best as you can even if you are not absolutely certain. Please give your answers on the basis of your child's behaviour over the last six months or this school year.**

Child's name: _____

Camper ID: _____

	Not True	Somewhat True	Certainly True
Considerate of other people's feelings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Restless, overactive, cannot stay still for long	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Often complains of headaches, stomach-aches, or sickness	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Shares readily with other children (treats, toys, pencils, etc)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Often has temper tantrums or hot tempers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rather solitary, tends to play alone	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Generally obedient, usually does what adults request	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Many worries, often seems worried	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Helpful if someone is hurt, upset, or feeling ill	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Constantly fidgeting or squirming	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sees tasks through to the end, good attention span	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Sample

Appendix F

The Camper's Growth Index

Parents and campers completed the *Camper's Growth Index* (CGI; Henderson et al., 2006) for pre-, post-, and follow-up testing. The CGI is a measure of children's perceptions of self-concept (i.e., self-esteem) and social competence (i.e., social skills and social acceptance). The scale has 43 items and uses a 4-point Likert scale, where 1 signifies "disagree a lot," 2 signifies "disagree a little," 3 signifies "agree a little," and 4 signifies "agree a lot." A middle or neutral point was purposely not used in order to force participants to agree or disagree with the statements. Henderson and colleagues (2006) isolated nine subscales within four domains: *Positive Identity*, *Social Skills*, *Positive Values*, and *Thinking and Physical Skills*. Items with factor loadings less than .4 were replaced with newly constructed items with apparent face validity, similar to those items with adequate loadings. Convergent validity of the CGI items was tested; however, no other measure was found to examine the domain of *Thinking and Physical Skills*. Correlations were statistically significant for all comparisons, even though some correlations were low to moderate in nature; for instance, the *Piers-Harris Children's Self-Concept Scale* was correlated with the *Positive Identity* domain of the CGI (correlations ranging from $r = .26$ to $r = .51$; Henderson et al., 2006). The tests indicated adequate construct validity for the domains of *Positive Identity*, *Social Skills*, and *Positive Values*. Camper and parent responses were also compared and all correlations were significant but modest, ranging from .24 to .69 (Henderson et al., 2006). In the present study, the *Positive Identity* and *Social Skills* domains were used.

Camper's Growth Index – Child Form

Directions: **Below are questions about how you feel about yourself, activities, and other kids. Please circle 1 if you disagree a lot, please circle 2 if you disagree a little, please circle 3 if you agree a little, and please circle 4 if you agree a lot. Please try to answer all the questions as best you can.**

- | | | | | |
|--|------------------------|---------------------------|------------------------|---------------------|
| 1) I am a good leader. | Disagree
a Lot
1 | Disagree
a Little
2 | Agree
a Little
3 | Agree
a Lot
4 |
| 2) I'm a special person. | Disagree
a Lot
1 | Disagree
a Little
2 | Agree
a Little
3 | Agree
a Lot
4 |
| 3) I like to talk to kids I don't know yet. | Disagree
a Lot
1 | Disagree
a Little
2 | Agree
a Little
3 | Agree
a Lot
4 |
| 4) I worry about making friends. | Disagree
a Lot
1 | Disagree
a Little
2 | Agree
a Little
3 | Agree
a Lot
4 |
| 5) I need my parents to help me do things. | Disagree
a Lot
1 | Disagree
a Little
2 | Agree
a Little
3 | Agree
a Lot
4 |
| 6) If kids were choosing a leader, they might vote for me. | Disagree
a Lot
1 | Disagree
a Little
2 | Agree
a Little
3 | Agree
a Lot
4 |

Camper's Growth Index – Parent Form

Directions: **Below are 42 questions about how your child feels about him/herself, activities, and other children. Please circle 1 if you disagree a lot with the statement, please circle 2 if you only disagree a little, please circle 3 if you agree a little, and please circle 4 if you agree a lot with the statement. Please try to answer all the questions as best you can.**

- | | | | | |
|--|------------------------|---------------------------|------------------------|---------------------|
| 1) My child is a good leader. | Disagree
a Lot
1 | Disagree
a Little
2 | Agree a
Little
3 | Agree a
Lot
4 |
| 2) My child is a special person. | Disagree
a Lot
1 | Disagree
a Little
2 | Agree a
Little
3 | Agree a
Lot
4 |
| 3) My child is likes to talk to kids he/she doesn't know yet. | Disagree
a Lot
1 | Disagree
a Little
2 | Agree a
Little
3 | Agree a
Lot
4 |
| 4) My child worries about making friends. | Disagree
a Lot
1 | Disagree
a Little
2 | Agree a
Little
3 | Agree a
Lot
4 |
| 5) My child needs his/her parents to help him/her do things. | Disagree
a Lot
1 | Disagree
a Little
2 | Agree a
Little
3 | Agree a
Lot
4 |
| 6) If kids were choosing a leader, they might vote for my child. | Disagree
a Lot
1 | Disagree
a Little
2 | Agree a
Little
3 | Agree a
Lot
4 |

Sample

Appendix G

The Self Perception Profile for Children – Child Form

Directions: **Please choose which statement is more like you and then decide if that statement is ‘sort of true for you’ or ‘really true for you’. Only check one box for each statement!**

		Sample Sentence					
		Really true for me	Sort of true for me			Sort of true for me	Really true for me
(a).	<input type="checkbox"/>	<input type="checkbox"/>	Some kids would rather play outdoors in their spare time	BUT	Other kids would rather watch T.V.	<input type="checkbox"/>	<input type="checkbox"/>
<hr/>							
1.	<input type="checkbox"/>	<input type="checkbox"/>	Some kids find it hard to make friends	BUT	Other kids find it’s pretty easy to make friends.	<input type="checkbox"/>	<input type="checkbox"/>
2.	<input type="checkbox"/>	<input type="checkbox"/>	Some kids are often unhappy with themselves	BUT	Other kids are pretty pleased with themselves.	<input type="checkbox"/>	<input type="checkbox"/>
3.	<input type="checkbox"/>	<input type="checkbox"/>	Some kids have a lot of friends	BUT	Other kids don’t have very many friends.	<input type="checkbox"/>	<input type="checkbox"/>
4.	<input type="checkbox"/>	<input type="checkbox"/>	Some kids don’t like the way they are leading their life	BUT	Other kids do like the way they are leading their life.	<input type="checkbox"/>	<input type="checkbox"/>

Sample

Appendix H
Friendship Questionnaire

Camper's ID: _____

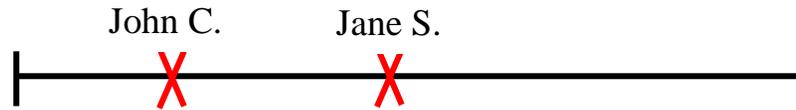
1. Tell me the names of your best friends at camp.		2. What cabin is he/she in?	3. Did you know this friend before coming to camp? (circle Y / N)	4. If you circled Yes to Q3, where did you meet this friend?	5. About how long have you known this friend?
First Name	Last Initial				
			Yes / No		
			Yes / No		
			Yes / No		
			Yes / No		
			Yes / No		
			Yes / No		
			Yes / No		
			Yes / No		
			Yes / No		

Which is your very best friend? _____

Friendship Questionnaire

For each of the friends you named, mark an X on the line to tell how close you are to each friend. Above the X, please write your friend's first name and last initial.

Here is an example:



My friend and I are very close!

My friend and I are not really that close.

Now it's your turn! Remember to include all the friends that you listed!



My friend and I are very close!

My friend and I are not really that close.

Parent Friendship Questionnaire

Camper's ID: _____

1. Does your child have friends from Camp Towhee? (circle) **Yes** **No**

2. Please indicate the name(s) of your child's friend(s) from Camp Towhee. Please give first name and last initial (if known). First Name Last Initial	3. Where did your child and this friend meet? (Integra group, school, Camp Towhee 2009, Camp Towhee 2008, etc.)	4. About how often does your child speak with this friend (either on the phone or on the internet)? 0 – never 1 – once or twice a month 2 – once a week or more 3 – almost everyday 4 – I don't know	5. Who most often makes the telephone call or contact via internet, your child or his/her friend? (please circle)	6. About how often does your child spend time with this friend outside of school? 0 – never 1 – once/twice a month or less 2 – once a week or more 3 – almost everyday 4 – I don't know
		0 1 2 3 4	My child / friend	0 1 2 3 4
		0 1 2 3 4	My child / friend	0 1 2 3 4
		0 1 2 3 4	My child / friend	0 1 2 3 4
		0 1 2 3 4	My child / friend	0 1 2 3 4
		0 1 2 3 4	My child / friend	0 1 2 3 4
		0 1 2 3 4	My child / friend	0 1 2 3 4
		0 1 2 3 4	My child / friend	0 1 2 3 4
		0 1 2 3 4	My child / friend	0 1 2 3 4

Which is your child's best friend (if known)? _____

Appendix I

The Social Skills Rating System

Self-Report, for children in Grades K-6.

Self-Report, for children in Grades 7-12.

Parent-Report, for children in Grades K-6.

Parent-Report, for children in Grades 7-12.

The Social Skills Rating System (SSRS) is a standardized questionnaire and hence has not been included.

Appendix J

Modified BOSS Observational Instructions used in this dissertation

Materials

- Pen/pencil
- Clipboard
- BOSS record form
- CD player (with batteries or power cord)
- 15 second x 30 interval CD with prompts

Instructions

The CD is organized such that the start of each observation period is cued by “Observe 1,” “Observe 2,” “Observe 3” and so forth for a total of 30 observation periods. Each observation period is 15 seconds. However, a beep is cued to sound at 10 seconds into each observation period. It is at this time that the observer should record their observations.

To clarify: An observation period begins with “Observe 1” (watch the target student). After 10 seconds have elapsed a beep will sound and the observer should mark down their observations on the BOSS record form. The next observation period will commence 5 seconds after the beep (i.e. the total length of the observation period is 15 seconds). Thirty intervals were observed for a total observation time of 7.5 minutes.

Completing the Form

To complete the record form, the observer should be familiar with the following operational definitions.

Instruction: At start of auditory cue, observe whether camper is socially engaged or not socially engaged. If engaged, decide immediately if the engagement is positive or negative.

Observations are based on the predominant behaviour displayed during the majority of the observation interval; however, if a negative engagement is observed, this will take precedence. (e.g., if the target camper is positively engaged for 7 seconds, but then engages negatively for 3 seconds, code as negatively engaged; but if the target camper is positively engaged for 7 seconds and then non-engaged for 3 seconds, code as positively engaged.)

1. Positive social engagement:

- Defined as “those times when the camper is actively engaging with a peer in a socially appropriate manner.”
- Examples include:
 - Speaking with another camper about an activity
 - Speaking with another camper about any topic of conversation
 - Playing cooperatively with another camper
 - Helping another camper with an activity
 - Listening to another camper

2. Negative social engagement:

- Defined as “those times when the camper is negatively engaging with a peer in a socially inappropriate manner.”

- Examples include:

- Hitting, kicking, or engaging in any other type of physical aggression
- Yelling at another camper
- Name calling, teasing, or engaging in any other type of verbal aggression

3. Not socially engaged:

- Defined as “any instance where the camper is not engaged with another camper.”

- Examples include:

- Ignoring or not listening to another camper
- Speaking with camp staff
- Leaving an activity area
- Sitting or playing away from the rest of the campers
- Watching other campers

BOSS Record Form

Child ID: _____

Type of Activity: _____

Date: _____

Observer's Initials: _____

Time of Observation: _____

Moment	1	2	3	4	5	6	7	8	9	10	Total
PSE											
NSE											
Non-E											
Moment	11	12	13	14	15	16	17	18	19	20	Total
PSE											
NSE											
Non-E											
Moment	21	22	23	24	25	26	27	28	29	30	Total
PSE											
NSE											
Non-E											

Additional Comments/Observations:

Target Student	
PSE:	% PSE:
NSE:	%NSE:
Non-E:	%Non-E: