

TOWSON UNIVERSITY
COLLEGE OF GRADUATE STUDIES AND RESEARCH
DEPARTMENT OF PSYCHOLOGY

EXAMINING THE RELATION BETWEEN SOCIAL SKILL ACQUISITION AND
ATTACHMENT STATUS IN CHILDREN AT-RISK FOR THE DEVELOPMENT OF
EMOTIONAL AND BEHAVIORAL DISORDERS

by

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A thesis presented to the faculty of Towson University in partial fulfillment of the requirements
for the degree Master of Arts

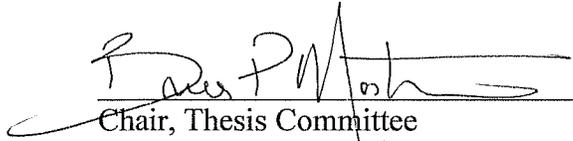
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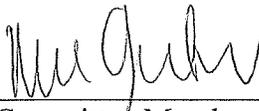
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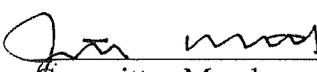
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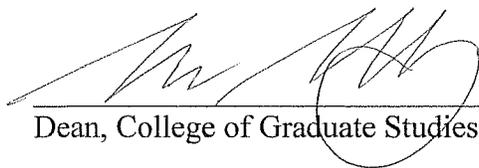
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ABSTRACT

Examining the Relation between Social Skill Acquisition and Attachment in Children At-Risk for the Development of Emotional and Behavioral Disorders

Risk factors such as low academic performance, poor relationships with peers, parents, and teachers have been documented to negatively impact the mental health and development of children over time (Buchanan, Flouri & Brink, 2002). This study implemented a 4-week summer program intervention with 19 children who had a variety of risk factors in their lives. The aims of this study were to increase the participant's frequency of pro-social behavior by teaching a manualized social skills curriculum; and to explore the role of caregiver attachment in relation to social skill acquisition. Information from multiple informants was used to assess children's social and behavioral performance from the beginning to the end of the program. Results indicate that for this sample the intervention was effecting in increasing pro-social behavior for some of the participants and that the attachment status of children was not related to their ability to make pro-social gains.

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Examining the Relation between Social Skill Acquisition and Attachment in Children At-Risk
for the Development of Emotional and Behavioral Disorders

INTRODUCTION

The period of the middle childhood is a time of great physical, emotional, social, environmental, and cognitive development for children. Children who experience untreated externalizing and internalizing problems during middle childhood are at risk for continued behaviorally and emotionally turbulent futures (Buchanan et al., 2002). Research has shown the development of psychopathology in children is related to the presence of various risk and protective factors (Schrepferman, Eby, Snyder, & Stropes, 2006). Further, the ways in which certain risk factors hinder children and the manner in which protective factors enable them to be resilient varies greatly from child to child. Research has identified certain risk factors such as low academic performance, poor relationships with peers, parents, and teachers as having a negative impact as children develop (Buchanan et al., 2002).

Preventative interventions to help increase children's social and emotional learning (SEL) may bolster protective factors and combat risk factors enabling them to thrive in their environments (Hawkins, Catalano, Kosterman, Abbott, & Hill, 1999). Much research supports the use of preventative programs that limit the negative effects of risk factors and promote more positive developmental outcomes for children (e.g. Orpinas & Horne, 2006; Schrepferman et al., 2006; Buchanan et al., 2002; Nation, Crusto, Wandersman, Kumpfer, Seybolt, Morrissey-Kane, & Davino, 2003; Hawkins et al., 1999). The emotional and financial cost to families of at-risk children is high. The treatment for childhood disorders can be costly and time consuming when not detected early (Orpinas & Horne, 2006; Schrepferman et al., 2006; Nation et al., 2003). Research has found that programs that increase preventative care for at risk children cost 1/5 the

cost of juvenile detention, 1/10 the cost of any form of residential treatment, and 1/20 the cost of inpatient hospitalization (Roberts, Jacobs, Puddy, Nyre, & Vernberg, 2003) suggesting that prevention is a timely and effective way to manage social and emotional problems in childhood.

The present research examines the role of children's attachment to their primary caregiver as it relates to social functioning and the development of psychopathology. There is emerging research exploring the ways in which children's attachment to primary caregivers relates to social functioning and development during the period of middle childhood, but still many questions remain (Boothe-LaForce, Oh, Kim, Rubin, Rose-Krasnor, & Burgess, 2006). Research that has explored the link between social functioning and attachment status (secure or insecure) and has found that children who have more secure attachment patterns with caregivers generally have more positive outcomes. Examples of positive outcomes include the children having more social skills, understanding social situations more accurately, having better behavioral adjustment to school, and greater abilities to regulate their emotions (Kerns, Abraham, Schlegelmilch, Morgan, 2007; Granot & Mayseles, 2001; Kerns, Tomich, Aspelmeier, Contreas, 2000; Kerns, Klepac, Cole, 1996).

The present research aims to explore risk factors such as internalizing problems (anxiety, depression, somatization), and externalizing problems (Attention Deficit Hyperactivity Disorder (ADHD), behavior problems) in relation to children's ability to increase their social skills within a therapeutic and recreational environment during the summer. In addition the research about preventative programs that help reduce the negative effects of risk factors is reviewed and examined. Finally, this research adds to the growing literature about the role of attachment to primary caregivers during the period of middle childhood in relation to children's social experiences and development.

LITERATURE REVIEW

Middle Childhood

During the period of middle childhood (roughly the ages 6-12 years), children experience periods of development in multiple domains. In addition there are important environmental changes taking place as children are entering the school environment and interacting with people outside of their homes, possibly for the first time. According to Piaget's theory of cognitive development (1970) children within the age range of 6 – 12 years are entering the Concrete Operations Stage of cognitive development. This is a shift from the fantasy oriented play, symbolic thought representations, and egocentric world views characteristic of younger children (McDevitt & Ormrod, 2002, p. 116). During the Concrete Operations Stage children begin to integrate their thoughts and feelings. In addition children begin to understand that what they see, think, and feel can be different from other people's experiences. At this time, logical thought processes are developing and children are able to begin to use deductive reasoning abilities to problem solve (McDevitt & Ormrod, 2002, p.164).

While children at this age are able to understand the difference between physical events and psychological events (i.e., what they think and experience can be different) they are not skilled in abstract reasoning. When given facts they are able to deduce logical conclusions, but typically do not think broadly about complex, deep, or indefinite ideas. Because of this inability to process abstract ideas, structure and rules become a very important part of learning during this time (McDevitt & Ormrod, 2002, p.166.)

Social Development in School Setting

“Social Skills” are broadly defined as strategies that develop to help one interact effectively with others (McDevitt & Ormrod, 2002, p.496). When children enter the school

environment there are more opportunities to interact with new people and consequently social interactions extend beyond the family (Schrepferman et al., 2006). Schrepferman and colleagues (2006) noted that the earliest peer relationships are a venue for social interaction where children can develop a sense of self efficacy, agency, and general social skills (Schrepferman et al., 2006).

In America, children ages 6-12 children spend approximately 15 - 25% of their week in school with same age peers (Hofferth & Sandberg, 2001). The learning of social skills at this time comes from a variety of sources; parents, teachers, and peers. Cognitively, children are becoming less ego-centric and increasingly concerned with how others think and feel. Social skills in children at this time are characterized by interactions that involve such things as: caring about relationships, sharing, general friendliness towards others, being perceived as approachable by others, learning to be empathetic, sharing, being sympathetic, attempts to take the perspective of others, having confidence, and active engagement in friendships (Schrepferman et al., 2006). Possessing the ability to develop friendships in middle childhood with same age peers serves as a protective factor against the development of psychopathology (Schrepferman et al., 2006).

Risk and Protective Factors

Research on *risk factors* in children defines them as characteristics of an individual or an individual's environment that increase the likelihood of negative outcomes (Orpinas & Horne, 2006). Research has found certain risk factors to be associated with an increased chance of the development of psychopathology including internalizing problems (e.g., anxiety and depression), externalizing problems (e.g., ADHD, behavioral problems, antisocial behavior), involvement with the law, negative relationships with parents, and poor academic functioning (Augimeri,

Farrington, Koegl, Day, 2007; Schrepferman et al., 2006; Buchannan et al., 2002; Hawkins et al., 1999). Risk factors may develop for a myriad of reasons and are often outside the control of the child. For example, for families in which conflict in the home and community is high and interest in academic performance is low, children are at greater risk (Mortenson, 2006).

Protective factors are life events, environmental circumstances, or child psychological characteristics that make a child less likely to have negative outcomes. The presence of protective factors that have been associated with decreased development of psychopathology over time are the ability to relate to peers (social skills), participation in activities after school, positive relationships with parents, creative skills, and high performance in math or reading in school (Orpinas & Horne, 2006; Buchanan et al., 2002; Kerns et al., 1996). Another protective factor is the child characteristic of resilience; some children who are surrounded by risk factors, still manage to develop typically (Masten, 2001). Children who are resilient tend to have a greater capacity for processing both negative and positive events in their lives. They tend to have greater access to stabilizing and dependable forces (e.g., relative, friend, a talent) upon which to rely during times of stress (Mortenson, 2006). Such children have found alliances in schools and communities that counter the risks related to low SES, poor academic performance, and decreased social functioning.

Describing risk and protective factors can be challenging; some research conceptualize risk and protection as being on opposite ends of a continuum and other research describes them as being completely separate entities (Orpinas & Horne, 2006). For the purpose of this review, risk and protective factors are conceptualized as separate but related. For example, a child growing up with an abusive parent or being prone to aggressive behavior are two examples of risk factors, however the presence of one risk factor does not alone guarantee a negative

developmental trajectory (Orpinas & Horne, 2006). That same child may have protective factors such as a helpful community or personal characteristics that make him/her resilient (Masten, 2001). Hence the presence or absence of risk or protective factors does not absolutely dictate developmental course. Rather, it is important to identify which factors are most predictive of negative outcomes and which are predictive of positive outcomes (Orpinas & Horne, 2006). Hawkins and colleagues (1999) suggest interventions should target both risk and protective factors to increase effectiveness.

One study by Schrepferman and colleagues (2006) explored social engagement (ie. using social skills, having friendships with same age peers) as a protective factor against the development of depressive symptoms and subsequently the development of a depressive disorder. The authors examined peer affiliation and school disengagement as they relate to the development of depressive symptoms in a community sample of elementary school students, utilizing information from multiple informants (child, parent, teacher); data collection lasted for 5 years. Key findings of this study were that children who developed dependable and enduring peer relations were significantly less likely to be rated high on multi-informant depression measures at the end of the study; positive social interactions were found to serve as a protective factor against the development of depression in this study (Schrepferman et al., 2006). This investigation highlights the importance of peer relationships for protection against the development of psychopathology. Some gender differences were noted; disengagement from peers on the school playground in kindergarten and first grade was predictive of future depressive problems for girls but not boys (Schrepferman et al., 2006). This finding highlights the variability in the ways different risk factors can effect different children.

Another study conducted by Buchanan and colleagues (2002) assessed the relationship between risk and protective factors and the continuity of psychological problems from childhood (age 7) to adulthood (age 33). Specifically this study tracked internalizing and externalizing problems longitudinally for a cohort of 5591 members of the National Child Development Study. This study found less discomfort and psychological disturbance reported by adults who had internalizing problems in childhood (Buchanan et al., 2002). However children who had reported externalizing problems were two times more likely to experience the following risk factors: police/probation incidents, difficulties in school, social services involvement, and domestic tension (Buchanan et al., 2002). This study reported that protective factors such as positive parent exposures, being read to, and possessing number skills were related to lower levels of distress and psychological disturbance in adulthood (Buchanan et al., 2002). This study prospectively identified risk and protective factors that are involved in the development of psychopathology over time.

In conclusion, the research on risk and protective factors suggests that promoting and teaching engagement in social activities with peers, encouraging positive attitudes in the school environment, improving relationships with parents, and teaching emotion regulation skills should be aspects of preventative interventions for students who are at-risk for developing psychopathology.

Intervention: Use of a Summer Programs

The use of summer programs to increase protective factors and decrease the negative influence of risk by bringing about behavior change in children has been shown to be effective (Caldarella, Christensen, Kramer, & Kronmiller, 2009; Wilpone-Jordan, 2009; Mortenson, 2006). The period of summer, for most school systems, is characterized by a significant period of

non-instructional time for students. The majority of children are without direct instruction in basic academics and experience prolonged periods of time without intense school-based social demands. For some clinical samples of children, the summer months reflect social and educational hardships in that some regression in social and academic functioning can occur. Consequently, summer-school programs provide a time for students that need extra help catching up to their peers and increase the likelihood of success during the school year academically, emotionally, and socially. The emotional and financial strain on families of children suffering from a mental disorder increases over time as the disorder or related symptoms worsen. Utilizing preventative and maintenance programs to bolster protective factors in a child's life can lead to positive and potentially less costly outcomes financially and emotionally. Programs aimed at prevention of risk have shown to increase positive outcomes and limit the influence of risk factors (e.g., Schrepferman et al., 2006; Buchanan et al., 2002).

Hupp and Reitman (1999) conducted a study in which they examined the social skills of 8-11 year olds, diagnosed with ADHD within a sports context during a 15 day summer program. Children with ADHD often have communication problems, decreased social skills, and trouble regulating their emotions. The authors utilized a multi-component skills and behavior management program to first teach the participants about pro-social behaviors within the context of sports (i.e., high-fives, verbal praise of a teammate, helping a fellow player to stand-up) and then implemented reinforcement in the form of a token system; children were given tokens for displaying good sportsmanship and pro-social behaviors (Hupp & Reitman, 1999). This study utilized a multiple baseline design and direct behavioral observations to analyze data. Results demonstrated that the frequency of pro-social behavior increased as a result of reinforcement coupled with education on pro-social behaviors (Hupp & Reitman, 1999). Further, the results of

this study suggest that pro-social gains are possible for children struggling with behavioral and emotional problems in the context of a low intensity, fun, summer-time intervention.

Summer programs that utilize manualized curriculums to teach social skills have shown to be helpful in the prevention of problems (Kramer, Calderella, Christensen, & Shatzer, 2010; Caldarella et al., 2009). Research on one specific Social and Emotional Learning (SEL) curriculum called “Strong Start” (Merrell, Parisi & Whitcomb, 2005) has shown to be effective in decreasing internalizing distress, increasing children’s understanding of emotions, and improving social skills (Kramer et al., 2010; Calderella et al., 2009; Wilpone-Jordan, 2009). Some evidence to suggest that the program is as effective for externalizing problems has been found (Wilpone-Jordan, 2009); however more research is needed in this area (Calderella et al., 2009).

Based on the research it appears that short, educational, active prevention programs during the summer months can produce meaningful change in behavior, academics, and social functioning in children in cost and time efficient ways.

Brief Overview: Development of Attachment Theory

The origins of attachment theory are rooted in the long partnership between John Bowlby and Mary Ainsworth (Bowlby & Ainsworth, 1991). The prominent school of thought at the time Bowlby developed his theory of attachment was Freudian psychoanalysis (Bretherton, 1992). Bowlby was a physician trained in psychoanalysis, but observed limitations in Freud’s theories on the attachment behavior of human infants (Bretherton, 1992). For example, the tenets of psychoanalysis suggest that an infant’s preferred caregiver is their mother because she feeds the baby. This view supported the notion that whoever fed an infant would be the preferred caretaker by the infant. Bowlby was interested in the relationship between infants and mothers

(and later the theory expanded to primary caregivers) and was not satisfied with the idea that food and satisfaction were the only reasons infants sought comfort from their mother.

As Bowlby was dissatisfied with the psychoanalytic explanations for parent-child interactions he looked to other areas of psychology and biology to help explain the phenomenon of attachment. Specifically he looked at ethological research completed by Harlow and Lorentz. In the study, “The Development of Affectional Responses in Infant Monkeys” (1958), Harlow found that Rhesus monkeys preferred a “soft mother” that did not have food over a “wire mesh mother” that did provide food (Harlow & Zimmerman, 1958). The key finding in this study was that the monkey’s preferred a comforting mother and not the mother that had the food; this was in contrast to the psychoanalytic belief that infants sought proximity to the mother solely for food. Bowlby believed that there was more to the infant/caregiver relationship than just the need for food and satiation of needs.

Key Concepts in Attachment Theory

According to Bowlby, a child’s attachment behavior (and subsequent attachment representations) is a product of the consistency of care giving that the child experiences over time from their primary caretaker (Bowlby, 1973). The goal of attachment is protection and feeling secure; an infant’s sense of security is directly related to how consistently their needs (both physical and emotional) were responded to by their primary caregiver. Attachment is the bond or connection between infants and caregivers and the ways in which the child behaves toward the care giver and vice versa are representations of that bond. During the time Attachment theory was evolving, the mother was often the primary caregiver; subsequent research and development in the field supports the idea that a primary caregiver does not have to be a child’s mother and in fact children do form attachments to a variety of caregivers

(summarized in Jude and Cassidy, 2008). When inconsistency in care giving occurs, children will form insecure attachments to try and manage their needs based on the care that they do receive and have received in the past. The patterns noted in the ways children behave are a result of the consistency of care they have received. The patterns with their primary caregiver generally remain constant over time.

A secure attachment with a primary caregiver develops out of the infant's ability to rely on their caregiver consistently and typically ensures exploration of the environment; the child uses the mother (or attachment figure) as a secure base from which to explore the world (Bowlby, 1973). The optimal proximity to a caregiver would be close enough for the child to feel safe, but still interact in meaningful ways (exploration, manipulation of things in the environment) with the world around them.

Empirical Support for Attachment Theory

Mary Ainsworth's partnership with Bowlby began when she joined his laboratory in London (Bretherton, 1992). From their work together and her subsequent studies in Uganda, Ainsworth found ways to test the behaviors posited by Bowlby's theory. The seminal study conducted by Ainsworth, Blehar, Waters, & Wall (1978) gave way to the development of the Strange Situation (SS). The SS is a laboratory procedure that was developed to measure attachment behaviors in children 12-20 months of age (Cassidy & Shaver, 2008, p.383). The study was conducted in Baltimore, MD with a middle class sample of mother-child dyads (Ainsworth et al., 1978). The patterns of behavior that resulted from the original study have become the standard classifications for attachment in children. The procedure consists of eight episodes in which the child and mother play together, then separate with the presence of a

stranger and then separate again without the presence of a stranger. The reunion episodes (e.g., mother re-enters the room where the baby is playing) are observed and infant behavior is coded.

According to Ainsworth, children can be classified into two main categories of attachment: securely attached and insecurely attached. Secure attachment is characterized by an open, flexible, non-defensive process between mother and child (Ziv, Oppenheim, & Sagi-Schwartz, 2004). The child is confident that their needs will be met, and is appropriately responded to when in distress (Shafer & Cassidy, 2008). Insecure attachment is characterized by a non-open, untrusting, distorted, rigid, and defensive relationship between mother and child (Ziv et al., 2004).

There are three types of insecure attachment: avoidant, resistant, and disorganized. The avoidant type (or anxious-avoidant) attachment style is characterized by detachment from the caregiver based on experiencing the caregiver as unavailable, cold, and rejecting (Cassidy & Shafer, 2006). The resistant (anxious-ambivalent) attachment style is characterized by inconsistent care giving; the child perceives the caregiver as unpredictable and unreliable (Cassidy & Shafer, 2006). Parent/child interactions characteristic of both the avoidant and resistant types do not foster exploration of the environment or provide the child with security. The disorganized type was observed and recorded by Mary Main, in her study following six-year-old children who had participated in the SS as infants (Main, 1996). The disorganized type is characterized by inconsistent care giving as well, the hallmark of this type of attachment is the peculiar and strange behavior exhibited by the children in response to distress. The disorganized type indicates that the child has not developed an organized strategy to manage the inconsistent care that they receive in order to get their needs met (Cassidy & Shafer, 2006, p. 84). The

classification of children into these groups during infancy is reported to be relatively stable into adulthood (George, Kaplan, & Main, 1985; Ainsworth et al., 1978).

Measurement of Attachment

Measurement of attachment at various stages in a person's life can be difficult; as a person develops, the ways in which they behave toward attachment figures change as well. Measurement in infancy is straightforward; a baby's behavior with their caregiver can be observed and then classified. Babies do not have abstract reasoning ability so observers know how an infant feels toward their caregiver based on their actions. Measurement in adulthood is also well established using the Adult Attachment Interview (AAI) (George, Kaplan, & Main; 1985). The (AAI) is a well validated measure of coherence; the measure detects inconsistencies in stories that adults are asked to tell based on their reported relationships with their attachment figures. The AAI classifies adults into analogous categories to the SS. The AAI assesses the degree to which descriptions of the person's childhood relationships with their caregivers match adjectives that they choose to describe them (George et al., 1985). Descriptions that do not match the adjectives are inconsistent and coincide with a classification of one of the insecure attachment types.

Hence, measurement of attachment in infancy and adulthood are well established within the attachment literature (Cassidy & Shaver, 2006, p.555). However there is a dearth of information on the measurement of attachment during middle childhood (Kerns et al., 2007; Dwyer, 2005; Kerns, Aspelmier, Gentzler, & Grabill, 2001; Kerns et al., 2000; Kerns et al., 1996). During this period it is difficult to measure attachment to caregivers because the common attachment behaviors (i.e., seeking proximity to parents, reaching, crying) are often replaced with mental representations of the attachment relationship. Due to this shift from outward

behavior to cognitive representations, behavioral measures that are used with infants are not sufficiently sophisticated, yet measures that are used with adults are too advanced. Given that children in middle childhood are in the earlier stages of abstract reasoning, the mental representations are often less sophisticated than observed in adult populations. Essentially, adequate measures that capture the complexity of attachment phenomenon of attachment in middle childhood are scarce.

Attachment and Social Behavior

Bowlby (as cited in Cassidy & Shaver, 2006, p.5) supported an evolutionary perspective suggesting that innate behavioral systems that are activated during infancy lead to attachment behavior exhibited throughout the lifespan. There are two main behavioral systems that work in tandem related to attachment and social behavior: the Attachment Behavioral System (ABS) and the Sociable (affiliation) Behavioral System (SBS).

The ABS is activated in times of stress and uncertainty. The goal of this system is to put a person in contact with safety and protection from danger. The associated behavior at younger ages is seeking physical closeness to the primary caregiver (Cassidy & Shaver, 2006, p.5). As a person grows older the need for physical proximity diminishes; and the goal of connection to others becomes based on availability. That is the person no longer needs to be physically next to their caretaker rather they need to feel that their primary caregiver is available to them emotionally. The need to be connected to a figure who allows one to feel safe in times of fear and anxiety is adaptive because at the most basic level, it ensures survival (Cassidy & Shaver, 2006, p.6).

Conversely, the purpose of the SBS is to foster engagement with the environment (Cassidy & Shaver, 2006, p.9). This system is activated when a person feels happy and relaxed.

The goal of this behavioral system is to promote exploration and discovery of surroundings. This system is adaptive because humans are social beings and require social interaction to survive.

The SBS helps people to connect with other people that are not their attachment figure and obtain social support from a group. From an evolutionary perspective social support promotes survival, because it increases protection from predation and provides one with resources (both physical and emotional) (Cassidy & Shaver, 2006, p.10).

Both the ABS and the SBS are adaptive and protect an individual, which is why they are both activated in infancy to aid the person throughout life. The different goals of each system work in tandem to aid a developing person in different ways. The interplay between these two systems can be a useful link in understanding the interaction between attachment and social behavior (Cassidy & Shaver, 2006, p.11).

Attachment and Social Skills in Middle Childhood

There is a paucity of studies looking specifically at how attachment in middle childhood is related to peer group social functioning. Bowlby (1973) conceptualized attachment as being relevant across the entire life-span, but most of the empirical research done involving peer group social functioning has been conducted with either infants, adolescents, or adults (Booth-La Force et al., 2006). Given that during the period of middle childhood children begin to spend much more time in social contexts more research in this area specifically looking at peer group functioning as it relates to children's attachment relationships with their primary caregivers during the period of middle childhood is needed.

One study by Kerns, Klepac, & Cole (1996) examined the associations between child-mother attachment and peer relationships in fifth graders. The authors examined peer interaction by observing child dyads and they measured security status using the Attachment Security Scale

(Kerns et al., 1996). The main variables of interest were how accepted children were by their peers, how many reciprocated friendships (both children observed in a dyad identified the other child as their friend), how lonely each child reported they were, and observed how critical children were when interacting with each other (Kerns et al., 1996). The authors found that children who were identified as securely attached were less verbally critical, more responsive to other children, and reported feeling more companionship when observed while interacting with another securely attached peer (Kerns et al., 1996). Key findings of this study suggest a link between child-parent attachment and positive social functioning in middle childhood. This study supports the idea that securely attached children may develop more positive beliefs about other people and relationships because of the nature of their relationship with their primary caregiver (Kerns et al., 1996). The exact mechanism by which a secure attachment with primary caregivers leads to adaptive social functioning is unknown. Many hypotheses exist and they are not mutually exclusive; in short there can be many ways that a secure attachment could lead to increased peer group functioning (Kerns et al., 1996).

A second study that examined the role of attachment in middle childhood as it relates to social functioning was done by Granot and Mayseless (2001). In their study, the authors evaluated the connection between attachment security, positive adjustment to school, academic achievement, and behavioral problems. This study evaluated the security of the 113 fourth and fifth grade children by observing them in a doll story task and the Attachment Security Scale developed by Kerns and colleagues (1996). The researchers also utilized parent, child, and teacher report of school adjustment, academic performance, and behavioral responding. Findings from this study confirmed that secure attachment to primary caregivers did relate to adaptive school functioning in the domains of behavioral problems, internalizing problems, and peer-rated

social status (securely attached children were more “liked” by their peers) based on child, parent, and teacher report (Granot & Mayseless, 2001). Children in this study who were classified as having an insecure attachment (specifically children exhibiting disorganized and avoidant type) to their primary caregivers showed the poorest emotional, scholastic, and social adjustment to the school environment.

Granot and Mayseles (2001) suggest that one mechanism by which a secure attachment relates to school functioning (and the academic and social demands that accompany it) could be that children who are securely attached could have higher self-esteem, better communication skills, and better emotional regulation skills because of their interactions with their caregivers, and those skills transfer to the school setting (Granot & Mayseles, 2001). A related study by Kerns and colleagues (2007) found a similar result with respect to emotion regulation; 11 year-old children in their sample who were securely attached were found to have higher levels of positive mood and emotional regulation abilities than children who were insecurely attached.

Another study by Ziv and colleagues (2004) examined the social information processing abilities of children who were securely attached and of second-grade children who were insecurely attached. The participants and families in this study were classified when they were infants (using the SS) and then seen again by the researchers when the children were in the second grade (Ziv et al., 2004). The study utilized descriptions of child interactions and asked the children to interpret and predict what would happen in them. In addition the researchers tested all children using the *Wechsler Intelligence Scale for Children – Revised* (WISC-R) to ensure that any differences noted would not be due to decreased verbal reasoning ability. The key finding of this study was that children who were securely attached were better able to predict if other children “would like them” based on the story they were told. In addition children who were

securely attached were better able to discriminate between situations where they were being negatively evaluated by peers than children who were insecurely attached (Ziv et al., 2004). This study links cognitive processes that could lead to negative social consequences (if children are not interpreting and understanding social cues correctly in the school environment, they could be left out of social activities) to attachment status to primary caregivers.

Taken together, the extant research examining children in middle childhood's attachment patterns and the relation to peer group social functioning, suggests that children with secure attachments are well liked by peers, understand social situations more accurately, are better able to regulate their mood and emotions, and in general are better able to adjust to the school environment. More research in this area needs to be done to identify the mechanisms by which secure attachment relationships with the primary caregiver lead to adaptive social functioning.

To date most of the research has been conducted examining attachment and peer functioning in middle childhood has been done using normative samples (described above). One exception is a study conducted by Brumariu and Kerns (2008). The authors longitudinally examined the relationship between parent-child attachment and social anxiety symptoms specifically, hypothesizing that secure and insecure attachment patterns would differentially predict the development of social anxiety symptoms. This study's sample consisted of children and their parents in both third and fifth grade. The main finding of this study was that the ambivalent subtype of insecure attachment was consistently related to social anxiety symptoms; as a result the authors suggest that interventions may effectively target attachment (Brumariu & Kerns, 2008). More research in this area involving children who are specifically at-risk for the development of psychopathology is necessary.

HYPOTHESES

There were two main hypotheses tested during the current study. The first hypothesis was that the summer program would increase the social skills of the children in the sample; that is, the amount of pro-social behaviors would increase as a result of participation in the summer program. The second hypothesis was that children with a secure attachment would exhibit more pro-social behavior at baseline, post, and follow-up relative to children who are classified as insecure.

METHODS AND MATERIALS

Participants

Students entering first grade through fifth grade were eligible to participate in this study. A cohort of 19 children (10 male, 9 female, 14 Caucasian, 5 African American) between the ages of 6-10 (mean age = 7.5 years) and their families participated in the St. Thomas Aquinas Reading and Social Summer (STARSS) program. All but two families consisted of two-parent households where at least one or both parents worked full time. For ease and instructional purposes the students were placed into two groups based on grade. One group consisted of students entering first and second grade (7 children total). The second group consisted of students entering third, fourth, and fifth grade (12 children total).

Measures

Behavior Assessment System for Children, Second Edition. The Behavior Assessment System for Children, Second Edition (BASC-2; Reynolds & Kamphaus, 2004) was utilized to measure child behavior via the Parent Rating Scale (PRS) (Pearson Education Inc., 2008). This assessment measured behavior classified as psychopathology and also behavior that contributes

to healthy functioning. Internalizing psychopathology is assessed on the Anxiety, Depression, and Somatization scales (Pearson Education Inc., 2008). Externalizing psychopathology is assessed on the Hyperactivity, Aggression, and Conduct Problems scales (Pearson Education Inc., 2008). Also included are the scales Adaptability, Social Skills, and Functional Communication (Pearson Education Inc., 2008). Domain and composite performances reflect T-scores with a mean of 50 and a standard deviation (SD) of 10. Percentile ranks and confidence intervals are reported for each scale; adequate reliability and validity (Cronbach's $\alpha = .81-.85$ for PRS) exists for this measure (Reynolds & Kamphaus, 2005). The parents of the students in the study were given the BASC-2 instrument prior to the start of the program.

Direct Behavioral Observations. This study measured child behavior using direct behavioral observations (DBO). Trained graduate students observed the children each day and counted the number of pro-social behaviors observed during the sports activity phase of the program. DBO is an objective way to measure the frequency of behavior and provided information on student pro-social behavior in the context of a sporting activity. The trained graduate student observers recorded the number of pro-social behaviors observed during the sporting activity using a momentary time sampling procedure. Graduate students were trained prior to the program by practicing the observation techniques with the principle investigator and project adviser. Using a stop watch with an audible tone, observers recorded student pro-social behaviors in 30 second intervals across three seven minute sessions. In previous studies, (Wilpone-Jordan, 2009; Mortenson, 2006; Hupp & Reitman, 1999) momentary-time sampling procedures have been effective for collecting data for the following behaviors: high-fiving another player, yelling encouragement (ie. "great job" or "way to go"), friendly peer coaching, completed ball passes between players, and helping a player who has fallen to get up. Inter-rater

reliability was collected on 10 days (out of 16). The mean inter-rater percent agreement for pro-social behavior observations was 82% with a range of 67% to 100% between raters for the duration of the study.

Attachment Security Scale. The Attachment Security Scale (Kerns et al., 1996) was used to measure the children's perception of their attachment to their primary caregiver. The measure was conducted as a one-on-one, semi-structured interview with the child as has been done in past studies (Granot & Mayseless, 2001; Kerns et al., 1996). The Attachment Security Scale has 15 items scored on a 4 point scale and assesses three main areas. The first area assesses the degree to which the children perceive their caregiver as responsive and available (Kerns et al., 1996). The second area assesses how much the child relies on their caregiver when in need (Kerns et al., 1996). The third area taps how interested the child is in communicating with their caregiver (Kerns et al., 1996). The measure utilizes the "Some kids ... other kids" format developed by Harter (1982). This format gives a description of "some kids" and an opposite description of "other kids" and asks the child filling out the measure to choose which group of kids sounds more like them. This decreases the likelihood that the child filling out the questionnaire will respond in ways that seem more desirable.

On this scale, the security of attachment is conceptualized on a dimension where higher scores indicate more secure levels of attachment. Past research (Granot & Mayseless, 2001; Kerns et al., 1996) reported an adequate range of scores (1.62-4.00) and reported that the internal consistency of this measure is adequate (Cronbach's $a = .84$). The range of scores on this measure for this sample was 2.5 – 3.5 and the mean score was 3.03 with an SD of 0.33. The internal consistency for this sample was poor (Cronbach's $a = .50$).

All 19 children participated in the program and engaged in all program activities. Of the 19 children enrolled, complete behavioral data was collected for 9 children who were determined to be “at-risk”. Children were considered to be at-risk based on their scores on the Parent Rating Scale of the BASC-2 which was collected by the principle investigator prior to the start of the program. If the child had a T-score that was one standard deviation above or below the mean (depending on the BASC-2 domain) on 2 or more BASC-2 domains or an elevated score on the Anxiety domain, the child was considered to be at-risk in this sample.

Experimental Design

Pro-social Behavior. This study utilized a multiple baseline design to assess changes in children’s social functioning throughout the study. That is, each baseline phase is followed by one or more different training phases. The three phases in this study were “Baseline” (BL), followed by the treatment phase consisting of teaching of “Strong Start/Strong Kids” lessons (SS), and “Direct Prompt” phase which involved reminders of lessons learned and some verbal reinforcement (DP). A follow-up phase was proposed to take place in the months after the program but was not carried out due to lack of family participation. In order to examine the individual performance of each child in the program, individual graphs are presented (see figures 1-9). Complete data on pro-social behavior was only available for 9 children (out of 19 total participants); therefore only 9 children’s data will be analyzed for this study.

PROCEDURE

Baseline Phase

The parents of the children in the study completed the parent form of the BASC-2 prior to the beginning of the program. In addition, during the first part of the summer program, the individual interviews for attachment were completed by the principal investigator.

During the first two days of the program children engaged in classroom-based instruction with one teacher and one graduate student assistant. Following a period of instruction, students were randomly assigned to two teams and engaged in either kick-ball or soccer activities. During baseline, observations of engaged behavior during classroom-based activities were collected using momentary time sampling. Observations of pro-social behavior were also collected during baseline following the procedure outlined earlier. The purpose of withholding any counseling or therapeutic intervention was to determine a baseline level of functioning for each student. In addition to the observational data and BASC-2 data collected, student academic skills in reading were assessed. For purposes of this study, only the relevant observation data and the BASC-2 data were considered in the analysis.

Treatment Phase

Beginning on day three of the program, the children participated in the Strong Start/Strong Kids curriculum (Merrell et al., 2005) for about 45 minutes daily. Students were separated into two groups based on grade (children entering first and second grade were taught “Strong Start” and children entering third, fourth, and fifth grade were taught “Strong Kids”) prior to the beginning of each session and at least two trained graduate students delivered the Strong Start/Strong Kids lesson. Each lesson began with an introduction of the themes that were to be discussed (i.e., identifying personal values, perspective taking, learning about emotions). During all of the lessons children were encouraged to participate, share personal stories, and listen to their classmates. Each lesson included activities such as drawing pictures, making crafts relevant to the topics discussed, creating role plays with other students, and reading books.

Immediately following the Strong Start/Strong Kids lesson the children were taken to either the gymnasium or the back parking lot of the school where the sporting activity

commenced. Data collection on pro-social behavior was recorded by trained graduate students across the periods of play. Following the activity, the children returned to the classroom where they were provided with a snack and awaited the arrival of their parents.

Direct Prompt Phase

During the sports portion of the program, the student received a direct prompting by the graduate students to address deficits in pro-social behavior. The graduate students also provided verbal reinforcement for demonstrating pro-social behavior. The amount of prompting and when the prompts began for each child were dependent on their performance in previous trials of observation. Descriptions for the specific direct prompting for each child are described below the graphs of child performance (see figures 1-9).

RESULTS

Pro-social Behavior. The first hypothesis for this study was that participation in the summer program would increase the frequency of pro-social behaviors. In order to investigate this, Improvement Rate Differences (IRD) (Parker, Vannest, & Brown, 2009) were calculated to determine effect sizes for individual participants. There is theoretical support for the use of IRD to calculate effect sizes in single-subjects design research; IRD have been found to be comparable to other methods of effect size calculation (Parker et al., Parker & Hagen-Burke, 2007). IRD are calculated by comparing responses between phases for each individual participant which yields a percentage of improvement from one phase to the next.

Table 1 (see appendix A) shows the IRD scores for each student (pseudonyms are used) across the three phases. IRD outcomes for each student were calculated by averaging the IRD percentages across phases to yield an overall effect size. The average effect sizes for each student were as follows: John (62%), Libby (66%), Nate (57%), James (43%), Henry (69%), Ronald

(39%), Gina (64%), Laura (48%), and Jim (39%). Parker and colleagues (2009) determined that an overall effect size greater than 50% would indicate a significant change. Within this sample five out of nine students made a significant improvement in the frequency of pro-social behaviors during this summer program. One result for one student (James) may be skewed due to poor program attendance; the average IRD for this student may be disproportionately low. The IRD rates for this sample of at-risk youth ranged from 39% - 69% with an average IRD of 54%; indicating significant overall improvement in pro-social behavior across participants.

The average number of pro-social behaviors increased from the baseline phase to the direct prompt phase for 6 out of 9 participants. The average number of pro-social behaviors increased from the baseline phase to the treatment phase for 3 out of 9 participants. Table 2 (see appendix B) displays the phase mean responses for each participant and the total phase mean across all students. Graphical representations of the data collected during each phase are provided (see figures 1-9).

In order to assess the significance of gains made in the acquisition of pro-social behavior throughout the program paired sample t-tests were performed using the baseline average frequencies and post-program average frequencies of observed pro-social behavior for each child. The results show that on average, participants showed a significant increase in the frequency of pro-social behavior from baseline ($M = 3.13$, $SE = 0.67$) to the end of the program ($M = 5.91$, $SE = 1.10$), $t(8) = -1.99$, $p < .05$. This result is congruent with the hypothesis that the pro-social behavior would increase during the program. In sum, based on both individual and group analyses this study produced behavior change in the predicted direction (and increase in pro-social behavior).

Attachment status related to pro-social behavior. To determine if the student's pro-social behavior was associated with higher levels of attachment a correlation between the two variables (pro-social change scores and score on the attachment scale) was completed using SPSS. Results of a correlation yielded no significant relationship between child attachment security and the amount of pro-social gains the child made, $r = .157, p > .05$ (N=9). A scatter plot of the data confirmed that the two variables were unrelated in this sample.

DISCUSSION

The current study aimed to add to the literature examining risk and protective factors in children, social skills acquisition of children in elementary school, and the role of attachment in relation to adaptive social functioning during the developmental period of middle childhood. This study also aimed to add to the growing literature on the use of preventative programs and interventions to help alleviate the negative effects of risk and promote healthy development in children who are at-risk for the development of psychopathology.

Pro-Social Behavior. Consistent with hypotheses regarding behavior change as a result of participation in the study; current findings indicate that participation in this 4-week summer program did indeed alter the social behavior exhibited by some of the children in the study. Improvement in the frequency of pro-social behavior was noted for 6 out of 9 children due to participation in the program and the implementation of a treatment phase teaching a manualized social skills curriculum; this outcome is congruent with results found in previous studies (Wilpone-Jordan, 2010; Mortenson, 2006; Hupp & Reitman, 1999). It appears that this voluntary, multi-faceted, and relatively short duration intervention was effective in eliciting behavior change from the beginning of the program to the end.

Results support the use of summer interventions and programs to address deficits in social functioning and also as an avenue to keep children engaged in the school setting and interacting with peers during the summer months when they may otherwise not have those opportunities in their home environments. Current findings are promising considering that children in this sample showed improvement regardless of age, gender, socioeconomic status, or family make-up.

In addition this research adds to the literature supporting the use of IRD to calculate the effect size when examining the performance of individuals over time in single-subjects design research (Parker et al., 2009; Parker & Hagen-Burke, 2007).

Attachment and Social Functioning. This study hypothesized the children who reported that they were securely attached to their primary caregivers would make the most pro-social gains, and show an increase in the frequency of pro-social behavior at the end of the 4-week summer program. There is a strong research literature linking adaptive social functioning in middle childhood to secure attachments to primary caregivers (Brumariu & Kerns, 2008; Kerns et al., 2007; Granot & Mayseles, 2001; Kerns et al., 2000; Boothe-LaForce et al., 2006; Ziv et al., 2004; Kerns et al., 1996). The current study did not find that increases in social functioning were related to child report of attachment status. This finding is inconsistent with the past literature in this area. One possible explanation for the current finding is that parents voluntarily signed their children up for participation in the study; it is likely that parents who sought out helpful programs for their children may be more involved in their children's lives and possibly more attached to them. The current sample showed a high average score ($M = 3.03$, $SD = 0.33$) on the *Attachment Security Scale* (Kerns et al., 1996) suggesting that the variability in attachment

security in this sample was small and this may have lessened the chance of detecting a relationship between attachment security and pro-social gains.

Limitations

There were a number of limitations involved in this study. The first limitation is that a small sample of convenience may limit the generalizability of the findings to elementary students outside of Baltimore county schools.

Another limitation of this study was that it utilized only parent, child, and graduate student observer report. In order to obtain fuller picture of student functioning, studies examining these variables should additionally utilize information from teachers about classroom behavior and academic performance, school administrators about disciplinary actions (ie. number of visits to the principal's office), and also information from students about other students by conducting peer nominations to target explore peer functioning and engagement. Access to multiple data streams for this study was limited.

There are possible threats to internal validity; any improvements in social skills (as measured in this study) could possibly be due to other factors. Perhaps just being involved in a summer program where children are exposed to one another and engaged in fun activities could have increased social behavior in absence of an SEL curriculum. However, investigations like the current study have been conducted in similar fashions over the past 4 years (Wilpone-Jordan, 2010; Mortenson, 2006) and findings noting pro-social behavior gains have been observed.

Some limitations regarding variable measurement are also noted; specifically only one measure of attachment was used. The *Attachment Security Scale* has been used in multiple studies, however it is not usually the only measure of attachment used (Brumariu & Kerns, 2007; Kerns et al., 2007; Boothe-LaForce et al., 2006; Granot & Mayseles, 2001; Kerns et al., 2000;

Kerns et al., 1996). In general this is a good measure of attachment in middle childhood; however authors suggest using more than one measure to capture the full construct of attachment (Booth-LaForce et al., 2006; Granot & Mayseles, 2001). The use of multiple measures was not feasible due to time constraints during the current study, future studies should utilize more than one measure of attachment and also more than one method for data collection (ie. a doll play task and a self-report measure such as the *Attachment Security Scale*).

Another measurement limitation is that there was no measure of post-program satisfaction used. Verbal and anecdotal evidence from discussions with parents and school administrators suggest that the program was a positive, fun, and useful experience for the children and families involved. However, a brief questionnaire assessing family satisfaction of the program would have been useful and more specific. Contacting the families and attempts to follow-up with the students in this study was particularly difficult after the program had ended. Future studies should utilize some kind of satisfaction measure as it is likely that parent feedback would help researchers to more effectively follow-up in assessing if any pro-social gains persisted into the school year.

Implications for Future Research

Future studies examining programs aimed at eliciting adaptive behavior changes in social functioning should expand to involve more diverse populations. Research on the impact that risk and protective factors have on children should do their best to tailor programs very specifically for the populations that they are targeting (Nation et al., 2003). In addition monitoring of participants, attempts to remain in contact, and collection of follow-up information post-intervention should be a high priority throughout the duration future of investigations.

With regard to the attachment related research, future studies should seek to replicate the findings in the growing literature linking age appropriate, adaptive social functioning to secure attachments with primary caregivers (Brumariu & Kerns, 2008; Kerns et al., 2007; Granot & Mayseles, 2001; Kerns et al., 2000; Boothe-LaForce et al., 2006; Ziv et al., 2004; Kerns et al., 1996). In addition future studies should strive to identify the mechanisms by which a secure attachment to primary caregivers can lead to adaptive social functioning in middle childhood (Boothe-LaForce et al., 2006).

Appendix A

Table 1. *Improvement Rate Differences for Pro-social Behaviors*

*BL=Baseline, SS= Strong Start, DP=Direct prompt

**All names have been changed to protect confidentiality

<i>John</i>	Condition					
<i>Improvement</i>	<i>BL vs. SS</i>		<i>BL vs. DP</i>		<i>SS vs. DP</i>	
Improved	2	8	2	7	4	4
Not improved	2	0	2	6	4	9
Totals	4	8	4	13	8	13
	IRD = 100%		IRD = 53.84%		IRD = 30.76%	

<i>Libby</i>	Condition					
<i>Improvement</i>	<i>BL vs. SS</i>		<i>BL vs. DP</i>		<i>SS vs. DP</i>	
Improved	1	3	1	13	3	13
Not improved	0	9	0	2	9	2
Totals	1	12	1	15	12	15
	IRD = 25%		IRD = 86.66%		IRD = 86.66%	

<i>Nate</i>	Condition					
<i>Improvement</i>	<i>BL vs. SS</i>		<i>BL vs. DP</i>		<i>SS vs. DP</i>	
Improved	1	3	1	13	3	13
Not improved	3	8	3	5	8	5
Totals	4	11	4	18	11	18
	IRD = 27.27 %		IRD = 72.22 %		IRD = 72.22 %	

James	Condition					
<i>Improvement</i>	<i>BL vs. SS</i>		<i>BL vs. DP</i>		<i>SS vs. DP</i>	
Improved	1	3	1	1	3	4
Not improved	0	7	0	4	7	1
Totals	1	10	1	5	10	5
		IRD = 30%	IRD = 20%		IRD = 80 %	

Note: This student did not attend the program for the last week. The data may be skewed as there were not as many opportunities to observe him.

Henry	Condition					
<i>Improvement</i>	<i>BL vs. SS</i>		<i>BL vs. DP</i>		<i>SS vs. DP</i>	
Improved	3	5	3	14	5	14
Not improved	1	7	1	3	7	3
Totals	4	12	4	17	12	17
		IRD = 41.66%	IRD = 82.35%		IRD = 82.35%	

Ronald	Condition					
<i>Improvement</i>	<i>BL vs. SS</i>		<i>BL vs. DP</i>		<i>SS vs. DP</i>	
Improved	1	2	1	4	4	7
Not improved	2	9	2	7	7	4
Totals	3	11	3	11	11	11
		IRD = 18.18%	IRD = 36.36%		IRD = 63.63%	

<i>Gina</i>	Condition					
<i>Improvement</i>	<i>BL vs. SS</i>		<i>BL vs. DP</i>		<i>SS vs. DP</i>	
Improved	3	10	3	12	7	7
Not improved	1	5	1	3	8	8
Totals	4	15	4	15	15	15
		IRD = 66.66%	IRD = 80%		IRD = 46.66 %	

<i>Laura</i>	Condition					
<i>Improvement</i>	<i>BL vs. SS</i>		<i>BL vs. DP</i>		<i>SS vs. DP</i>	
Improved	2	3	2	10	3	10
Not improved	2	6	2	8	6	8
Totals	4	9	4	18	9	18
		IRD = 33.33%	IRD = 55.55 %		IRD = 55.55%	

<i>Jim</i>	Condition					
<i>Improvement</i>	<i>BL vs. SS</i>		<i>BL vs. DP</i>		<i>SS vs. DP</i>	
Improved	2	2	2	6	5	9
Not improved	2	9	2	9	8	6
Totals	4	11	4	15	11	15
		IRD = 18.18%	IRD = 40%		IRD = 60%	

APPENDIX BTable 2. *Pro-social Behavior Phase Means for each Participant*

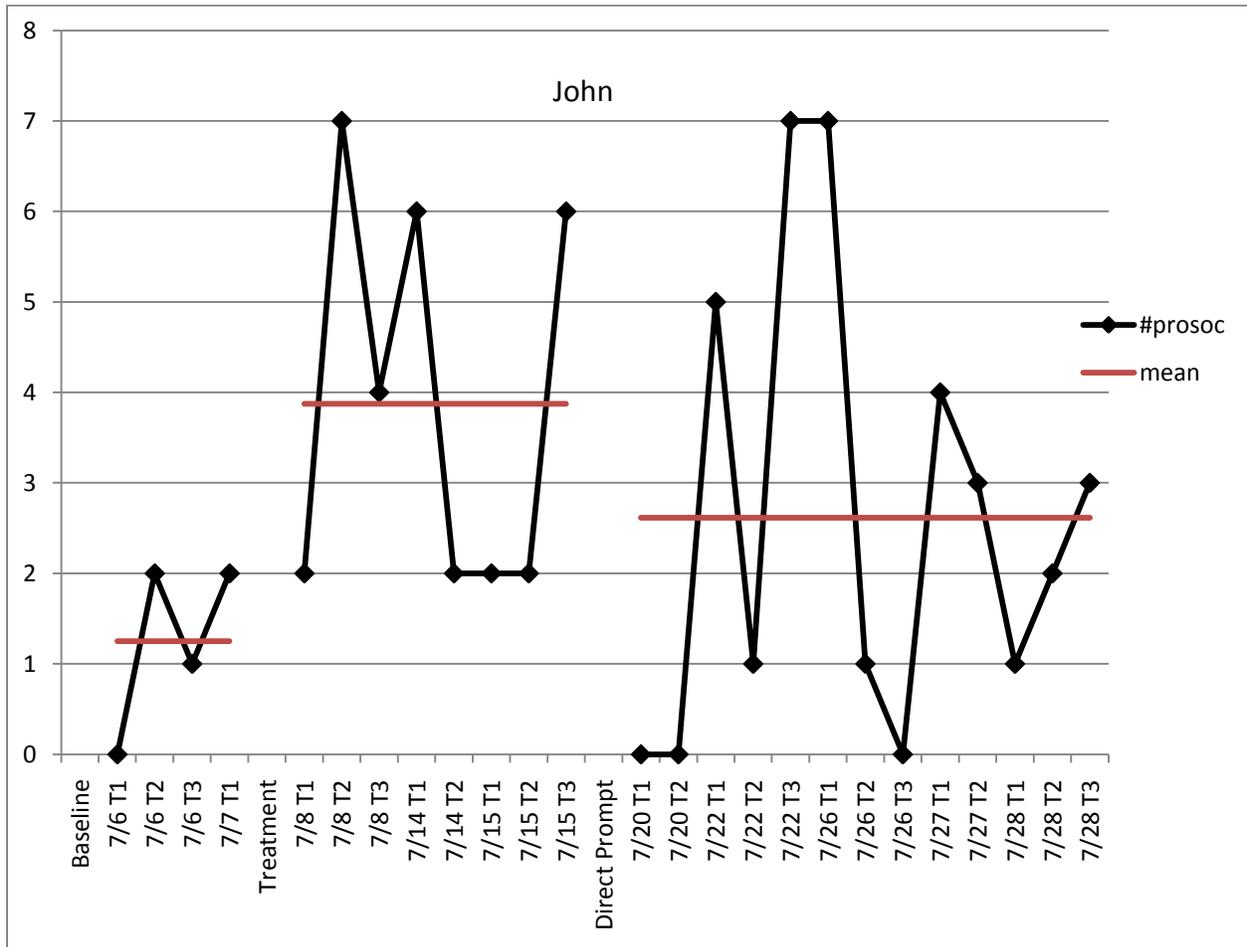
<i>Participant</i>	<i>BL</i>	<i>SS</i>	<i>DP</i>
<i>John</i>	1.25	3.85	2.61
<i>Libby</i>	1.00	1.36	13.66
<i>Nate</i>	4.25	4.14	7.88
<i>James**</i>	7.00	3.90	6.20
<i>Henry</i>	2.75	2.75	6.11
<i>Ronald</i>	4.66	2.18	3.90
<i>Gina</i>	0.75	3.40	5.53
<i>Laura</i>	2.75	2.44	4.16
<i>Jim</i>	3.75	1.36	3.40
Total	3.12	2.82	5.94

Note. BL = baseline, SS = initial treatment, DP = Direct Prompt for behaviors that were < previous trial (specific frequency varies by child, see figures 1-9)

**This child's results may be skewed due to poor program attendance

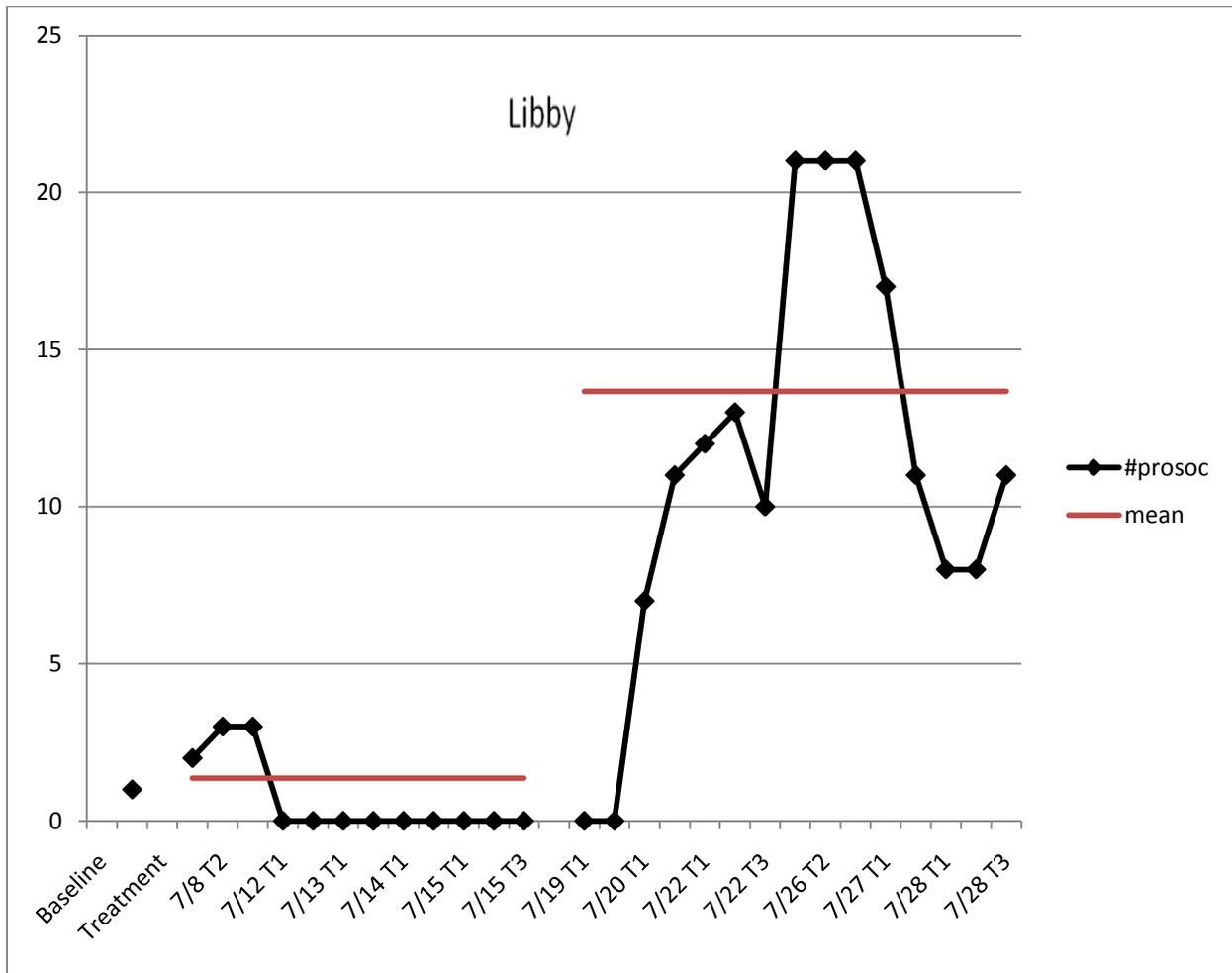
Appendix C

Figure 1. Pro-social behaviors as measured during sports activities for John. Data collected during baseline, treatment (SS), and DP respectively.



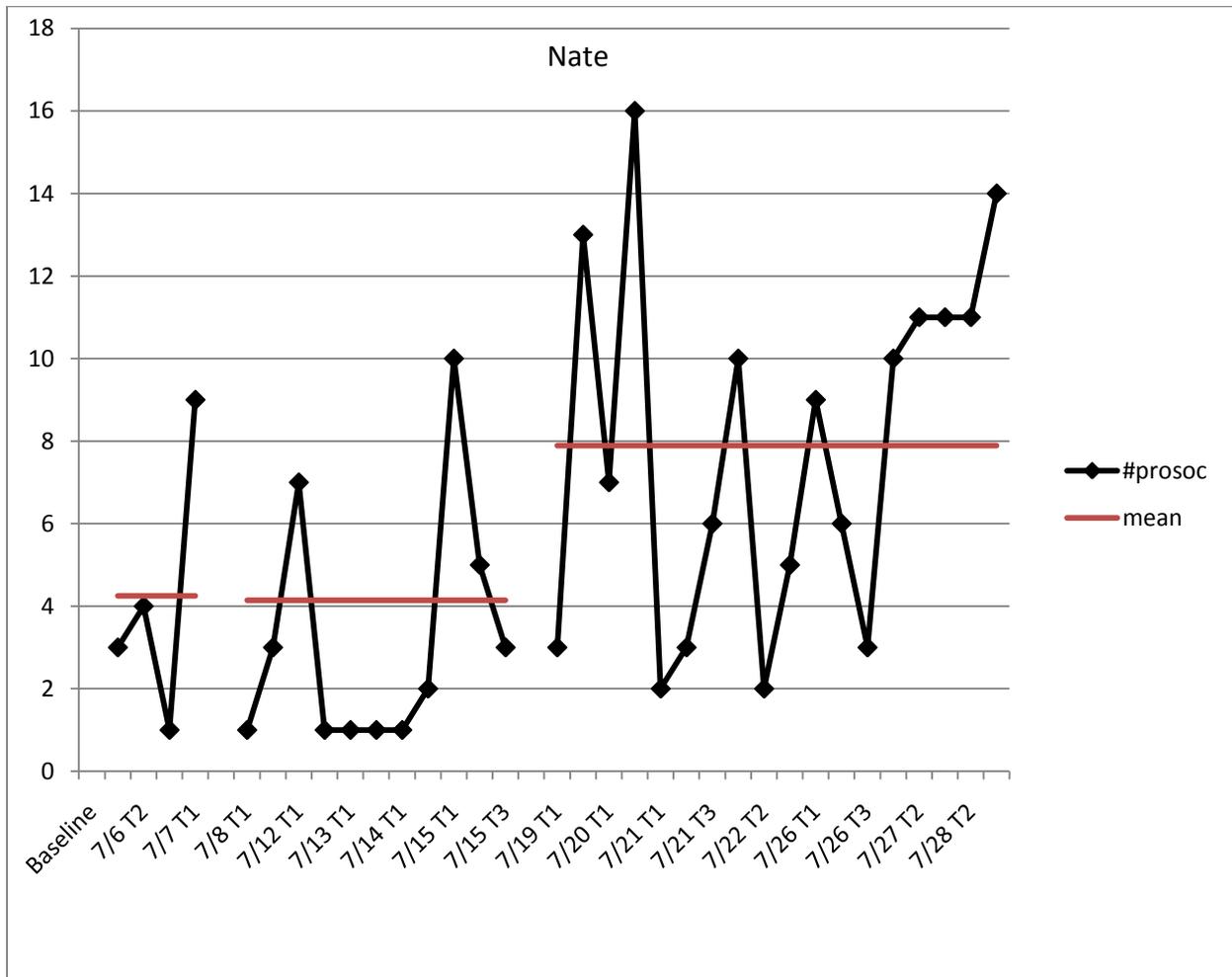
Note: Direct prompting and verbal reinforcement began on 7/20/11 for John for observations of pro-social behaviors that were ≤ 5 .

Figure 2. Pro-social behaviors as measured during sports activities for Libby. Data collected during baseline, treatment (SS), and DP respectively.



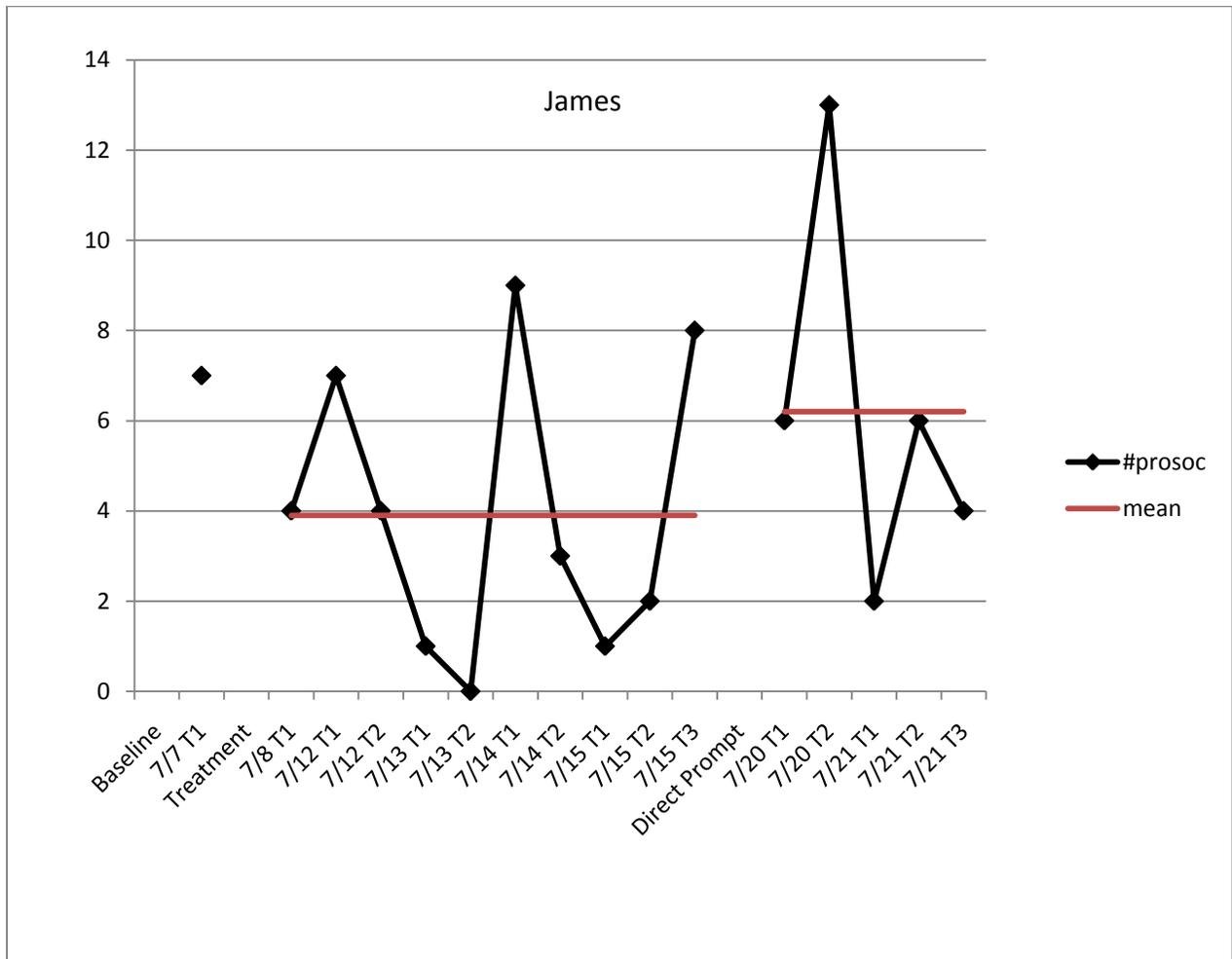
Note: Direct prompting and verbal reinforcement began on 7/19/11 for Libby for observations of pro-social behaviors that were ≤ 2 .

Figure 3. Pro-social behaviors as measured during sports activities for Nate. Data collected during baseline, treatment (SS), and DP respectively.



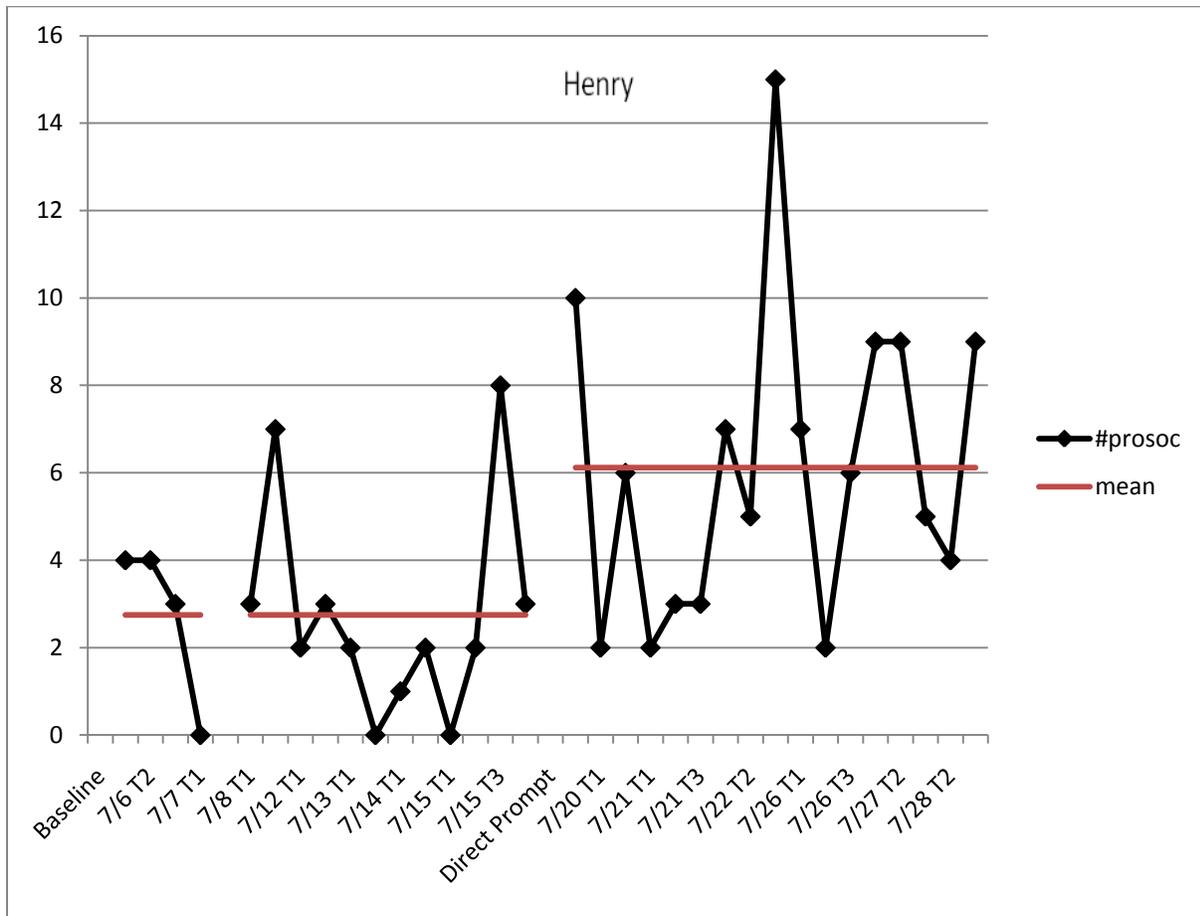
Note: Direct prompting and verbal reinforcement began on 7/19/11 for Nate for observations of pro-social behaviors that were ≤ 8 .

Figure 4. Pro-social behaviors as measured during sports activities for James. Data collected during baseline, treatment (SS), and DP respectively.



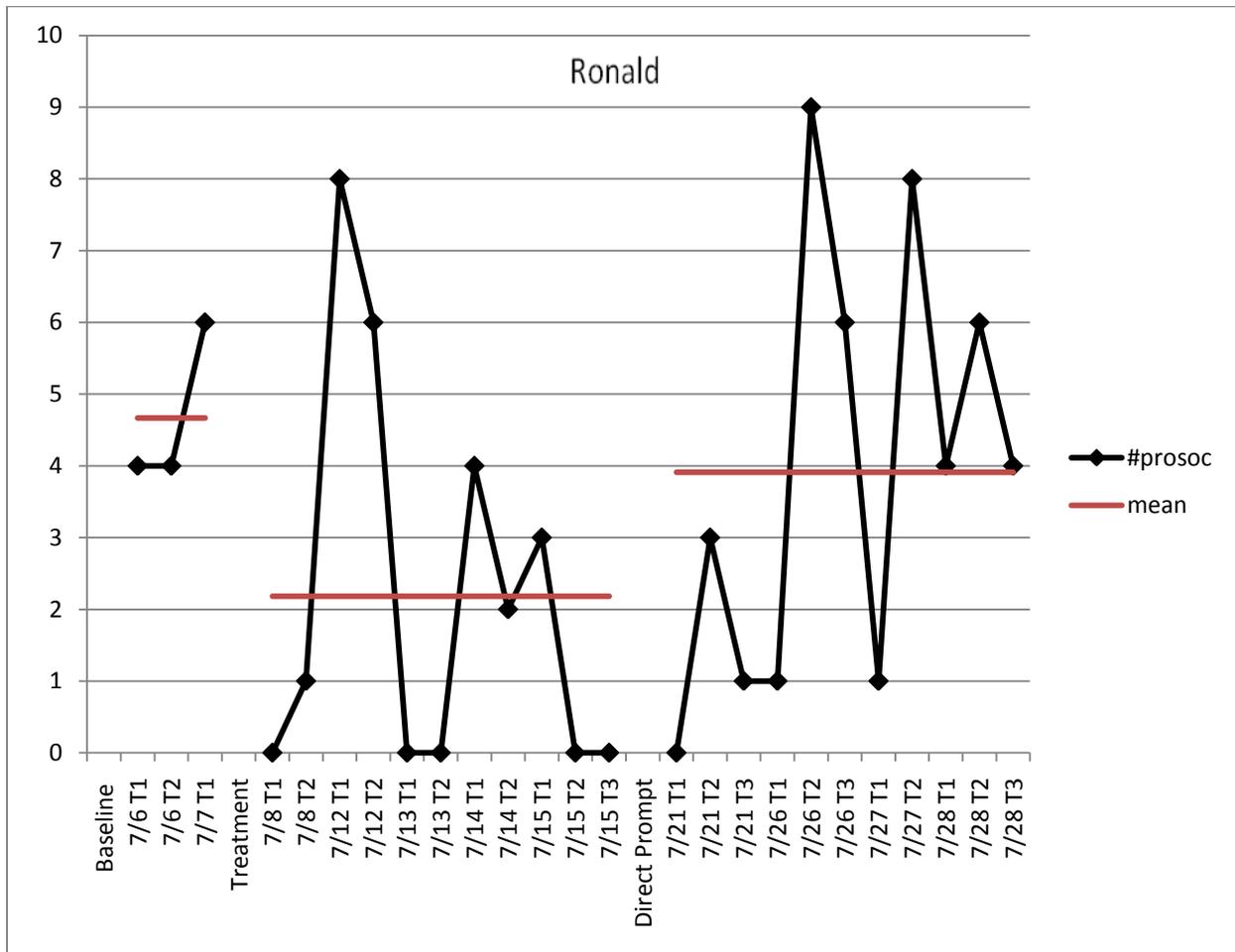
Note: Direct prompting and verbal reinforcement began on 7/20/11 for James for observations of pro-social behaviors that were ≤ 5 .

Figure 5. Pro-social behaviors as measured during sports activities for Henry. Data collected during baseline, treatment (SS), and DP respectively.



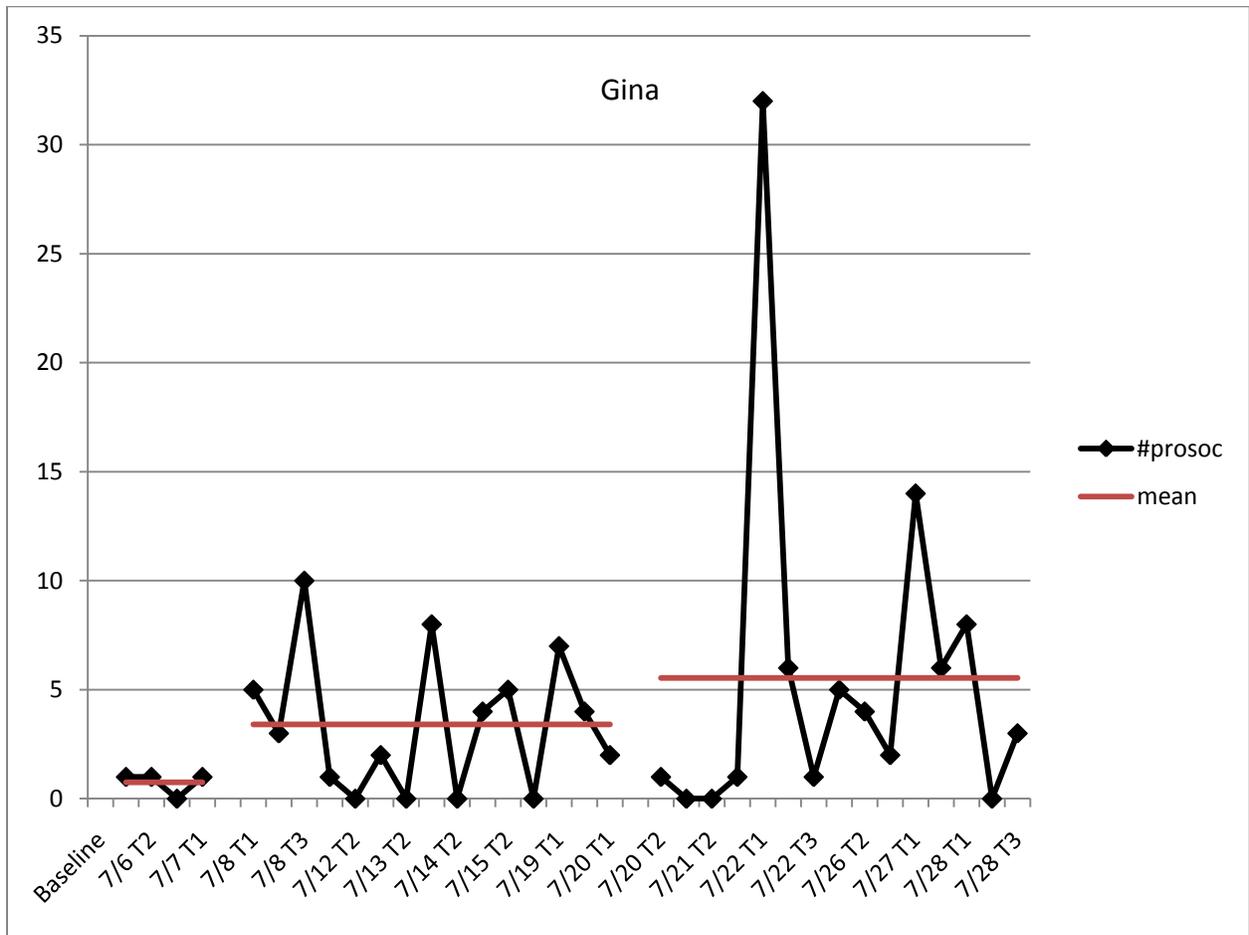
Note: Direct prompting and verbal reinforcement began on 7/19/11 for Henry for observations of pro-social behaviors that were ≤ 4 .

Figure 6. Pro-social behaviors as measured during sports activities for Ronald. Data collected during baseline, treatment (SS), and DP respectively.



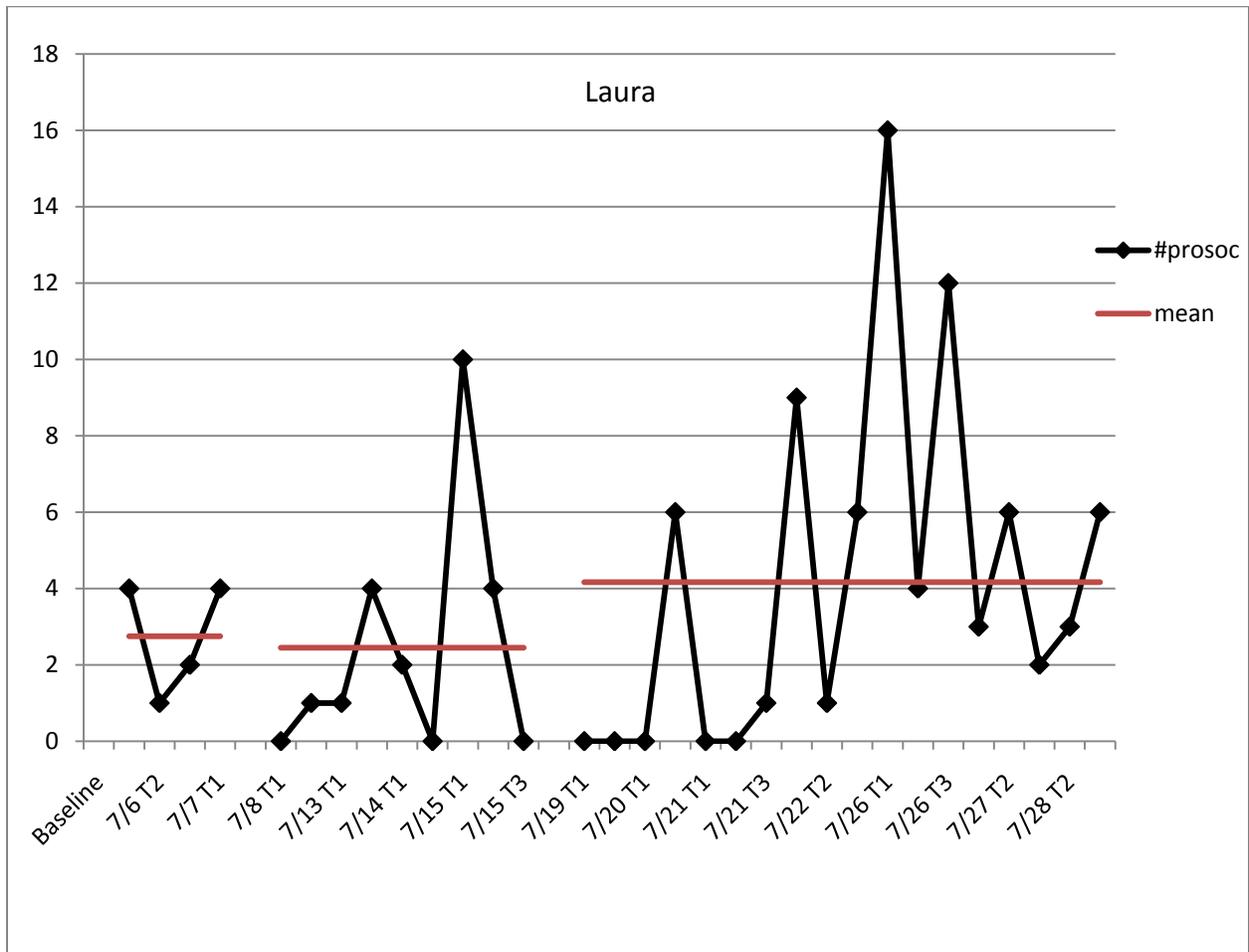
Note: Direct prompting and verbal reinforcement began on 7/21/11 for Ronald for observations of pro-social behaviors that were ≤ 5 .

Figure 7. Pro-social behaviors as measured during sports activities for Gina. Data collected during baseline, treatment (SS), and DP respectively.



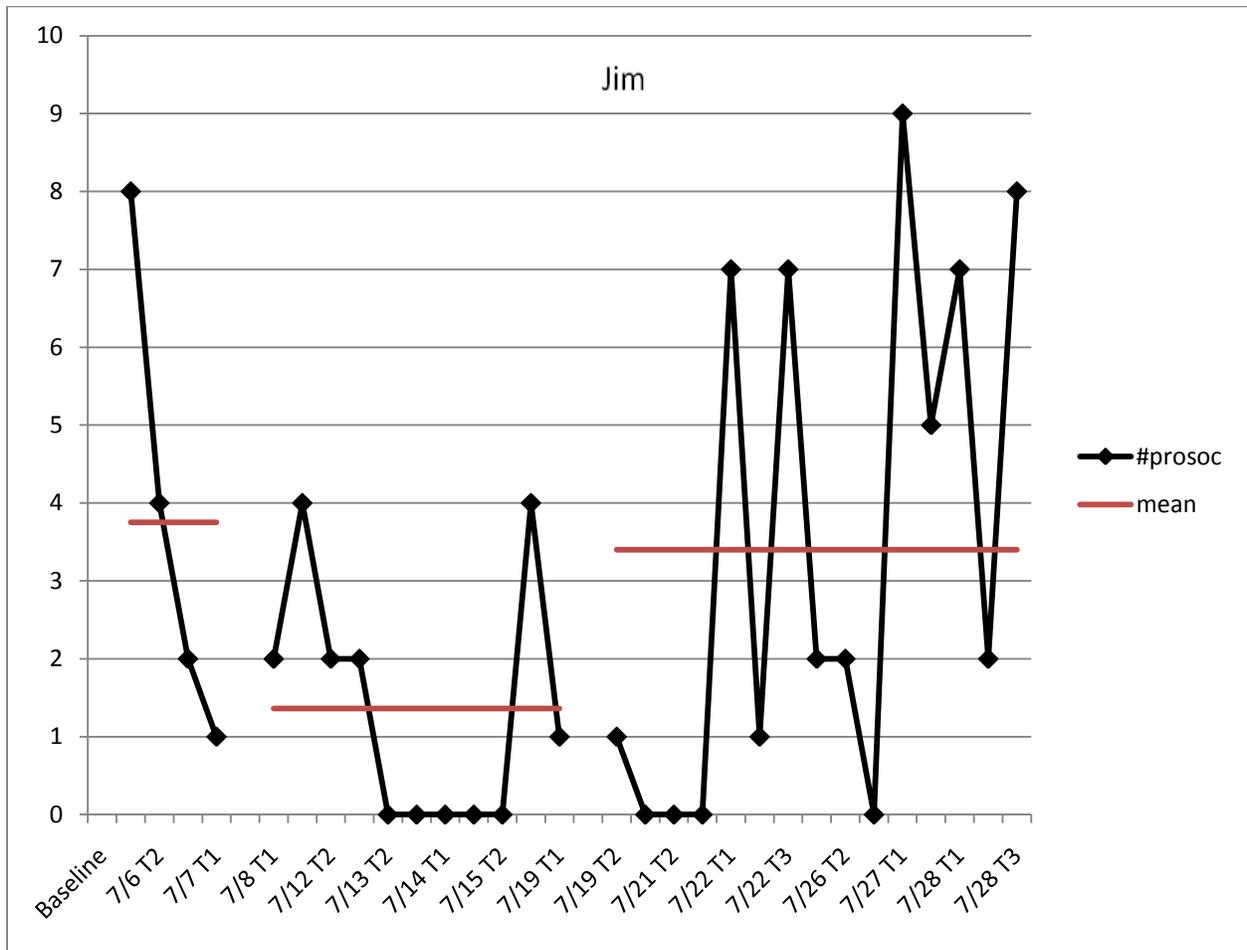
Note: Direct prompting and verbal reinforcement began on 7/20/11 for Gina for observations of pro-social behaviors that were ≤ 4 .

Figure 8. Pro-social behaviors as measured during sports activities for Laura. Data collected during baseline, treatment (SS), and DP respectively.



Note: Direct prompting and verbal reinforcement began on 7/19/11 for Laura for observations of pro-social behaviors that were ≤ 5 .

Figure 9. Pro-social behaviors as measured during sports activities for Jim. Data collected during baseline, treatment (SS), and DP respectively.



Note: Direct prompting and verbal reinforcement began on 7/19/11 for Jim for observations of pro-social behaviors that were ≤ 4 .

APPENDIX D

**APPROVAL NUMBER: 11-A007**

To: Rebekah Teetsel
319 Limestone Valley Dr.
Cockeysville MD 21030

From: Institutional Review Board for the Protection of Human
Subjects, Patricia Alt, Member

Date: Thursday, July 22, 2010

RE: Application for Approval of Research Involving the Use of
Human Participants



Office of University
Research Services

Towson University
8000 York Road
Towson, MD 21252-0001

t. 410 704-2236
f. 410 704-4494

Thank you for submitting an Application for Approval of Research
Involving the Use of Human Participants to the Institutional Review Board
for the Protection of Human Participants (IRB) at Towson University.
The IRB hereby approves your proposal titled:

*Attachment Status and Risk Factor Presence Moderating the Acquisition
of Social Skills During Middle Childhood*

If you should encounter any new risks, reactions, or injuries while
conducting your research, please notify the IRB. Should your research
extend beyond one year in duration, or should there be substantive changes
in your research protocol, you will need to submit another application for
approval at that time.

We wish you every success in your research project. If you have any
questions, please call me at (410) 704-2236.

CC: ~~Bruce Mortenson~~
✓ File

APPENDIX E

Measure: *Attachment Security Scale*

Child's Name:

Grade entering:

Person Obtaining Information:

Very True	Sort of True					Sort of True	Very True
		1	Some kids find it easy to trust their mom/dad	BUT	Other kids are not sure if they can trust their mom/dad		
		2	Some kids feel like their mom/dad lets them do things on their own	BUT	Other kids feel like their mom/dad butts in a lot when they are trying to do things		
		3	Some kids find it easy to count on their mom/dad for help	BUT	Other kids think it's hard to count on their mom/dad for help		
		4	Some kids think their mom/dad spends enough time with them	BUT	Other kids think their mom/dad does not spend enough time with them		
		5	Some kids do really like telling their mom/dad what they are thinking or feeling	BUT	Other kids do not like telling their mom/dad what they are thinking or feeling		
		6	Some kids do really need their mom/dad for lots of things	BUT	Other kids do not need their mom/dad for a lot of things		
		7	Some kids are happy with how close they are to their mom/dad	BUT	Other kids wish they were closer to their mom/dad		

		8	Some kids are really sure that their mom/dad loves them	BUT	Other kids worry that their mom/dad does not really love them		
		9	Some kids feel like their mom/dad really understands them	BUT	Other kids feel like their mom/dad does not really understand them		
		10	Some kids are really sure their mom/dad would not leave them	BUT	Other kids sometimes wonder if their mom/dad might leave them		
		11	Some kids are sure their mom and dad will be there when they need him/her	BUT	Other kids worry that their mom/dad might not be there when they need him/her		
		12	Some kids think their mom/dad listens to them	BUT	Other kids think their mom/dad does not listen to them		
		13	Some kids go to their mom/dad when they are upset	BUT	Other kids do not go to their mom/dad when they are upset		
		14	Some kids think their mom/dad helps them enough with their problems	BUT	Other kids wish their mom mom/dad would help them more with their problems		
		15	Some kids feel better when their mom/dad is around	BUT	Other kids do not feel better when their mom/dad is around		

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CURRICULUM VITAE

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EDUCATION

Towson University, Towson, MD Aug 2009 - Present
 Master of Arts, Clinical Psychology
 Master's Thesis: *Examining the Relations between Attachment, Risk Factor Presence and Social Skill Acquisition*

Università Cattolica, Milan, Italy Jan 2007 – June 2007

Pennsylvania State University, State College, PA Aug 2004 – May 2008
 Bachelor of Science - Psychology, Bio-Evolutionary Science Option

PUBLICATION:

Jolliff, H.A., Casavant, M.J., **Teetsel, R.N.**, Rogers, P.D. (2009). Abstracts of the 2009 North American Congress of Clinical Toxicology Annual Meeting, September 21–26, 2009, San Antonio, Texas, USA. *Clinical Toxicology (15563650)*, 47(7), 751.
 doi:10.1080/15563650903076924

In preparation:

Mortenson, B.P., Wilpone-Jordan, C., **Teetsel, R.N.** (in preparation). *Examining the effectiveness of summer programs to increase the academic and social-emotional functioning of at-risk youth.*

POSTERS:

Teetsel, R.N., Drazdowski, T.K., Ginsburg, G.S. (March, 2011). *Examining the Relations between Child Coping Strategies and Child Anxiety*. Poster presented at the 31st annual Anxiety Disorders Association of America conference, New Orleans, LA.

Mortenson, B.P., Rush, K., **Teetsel, R.N.** (March, 2011). *An Analysis of a Summer Based 2-Tier Intervention for At-risk Students*. Poster presented at the Eastern Psychological Association conference, Cambridge, MA.

RESEARCH EXPERIENCE:

Research Assistant (Master's Practicum) June 2010 – Present
 Johns Hopkins School of Medicine, Baltimore, MD
 Child and Adolescent Psychiatry Department
 Supervisors: Golda Ginsburg, Ph.D, Kelly Drake, Ph.D, Tess Drazdowski, M.S.

- *NIMH Grant: Child Anxiety Prevention Study (CAPS)*

- Duties: Conduct semi-structured diagnostic interviews, phone screens with potential participants, assist with recruitment, data entry and analyses in SPSS, interview participants monthly on phone for follow-up information, scheduling participants (via e-mail and phone), consultation with other study team members about participant diagnoses, write patient reports
- *NIMH Grant: Child/Adolescent Anxiety Multimodal Extended Long-term Study (CAMELS)*
 - Duties: Conduct semi-structured diagnostic interviews with parents and children, conduct other clinician-administered interviews related to psychopathology and functioning, schedule participants (via e-mail, phone and mail), participate in bi-weekly independent evaluator (IE) conference calls
- *Child Headache Anxiety Management Program (CHAMP)*
 - Duties: Conduct diagnostic evaluations, prepare participant packets and assessment folders, assist with participant recruitment

Principal Investigator

July 2010

St. Thomas Aquinas Elementary School, Baltimore, MD

St. Thomas Aquinas Reading and Social Summer Program (STARSS)

Supervisor: Bruce Mortenson, Ph.D

- Duties: Planned and implemented a 4-week summer program for students, trained graduate student assistants, prepared all documents/materials, data collection and analysis in SPSS, taught to participants, conducted clinical interviews with children, contacted participants for follow-up

Graduate Research Assistant

Jan 2010 – April 2010

Towson University, Towson, MD

Disordered Eating and Body Image Laboratory, Psychology Department

Supervisor: C. Alix Timko, Ph.D

- *NIMH Grant: Acceptance-based Separated Family Treatment for Adolescent Anorexia*
 - Duties: Assisted with creating therapist adherence measures, listened to pilot sessions with adolescents, participated in weekly meetings with Towson PI

Research Extern

Aug 2009 – May 2010

Johns Hopkins Bayview Medical Center, Baltimore, MD

Burn Psychology Department

Supervisors: James Fauerbach, Ph.D, Lauren Allen, M.A.

- *NIDRR Grant: Burn Injury Rehabilitation Model System Study*
 - Duties: Conducted clinical interviews with burn patients on the unit, data entry
- *Long-term Follow-up Study (LTF)*
 - Duties: Contacted burn patients via phone to collect follow-up information about current functioning and psychopathology related to previous burn injuries

Research Assistant

Sept 2009 – March 2009

Nationwide Children's Hospital, Columbus, OH

Poison Control Center

Supervisor: Marcel Casavant, MD

- *A Novel Approach to the treatment of Opiate Addiction in Adolescents*
 - Duties: Organized follow-up information, cross-referenced data from hospital database with patient report

Undergraduate Research Assistant

May 2008 – Aug 2008

Pennsylvania State University, State College, PA
Child Development, Psychology Department
Supervisor: Catherine Buss, Ph.D

- *NIMH Grant: Toddlers Into Kindergarteners Emotions Study (TIKES)*
 - Duties: acted as a confederate in the study protocol, monitored family visits, traveled with team members to assess families in both urban and rural settings, assisted with recruitment

Undergraduate Research Assistant

Aug 2006 – Dec 2006

Pennsylvania State University, State College, PA
Linguistics, Psychology Department
Supervisor: Judith Kroll, Ph.D

- Duties: Obtained informed consent from and debriefed participants, lead participants through computer based program, managed undergraduate student accounts

Undergraduate Research Assistant

Aug 2005 – May 2006

Pennsylvania State University, State College, PA
Human Development and Family Studies Department
Supervisor: Kristi Voegtline, Ph.D

- *NICHD Grant: Family Life Project (FLP)*
 - Coded real time video of infant self-soothing behaviors during 3 behavioral tasks

TEACHING EXPERIENCE:

Study Skills Workshops Jan 2010 – Present
Towson University, Towson, MD
Academic Achievement Center

Tutoring - Psychology 101, GRE Prep Jan 2010 – Present
Towson University, Towson, MD
Academic Achievement Center

SCHOLARSHIPS:

Graduate Assistantship Jan 2010 – Present
Towson University, Towson, MD
Academic Achievement Center (\$20,000.00 total)

Graduate Student Association Award - Research, Travel July 2010, January 2011

Towson University, Towson, MD
Academic Achievement Center (\$700.00 total)

PROFESSIONAL MEMBERSHIPS:

American Psychological Association
Maryland Psychological Association for Graduate Students
Anxiety Disorders Association of America
Eastern Psychological Association
Maryland School Psychologists Association

GRADUATE COURSEWORK:

Assessment of Intelligence
Advanced Abnormal Psychology
Psychotherapy and Behavior Change I & II
Personality Assessment I & II
Attachment Seminar (audited)
Research Issues in School and Clinical Psychology
Ethical, Legal, and Professional Issues in Psychology
Foundation of Statistics in Clinical Psychology
Child Psychopathology
Cognitive Behavioral Therapy

