THE ASSOCIATION BETWEEN CHILDREN'S TEMPERAMENT, SOCIAL GOAL ORIENTATION, SOCIAL BEHAVIOR, AND SOCIAL STATUS: A TWO-STUDY EXAMINATION

by

ELISABETH ANNE QUINTRELL

(Under the Direction of A. Michele Lease)

ABSTRACT

Study 1:

Some children who are rejected withdraw, whereas other children aggress towards their peers or display other disrupting externalizing behaviors (Rose-Krasnor, 2014 for review). Research has established that these two behaviors are associated with peer rejection; thus, understanding risk factors to these behavioral outcomes is beneficial for developing peer rejection interventions. Research suggests that both temperament and social goals are risk factors for these problem social behaviors (Rubin et al, 1990; Ojanen et al, 2014). Our study sought to determine whether temperament and social goals are predictive of these social behaviors and, whether including both temperament and social goals in analyses aids in predicting the specific type of aggressive behavior. Our results indicated that *proactive* and *reactive aggression* and *social withdrawal* can be predicted by temperament and social goals. Both social goal orientations and temperament aided in predicting which type of social aggression was exhibited: *instrumental social goals* were a significant predictor of *proactive aggression*, while *affective*/

instrumental social goals were not significant predictors of *reactive aggression*. Lastly, *negative affect* (chained with *high impulsivity*) acted as a general risk factor for all problem outcome behaviors.

Study 2:

Studies suggest that the pathway to peer acceptance and/or peer rejection includes multiple factors, including personality/temperamental traits and skilled social behavior (Panak & Garber, 1992; Asher & Coie, 1990). One factor that influences the production of skilled behavior is a child's social goals, which, in turn, affect the pathway to social acceptance. The present study sought to determine whether social goals moderate the relationship between temperamental traits and *social preference* in a sample that included children in late childhood. We found that *instrumental social goals* did not have a significant moderating effect on the relationship between temperamental traits and social acceptance. However, *affective social goals* were significant moderators for certain temperamental traits. Higher *affective social goals* moderated the relationship between *low inhibition* and *social preference* positively. The relationships between *high inhibition* and *social preference* and *negative affect* and *social preference* were moderated negatively by *affective social goals*. Implications for social goal intervention implementation within programs like SEL and PBIS are discussed.

INDEX WORDS: Social Goals; Social Behavior; Temperament; Social Status; Proactive Aggression; Reactive Aggression; Social Withdrawal

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CHAPTER 1

DISSERTATION INTRODUCTION

As children move from late childhood to early adolescence their social interactions increase in frequency, importance, and complexity (Harris, 1995; Furman & Buhrmester 1992). Peer aggression and bullying also increase at this important point in development (Bjorkqvist, Lagerspetz, Kaukainen, 1992). Furthermore, links have been observed between aggressive behavior in childhood and the subsequent development of psychopathology (Coie et al, 1992; Cole et al. 2010; Rigby, 2002; Hawker & Boulton, 2000). To date, there is an abundance of research correlating factors like social status (i.e., popular, rejected, well-liked children) and gender to social behavior (i.e., aggression, prosocial behavior, etc.) (Vaillancourt & Hymel, 2006; Quintrell et al, in press; Rose et al, 2004; Andreou, 2006; Card et al, 2008; Rodkin et al, 200; etc.), but research that examines explanatory factors for *why* children and adolescents behave certain ways in the social setting is much less common. Some potential explanatory factors worth examining include temperamental traits and social goals/motivations.

Research in childhood temperamental traits has gained significant ground in the last few decades but has its roots in personality psychology, which has a much longer history. In the 1930's, psychologists in Germany (Baumgarten) and the United States (Allport and Odbert) began to look closely at language, specifically, descriptions of personality, to create a scientific taxonomy. Allport and Odbert (1936) went through the entirety of Webster's *New International Dictionary* (1925) to extract all personality-relevant terms, which totaled to a list of 18,000. From these 18,000 terms, they identified four major categories (Pervin & John, 1999).

In 1943, Raymond Cattell used the Allport and Odbert list as a catalyst for his multidimensional model of personality structure. Using factor analysis, Cattell reduced the trait list from thousands to create his 16 Personality Factors (16PF) Questionnaire (Cattell, Eber, Tatsuoka, 1970). Fiske (1949) and Tupes and Christal (1961) were able to reanalyze Cattell's variables to find five factors, which reliably reoccurred and were replicated by researchers for the next 20-30 years. This five-factor structure is known today as the Big Five or Five Factor Model (FFM) and includes extraversion/surgency, agreeableness, conscientiousness, emotional stability/neuroticism, and intellect/openness (Goldberg, 1981).

By the mid 20th century, some personality researchers began to shift their focus from adults to children. In 1970, *Scientific American* published "The Origin of Personality" by Alexander Thomas, Stella Chess, and Herbert Birch, based on Thomas and Chess' research in the New York Longitudinal Study. This study began in the late 1950s and followed 140 children from birth to adolescence. They sought to answer basic questions of human development such as whether or not children have innate personalities. Thomas and Chess found that there were nine stable characteristics (activity level rhythmicity, distractibility, approach withdrawal, adaptability, attention span and persistence, intensity of reaction, threshold of responsiveness, and quality of mood), which could be scored on a three-point scale (low, medium, high). The ratings on these characteristics then define a child's temperament, which is easily detected within the first several months of life. They soon began to notice that several "temperament types" emerged. These were coined as "easy children" (a compilation of positive mood, regular bodily functions, low intensity of reaction, and adaptability), "difficult children" (irregular bodily functions, intense reactions, withdrawal from new situations, and negative mood), and "slow to warm up" (generally low activity level, withdrawal from new stimuli, somewhat negative in

mood). Thomas and Chess reported that 42 out of the original sample of 141 developed significant behavioral problems, and of those 42 children, most had been classified as "difficult" and the remainder as "slow to warm up." These results offered a new perspective on the continuity of personality, the predictive validity of temperament, and the long-lasting effects of early childhood (Thomas & Thomas, 1970; Caspi 2000).

While the FFM has strong validity, particularly for research on adult populations (Van der Linden et al, 2010; Asendorpf & Van Aken, 2003; John & Srivastava, 1999), another school of thought has reduced the factors further to a two-factor model of temperament. This is based on Jeffrey Gray's conceptual framework, which suggests that there are two major brain systems that form the foundation of temperament and thus personality: The behavioral inhibition system (BIS), which involves responses to punishment, and the behavioral activation system (BAS) which involves responses to rewards. The thought is that these two systems are independent. Individuals who have more sensitive BIS and BAS systems likely learn the cues of reward and/or punishment more quickly. The theory suggests that children who are high on BIS typically withdraw and are more likely to physically withdrawal and become difficult to sooth in unfamiliar settings. BAS on the other hand involves high activity level and lack of task persistence (Gray 1972, 1981; Compas et al, 2004; Deal et al, 2005; Martin & Bridger, 1999).

Like personality and temperamental traits, research in social goals attempts to answer questions about why people behave the way that they do. Goals are typically defined as internal representations of desired states (Austin & Vancouver, 1996). Research on children's social goals and motivations centers around a few leading concepts: approach vs. avoidance goals, affective/communal vs. instrumental/agentic, and the Interpersonal Circumplex Model (agency vs. submission vs. communion) (Rodkin et al, 2013; Buhrmester, 1996; Baumeister & Leary,

1995). Social influence strategies are closely related, as they are the means to carrying out an individual's goals. These range from prosocial strategies to a myriad of aggressive strategies. In general, research suggests that aggressive strategies are related to goals of agency, power, and dominance, while goals of communion are related to prosocial strategies (Ojanen et al, 2005; Rudolph et al, 2011).

The first study of this two-study dissertation investigates the relationship between temperament, social goal orientation, and proactive/reactive aggression and social withdrawal. Previous research suggests that temperament effects the way a child interacts with the social environment, for example, whether they make risky choices, or attempt to disengage from dangerous situations (Bell, 1974). The purpose of the current study is to build upon past research in this area to determine to determine whether temperament and social goals are predictive of these problematic social behaviors, and whether proactive and reactive aggression are distinguishable by social goals and temperamental traits.

The focus of the second study is to examine if the relationship between temperament and social preference is moderated by social goals. Previous research suggests that there is a relationship between social preference and social goal orientation (Chung and Asher 1996; Ojanen et al, 2005; Renshaw & Asher, 1982; Lochman et al, 1993). Research also suggests that temperament may affect a child's social competence, which in turn is related to social preference (Eisenberg et al 1993). Specifically, high negative emotionality, low self-regulation, and high reactivity are related to poor social skills (Sanson et al, 1996; Eisenberg et al, 1993). In this study, we seek to determine how/if a child's social goal orientation moderates the relationship between temperamental traits and social preference.

CHAPTER 2

THE PATHWAY FROM TEMPERAMENT AND SOCIAL GOALS TO SOCIAL WITHDRAWAL AND PROACTIVE/REACTIVE AGGRESSION

Social development researchers have found correlations between peer rejection and numerous maladjustment outcomes. Among these are anxiety and depression (Pedersen et al, 2007; Bagwell et al 1998; Gazelle & Ladd, 2003), suicidal ideation (Prinstein et al, 2000), and academic difficulties and delinquency (Ladd 1990; Coie 199; Kupersmidt, et al 1990; Parker & Asher, 1987). Some children who are rejected withdraw socially, whereas other children who are rejected aggress towards their peers or display other disrupting externalizing behaviors (Rubin, Hymel, Mills, & Rose-Krasnor, 2014 for review). Research has established that these two behaviors (social aggression and withdrawal) are associated with peer rejection; thus, understanding precursors and risk factors to these behavioral outcomes is beneficial for developing peer rejection interventions.

One avenue to developing interventions focuses on the intentions underlying the expressed behavior by examining social goals and motivations. Past studies suggest that communal goals are positively correlated to prosocial behavior, and negatively associated with withdrawal and aggression, whereas agentic/dominance oriented goals are associated with aggression (Ojanen et al, 2005; Crick 199, Sijtsema et al, 2009; Jarvinen & Nicholls, 1996; Salmivalli et al, 2005; Erdley & Asher, 1996). Researching social goals and the role they have on behavior is important, because recently there have been promising reports of social

interventions centered around changing children's social goals to, in turn, positively affect their social behavior (Garandeau, Lee & Salmivalli, 2014; Frey et al, 2005; Atria & Spiel, 2007).

In order to develop peer rejection interventions, it is necessary to identify risk factors for that rejection. Research has shown that, in addition to social goals, there are emerging linkages in the literature between internalizing and externalizing behavior to specific temperament risk factors (Rothbart, Ahadi, & Evans, 2000; Rubin et al, 2002; Blair et al, 2004; Caspi et al, 1995; Rothbart et al, 1994). For example, research suggests that certain temperamental traits are risk factors for problem social behaviors (i.e., withdrawal and aggression), which often lead to peer rejection and in serious cases are associated with or are symptomatic of psychopathology (Gray 1982; Barkley 1997; Quay 1988; Johnson et al, 2003 and Muris et al, 2005 for reviews). Studies by Deal, Halverson, Havil, and Martin (2005) and Rothbart et al (2001) suggest that the temperamental trait of inhibition (BIS) predicts social withdrawal, whereas impulsivity (BAS) and negative affect predict aggression. BIS and BAS also are risk factors for various psychiatric disorders (Barkley 1997; Johnson et al, 2003; Muris et al, 2005). The current study seeks to determine if children's social goals and temperamental risk factors are predictive of social withdrawal and reactive/proactive aggression.

Social Goals

Understanding children's social motivations is a vital step to developing useful interventions targeting problem behavior. Previous research suggests that children have different social motivations/goals that affect the way in which they navigate the social world (Jarvinen & Nicholls, 1996; Lochman et al, 1993; Erdley et al, 1997; Ojanen et al, 2005). These social goals vary from goals of dominance, power, and influence to goals of communion, intimacy, and relationship maintenance (Caravita & Cillessen, 2012; Ojanen et al, 2005; Salmivalli et al, 2005).

There are also goals oriented towards approaching social situations and gaining skills and friends versus avoiding social interactions and embarrassment (Gable et al, 2006; Ryan & Shim, 2006; Elliot & Thrash, 2002). Previous research suggests that goals of dominance and power are related to above average rates of aggressive behavior, whereas goals of communion and intimacy are related to above average rates of prosocial behavior (Ojanen et al, 2005; Salmivalli et al, 2005). Recently researchers have based social interventions in elementary and middle schools on changing social goals in order to decrease aggressive behavior (Garandeau, Lee & Salmivalli, 2014; Frey et al, 2005; Atria & Spiel, 2007).

There are various goal/motivation theories present in the literature; however, we have chosen to use the instrumental/affective model. Our study utilizes this theory of social goals due to its connection to aggressive behavior (Hawley et al, 2002; Kwon & Lease, 2007), as well as its relation to other well-established measures of social goals (i.e., communion vs. dominance, relationship maintenance vs. instrumental, etc.) (Erdley & Asher, 1996; Jarvinen & Nicholls, 1996; Ojanen et al 2005, Salmivalli et al 2005). This view of social goals is based on the value put on social relationships and friendship. In this model, affective goals motivate a person to engage in relationships for intimacy, companionship, and trust, whereas instrumental goals motivate one to engage in relationships for extrinsic reasons and for what they can "buy you" (Hawley et al, 2002).

Temperament

There are clear linkages of temperament to basic motivation and attention systems (Rothbart et al, 2000; Elliot & Thrash, 2002; Zentner & Bates, 2008; Derryberry & Rothbart, 1988). Gray's theory of behavioral inhibition and behavioral activation is one such model. His conceptual framework suggests that there are two major brain systems that form the foundation

of temperament and, thus, personality: The behavioral inhibition system (BIS) and the behavioral activation system (BAS). The prevailing thought is that these two systems are independent. The BIS system regulates the experience of anxiety-relevant cues and is sensitive to punishment and novelty. The BAS system, on the other hand, is sensitive to reward (Carver & White, 1994). The theory suggests that children who are high on BIS typically withdraw and may become upset in novel situations, and those high on BAS are more likely to be impulsive, have high activity level, lack task persistence, and display negative emotions and frustration when there are obstructions to reward (Gray 1972, 1981).

The predictive utility of these basic temperamental traits has recently been illuminated in studies of psychopathology. Research in childhood psychopathology often focuses on two types of problem outcomes: externalizing and internalizing problems (Achenbach & Edelbrock, 1978; Farmer et al, 2002; Crijen, Achenbach, Verhulst, 1997). This same research, in turn, has found two major risk factors for these general problem outcomes: impulsivity (BAS) and inhibition (BIS) (Johnson et al, 2003 and Muris et al, 2005 for reviews). Some researchers theorize that deficits in behavioral inhibition puts some at risk for ADHD (Barkley 1997, Quay, 1988) and psychopathy (Fowles 1980), whereas high levels of BIS are related to anxiety (Gray 1982) and depression (Johnson et al, 2003). High BAS has been found to be related to conduct disorder and antisocial personality disorder (Quay, 1993) and drug/alcohol abuse (Johnson et al, 2003), whereas low levels of BAS are related to depression (Johnson et al, 2003 and Muris et al, 2005 for reviews).

Similar to the connection between BIS/BAS and psychopathology, previous research has demonstrated links between traditional temperament traits (i.e., inhibition, sociability, negative emotionality, impulsivity, etc.), social behavior, and maladjustment. With regard to internalizing

problems, research has shown that adolescents who were classified as inhibited during toddlerhood were much more likely to have symptoms of social anxiety than those who were classified as outgoing (Schwartz, Snidman & Kagan, 1999). More generally, preschool inhibition has been shown to predict internalizing behavior problems later in childhood (Sanson et al, 2004 for review). Low sociability in 15 year olds was found to predict depression for males at 20 years of age; The same was found for females; however, for women this relationship was moderated by social support. (Katainen et al, 1999). Furthermore, negative emotionality has been shown to be a risk factor for depression for both genders (Windle, 1992).

Research on externalizing behavior in early childhood suggests that negative affectivity, emotionality, and impulsivity in toddlerhood are related to externalizing behavior problems in preschool (Hagekull, 1994), and negative affectivity and surgency in early childhood have been shown to relate to aggressive behavior in 6 and 7-year-old children (Rothbart, Ahadi, & Hershey, 1994). Furthermore, there is evidence to suggest that early inhibition may serve as a *protective* factor against externalizing behavior problems in childhood and adolescence (Schwartz et al, 1999; Sanson et al, 1996; Sanson et al, 2004 for review). This possible protective relationship between inhibition and externalizing behavior is important to investigate, given the connection between peer rejection and other forms of maladjustment to externalizing and internalizing behavior problems in childhood and adolescence (Bagwell et al 1998; Prinstein et al, 2000; Ladd 1990; Coie 199; Kupersmidt, et al 1990; Parker & Asher, 1987).

Social Behavior

As noted previously, social aggression and withdrawal are associated with peer rejection and, in extreme cases, psychopathologies, such as depression, anxiety, suicide, etc. (Parker & Asher, 1987; Hymel, Rubin, Rowden, & LeMare, 1990; Ladd & Troop-Gordon, 2003; DeRosier

& Kupersmidt, 1994; Kupersmidt & Coie, 1990; Deater-Deckhard, 2001). However, there are several different types of aggressive behavior, which are associated with differing types of risk profiles. Thus, a discussion on the different forms and functions of aggressive behavior follows. With regards to form, direct/overt/physical aggression characterizes outward, obvious, instances such as a child pushing another child in the hallway. Indirect/reputational/relational refers to less direct forms, for example, rumor starting and refusing to allow a classmate to take part in a group activity. Verbal aggression refers to name-calling and teasing (Xie et al, 2003; Prinstein & Cillessen, 2003; Card et al, 2008). The current study employs a mix of overt and indirect/relational, as well as reactive, peer nominated aggression measures.

Not only can the form of aggressive behavior vary by situation, the function can vary as well. Reactive aggression can be predicted by negative emotionality (Vitaro et al, 2006; Fite et al, 2009), is often related to a hostile attribution bias or a perceived threat, and is correlated to attention deficits/impulsivity (Dodge et al, 1997) and self-regulation difficulties (Ojanen & Kiefer, 2013), as well as peer victimization and depression (Sijtsema et al., 2009; Crick & Dodge, 2009; Poulin & Boivin, 2000; Prinstein & Cillesson, 2003). If the behavior is not explicitly in reaction to anything, but is used to gain some tangible outcome, then it typically is classified as proactive aggression (Dodge, 1991b). Proactive aggression is typically employed as a strategy to gain social resources or dominate/intimidate a peer (Dodge & Coie, 1987; Poulin & Boivin, 2000, Ojanen & Kiefer, 2013), can be associated with high peer status (Schwartz, 1999; Poulin & Boivin, 2000), social preference (Prinstein & Cillesson, 2003), humor (Poulin & Boivin, 2000), and can be predicted by negative emotionality (Ahadi & Rothbart, 1994; Rothbart et al, 2001). Unlike reactive aggression, children in the same peer groups and who are socially tied to one another typically exhibit similar levels of proactive aggression (Crick & Grotpeter,

1995; Crick & Zahn-Waxler, 2003). While reactive aggression remains more constant across childhood and adolescence, proactive instrumental/relational aggression increases throughout development (Ojanen and Kiefer, 2013). The current study examines proactive and reactive aggression separately as they likely have differing associations with temperamental traits and social goals.

We chose to examine the relationship between goals, temperament, and social withdrawal in addition to aggression. Social withdrawal is a strong correlate of peer rejection during middle childhood and adolescence (Deater & Deckhard, 2001; Boivin & Hymel, 1995; Rubin et al, 1990; Parker & Asher, 1987), so understanding this relationship has important applications. Research in this area is somewhat sparse, but there appears to be an interesting relationship between withdrawal and social goals, as studies in this area are somewhat conflicting. Rubin et al (2009) found that withdrawn children were less likely to meet their social goals than were less withdrawn peers. On the other hand, several studies have found that withdrawal is associated with low levels of both communal and agentic goals (Ojanen et al, 2005; Salmivalli et al, 2005). Our thoughts are that this relationship is more complicated than these studies have demonstrated. In fact, Salmivalli et al (2005) found that for boys, lack of communal (affective) goals did not contribute to withdrawal. Social withdrawal is also tied to negative emotionality, in that negative emotionality is closely connected to emotion dysregulation. Emotion dysregulation refers to a child's inability to control their emotional responses and is a risk factor for social withdrawal (Eisenberg et al, 2000; Eisenberg et al, 2001). In this way, while a direct link between negative emotionality and social withdrawal has not been explicitly reported, previous research suggests some type of relationship between the two, possibly mediated by emotion dysregulation. Thus, perhaps the results of this study will help to determine whether temperament is a better predictor

of withdrawal than are social goals, and whether negative emotionality (i.e., negative affect) can reliably predict social withdrawal.

Current Study

As mentioned previously, children who are rejected by peers and those who have some form of psychopathology often demonstrate one of two major types of social problem behaviors: social withdrawal or aggression (Deater-Deckhard, 2001; Boivin & Hymel, 1995; Johnson et al, 2003; Barkley 1997; Quay, 1988; Gray 1982; Kupersmidt & Patterson, 1991; Coie et al, 1992; Boivin & Hymel, 1995; Rubin et al, 1990). Research suggests that both temperament (inhibition, impulsivity, and negative affect) and social goals (instrumental relationship goals) are risk factors for these problem social behaviors (Rubin et al, 1990; Salmivalli et al, 2005; Ojanen et al, 2014; Erdley & Asher, 1996; Rothbart et al, 1994; Eisenberg et al, 2000; Booth-LaForce & Oxford, 2008).

Our study seeks to determine whether temperament and social goals are predictive of these problematic social behaviors. More specifically, does including both temperament and social goals in our analyses aid in predicting the specific type of aggressive behavior (reactive vs. proactive)? Our hypothesis is that negative emotionality (affect) will act as a general predictor of all of the problem outcome behaviors: reactive aggression, proactive aggression, and social withdrawal. In addition, we expect that temperament (i.e., impulsivity and inhibition) and social goals will more specifically differentiate between outcome behaviors. Our hypothesis is that (a) high levels of impulsivity will be related to high levels of reactive aggression, whereas (b) instrumental goals will be positively related and affective goals negatively related to proactive aggression, and lastly (c) high levels of inhibition will be related to social withdrawal.

Methods

PARTICIPANTS

Participants consisted of 473 fourth and fifth grade students (52% girls; mean age= 11.08 years; 58% White, 40% African American/Black, and 2% Other) from 26 classrooms in a school system in the rural southeastern United States. The participating schools averaged 70% free and reduced lunch.

Participation in the study required both parental consent and child assent. Consent forms were sent home with students to their parents in the spring of the school year. Data collection took place during the late spring of the school year. The forms included a designated area to sign granting consent and a place to sign denying consent. The rate of consent for child participation was 88%.

Measures included in this study were peer, teacher, and self-report. Questionnaires were group administered by trained research team-members in two 1-hour sessions, and written items were read aloud to students. All students in the class were given a token gift for their time, whether they participated in the study, or not.

The participants were told that their answers were confidential and were asked to keep their responses to themselves in order to minimize classroom discussion related to the questionnaire. Each participant was given a class roster with a corresponding number for each student to ensure quick and easy nomination. Peer nomination items allowed the participants to nominate three participating classmates for each item, and students were asked to choose the student(s) who best fit the description for the peer-nomination items.

Measures

BEHAVIOR NOMINATIONS

For this study, we used peer nominations items of behavior commonly used in studies of children's peer relationships, and which have been shown to correlate with teacher nominations (Crick, 1996; Blake et al., 2012; Crick et al., 2006). Peer nominations are useful because peers are able to provide a different and unique perspective into the complex social structure of late childhood and early adolescence. Furthermore, often the social behaviors of interest in this study are not readily detected by teachers and other adults (McEvoy, Estrem, Rodriguez, & Olson, 2003).

Each participant was told that they could nominate up to three participating classmates on these items. The instructions also stated that the students could nominate a peer for more than one item. Peer nomination behavior scores were then standardized by classroom to control for varying numbers of nominators across classrooms (Coie et al, 1982). Items were standardized to a mean of 0 and standard deviation of 1 by classroom. Multiple forms of aggressive behavior tend to fall under the construct of "proactive aggression," so multiple items were used to measure this, including relational items ("This person tries to keep certain people from being in their group during activities," "This person says mean things to people, calls names, and teases others in a mean way," and "Some children tell others that they will stop liking them unless the friends do what they say") and an overt aggression item ("Somebody who tries to get what he or she wants by hitting, shoving, pushing, or threatening others"). Internal consistency for behavioral items was examined using Cronbach's alpha. The alpha for *proactive aggression* was .83. Only one item was used to assess *reactive aggression* ("Even when others don't mean to make them mad, this type of person overreacts") and *social withdrawal* ("This person looks like her or she

wants to play with others or join in on a game but seems afraid or shy") and, therefore, internal consistency was not measured.

FRIENDSHIP GOALS (*INSTRUMENTAL/AFFECTIVE*)

Following earlier research from Hawley, Little, and Pasupathi (2002) a 22-item, 4-point (strongly disagree, disagree, agree, strongly agree), self-report scale was included to assess *affective* and *instrumental* friendship goals (i.e., valuing friendship for quality and intimacy vs. for what you can gain from friendships). This scale drew from previous research by Deci and Ryan (1985) and has been widely used and cited by researchers in the social motivation field (i.e., Ojanen et al 2005, Ojanen et al 2010, Salmivalli, 2010, etc.) The students were given the following instructions: "Below is a list of reasons kids might have for becoming friends with another kid. I would choose to become friends with…" Children were asked to choose whether they strongly disagreed, disagreed, agreed, or strongly agreed with the statement. Items are listed in Appendix A.

Principal components analysis was used to identify and compute composite scores for the factors underlying the Friendship Goals scale. Initial eigenvalues indicated that two factors would be retained according to the Kaiser and Guttman rule, accounting for a total of 36% of the variance. The first factor, *instrumental goals*, explained 22% of the total variance, while the second factor, *affective goals*, explained 16% of the total variance. Internal consistency for each of the factors was examined using Cronbach's alpha. The alphas were adequate: .78 for *instrumental goals* (12 items) and .81 for *affective goals* (10 items). No substantial increases in alpha for any of the scales could have been achieved by eliminating more items.

TEMPERAMENTAL TRAITS: ICID

Temperamental traits were assessed through teacher report using a 61-item version of the Index of Children's Individual Differences, short form (ICID-S). The ICID-S (50 item short version) was further reduced by Deal, Halverson, Martin, Victor & Baker in 2007, however, that version was unavailable when the data for the current study was collected. Thus, an interim form of the ICID was used containing 61 items. The ICID has been widely cited in temperament research and is based on the five-factor model of personality (Deal et al, 2003; Deal et al, 2007; Zupancic et al, 2004; Grist et al, 2012; Herzoff and Tackett, 2012, etc). The ICID was developed by gathering and analyzing over 50,000 parental descriptors of children from eight different countries (Deal et al, 2003). The scale measures 14 temperament dimensions: intelligence, open/curious, achievement orientation, positive emotionality, considerate-of-others, activity level, negative emotionality, antagonistic, strong-willed, distractibility, disorganized, inhibition, social withdrawal, and insecure/fearful. Following previous work by Ahadi and Rothbart (1994), Rothbart and colleagues (2001), Martin and Bridger (1999), and Deal et al (2005), we chose to examine inhibition, impulsivity, and negative affect (emotionality) domains. Inhibition, impulsivity and negative affect are being widely studied by psychopathology researchers: Impulsivity and inhibition appear to be the primary temperamental risk factors for internalizing and externalizing disorders (Gray 1982; Barkley 1997; Quay 1988; Johnson et al, 2003 and Muris et al, 2005 for reviews), whereas negative affect (or emotionality) appears to operate as a risk factor for psychopathology in general (Muris & Ollendick, 2005; Rothbart, Ahadi, & Hershey, 1994; Leon et al, 1999). Results from a previous study were reviewed to determine which ICID items should be included into each of the three temperament domains (Deal et al, 2007). Specifically, Deal and colleagues examined the ICID domains for correlation with the

Temperament Assessment Battery (TAB-R, Martin and Bridger, 1999) Inhibition and Impulsivity factors. They found that the ICID "Antagonism" domain ("Manipulates to get his/her own way, is stubborn, hard-headed, mean, selfish, uncooperative, forgets things easily and is easily distracted") correlated strongly with the TAB (.58) Impulsivity scale, thus this domain makes up our Impulsivity (+) or *high impulsivity* factor. The ICID domain "Agreeable" ("Sweet, a joy to be with, friendly, cheerful, sensitive to others' feelings, affectionate, kind and caring") was broken up into two domains in the Deal et al (2007) study, "Positive Emotions" and "Considerate," and was strongly negatively correlated with the TAB Impulsivity (-.42 and -.45) scale. Thus, the "Agreeable" domain comprises our Impulsivity (-) or *low impulsivity* factor. The ICID "Shy" domain ("Lacks confidence, is insecure, has difficulty making friends, is slow to warm up to new people/situations, withdrawn, and fearful") correlated strongly with the TAB (.68) scale of Inhibition, thus making up our Inhibition (+) or *high inhibition* factor. And lastly, the ICID "Sociability" domain ("Always on the move, energetic, outgoing, sociable, loves to be with other people, and makes friends easily") on the ICID was strongly negatively correlated with Inhibition on the NEO-FFI and TAB (-.66), thus comprising our Inhibition (-) or *low inhibition* factor.

For our temperament measure, teachers were given the instructions "Please read each statement. Look at the scale and circle the number that corresponds to the degree that you think the statement describes the child in comparison to other children his/her age. 1= much less than the average child or not at all, 2= less than in the average child, 3= slightly less than in the average child, 4= same as in the average child, 5= slightly more than in the average child, 6= more than in the average child, 7= much more than in the average child." The items are listed in Table 1.1. Internal consistency for each of the factors was examined using Cronbach's alpha.

Because our scales for *inhibition* and *impulsivity* measure both directions of the construct (positive and negative values), the reliability of the scales were below our expectations when including both directions of the construct in one factor. However, when separating *inhibition* and *impulsivity* into the positive and negative directions, reliability of the scales improved. Thus, we decided to keep the constructs separate for the remainder of the study. The items measuring negative affect only evaluate the positive direction of the construct, thus it remains one factor. The analyses resulted in .91 for *negative affect* (4 items), .92 for Impulsivity (+)/ *high impulsivity* (9 items), .95 for Impulsivity (-)/ *low impulsivity* (7 items), .87 for Inhibition (+)/ *high inhibition* (6 items), and .90 for Inhibition (-)/*low inhibition* (6 items).

Table 1.1
ICID-S items with correlating factor

Factor	Items
Negative Affect	Is quick-tempered
	Gets angry easily
	Is moody
	Is irritable
Impulsivity (+)	Manipulates to get his/her own
high impulsivity	way
	Wants things his/her own way
	Is stubborn
	Is hard-headed
	Is mean
	Is selfish
	Is uncooperative
	Forgets things easily
	Is easily distracted
Impulsivity (-)	Is sweet
low impulsivity	Is a joy to be with
	Is friendly
	Is cheerful
	Is sensitive to others' feelings
	Is affectionate
	Is kind and caring
Inhibition (+)	Lacks confidence
high inhibition	Is insecure
	Has difficulty making friends
	Is slow to warm up to new people/situations
	Is withdrawn
	Is fearful
Inhibition (-)	Is always on the move
low inhibition	Is energetic
	Is outgoing
	Is sociable
	Loves to be with other people
	Makes friends easily

PROCEDURE

Research Design

A correlational research design was applied to explore the statistical relationships defined in the research questions. The limitation of a correlational research design based on survey data is that it cannot make conclusions about the existence of causal relationships (Pearl, 2009). Consequently, it was not possible to examine if the temperament factors, social goal orientations, and gender were causal factors that had a direct effect, impact, or influence on aggression/withdrawal. It was, however, possible, using a correlational research design to determine the extent to which temperament factors, social goal orientations, and gender were statistically significant predictors of aggression and withdrawal (Cohen, Cohen, West, & Aitken, 2003).

Path Analysis

The correlational research design involved the use of path analysis, which is an extension of multiple regression analysis. Path analysis is widely used by researchers to construct models based on the statistical associations between multiple variables, depicted in a path diagram (Wuensch, 2016). Modern path analysis methods include covariance-based (CB) modeling using software such as AMOS, and variance-based modeling with partial least squares (PLS) using software such as SmartPLS (Hair, Anderson, Babin, Tatman, & Black, 2010). In the context of the current study, the advantage of PLS was that it is a non-parametric method, meaning that, unlike MLR and CB modeling, PLS has no restrictions on the measurement levels or distributional characteristics of the variables. PLS operates effectively with nominal, ordinal, and interval level variables, even if they deviate very strongly from normality (Haenlein & Kaplan 2004; Hair, Hult, Ringle, & Sarstedt, 2014). The Kolmogorov-Smirnov *Z* statistic was computed

to test the normality of the variables; all of the variables deviated significantly from normality ($p < .01$). Thus, parametric descriptive statistics (e.g., mean and standard deviation) and inferential statistics (e.g., MLR and covariance-based path analysis) were not justified for the current study, because all of the variables deviated strongly from normality. The path analysis was conducted using SmartPLS, because PLS is a non-parametric method and is especially useful to construct models using highly skewed ordinal variables collected in a cross-sectional survey (Wong, 2013).

Data Analysis Procedure

The data were standardized using Z scores, thus the β coefficients could range from -1 through 0 to +1. The R^2 values were interpreted to provide an estimate of the effect sizes (i.e., the proportions of the variance in the exogenous variables explained by the endogenous variables). The criterion for interpreting R^2 followed the criterion of Ferguson (2009) where < 4% was a negligible effect, 25% a moderate effect, and 64% (or higher) a strong effect. A bootstrapping procedure with 5000 sub-samples was carried out to provide extra confidence that the results were not sample-specific. After bootstrapping, the mean (M) and standard error (SE) of each β coefficient was computed. Two-tailed one-sample *t*-tests (where $t = M/SE$) were conducted to determine if the mean value of each β coefficient was significantly different from zero at the conventional $\alpha = 0.05$ level of significance, within an infinite number degrees of freedom. To evaluate the results of the path analysis, the β coefficients were functionally interpreted in the same way as the standardized partial regression coefficients in a multiple regression model (Hair et al. 2014).

RESULTS

Research Questions

Several research questions guided this study. (1) The first was to determine to what extent *proactive/reactive aggression* and *social withdrawal* can be predicted by temperament factors, social goal orientations, and gender. (2) We also sought to discover whether including both temperament and social goals in the analyses aids in predicting the specific type of aggressive behavior. Furthermore, we aimed to determine (3) whether *negative affect* acts as a general predictor of all problem outcome behaviors. To do this we ran path analyses for each outcome variable (*proactive aggression, reactive aggression*, and *social withdrawal*) with each temperament factor (*negative affect, low and high impulsivity*, and low and high *inhibition*), social goal orientation score (*instrumental* and *affective social goals*) and gender as exogenous variables.

Descriptive statistics for study variables are shown in Table 1.2. In initial analyses, we found that, for all three models, *high impulsivity* and *negative affect* were strongly positively correlated (correlations for study variables are listed in Table 3). Thus, to avoid violating the assumption that exogenous variables should not be strongly correlated, *negative affect* and *high impulsivity* were chained together on a single path for predicting *proactive aggression, reactive aggression*, and *social withdrawal*. Specific results for each outcome behavior are explained in the following sections. The path diagrams displaying the β coefficients (next to the arrows) and the R^2 values (within the oval symbols representing the exogenous variables) for *proactive aggression* are illustrated in Figure 1.1, *reactive aggression* in Figure 1.2, and *social withdrawal* in Figure 1.3.

Table 1.2

Descriptive statistics for study variables

Measure	N	Minimum	Maximum	Mean	Std. Deviation
High impulsivity	452	9.00	62	30.29	11.69
Low impulsivity	458	7.00	49	31.68	8.47
High inhibition	450	6.00	39	19.7	7.13
Low inhibition	456	6.00	42	27.37	6.43
Negative affect	457	4.00	28.0	13.35	5.98
Instrumental Social Goals	466	1.0	4.0	2.44	.63
Affective Social Goals	464	1.8	4.0	3.41	.402
Proactive Aggression	473	-4.62	11.91	.00	3.37
Reactive Aggression	473	-1.67	3.42	.00	.973
Social Withdrawal	473	-1.72	3.68	.00	.973

Table 1.3

Correlation coefficients (Pearson's R) for study variables

Note: **. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

Measure	1	2	3	4	5	6	7	8	9	10	11
1. Low Impulsivity	1										
2. High Impulsivity	-.642**	1									
3. High Inhibition	-.465**	.488**	1								
4. Low Inhibition	.638**	-.199**	-.636**	1							
5. Negative Affect	-.657**	.872**	.446**	-.248**	1						
6. Proactive Aggression	-.312**	.456**	.022	.064	.508**	1					
7. Reactive Aggression	-.280**	.388**	.030	.067	.498**	.771**	1				
8. Social Withdrawal	.021	-.128**	.165**	-.128**	-.128**	-.281**	-.2**	1			
9. Instrumental Social Goals	-.092*	.112*	.032	.00	.106*	.137**	.089	-.079	1		
10. Affective Social Goals	.149**	-.096*	-.106*	.120*	-.035	-.077	-.031	.029	.174**	1	
11. Gender	.084	-.019	.008	-.016	-.016	.008	-.028	.274**	-.121*	.136**	1

Proactive Aggression

Overall the path model predicting proactive aggression indicated that social goals and temperament variables predicted a moderate proportion of the variance. Specifically, 42.1% of the variance in *proactive aggression* was explained by the path analysis.

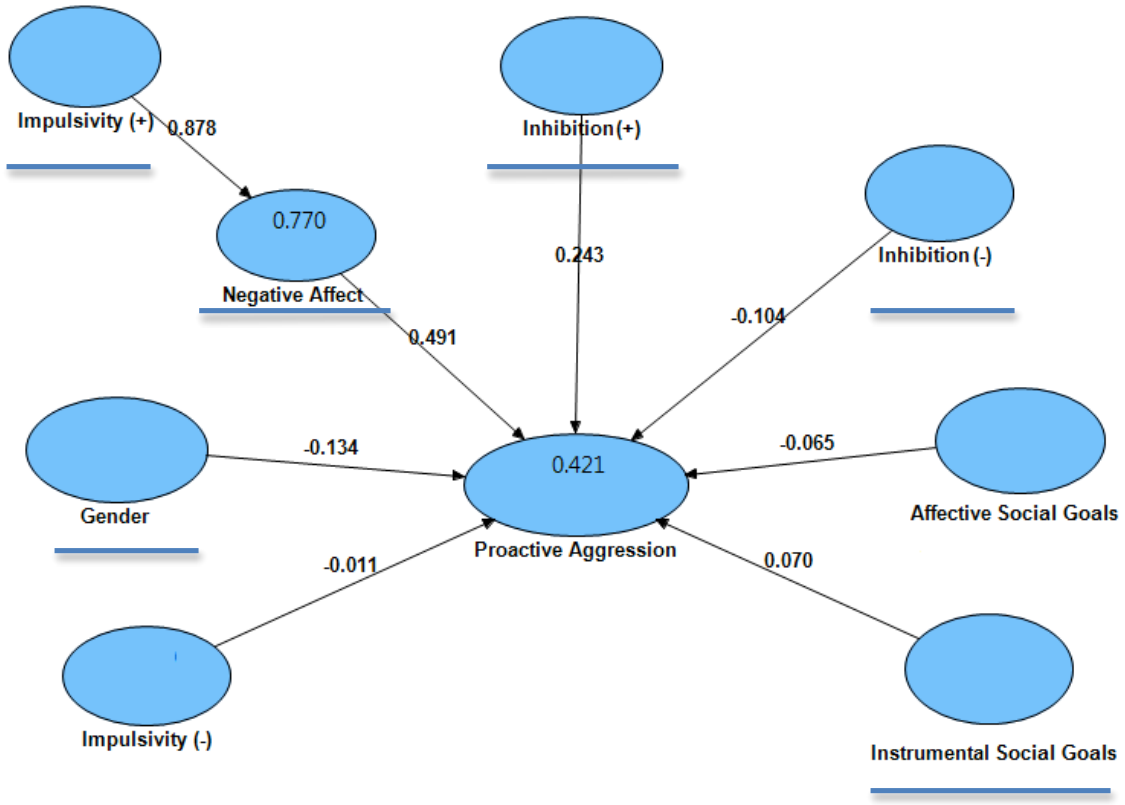

Figure 1.1 Path analysis to predict Proactive Aggression
Note: Underline denotes significant path Beta

Consistent with expectations, the chained *high impulsivity* and *negative affect path* was the strongest positive predictor of *proactive aggression* ($\beta = 0.491$, $t = 9.786$, $p < .001$). Also, as expected *low inhibition* ($\beta = -0.104$, $t = 2.216$, $p = .026$) was a significant predictor of *proactive*

aggression as well. Also, consistent with predictions, *instrumental social goals*, as anticipated, (β = 0.070, $t = 2.078$, $p = .038$) were a significant predictor of *proactive aggression*.

Surprisingly, *high inhibition* (β = 0.243, $t = 4.056$, $p < .001$) acted as significant and positive predictor of *proactive aggression*. This was not expected, and at first glance appears counterintuitive. Why would highly inhibited children proactively aggress towards their peers? However, after further examination of the items making up the *high inhibition* factor this result is more understandable, as elaborated on in the discussion section. Lastly, gender (coded by 1 = Male and 2 = Female) was also a significant predictor of *proactive aggression* (β = -0.134, $t = 1.984$, $p = .047$), suggesting that girls were less likely to exhibit *proactive aggression* than boys. Two of the exogenous variables were not significant predictors of *proactive aggression*, specifically *low impulsivity* (β = -0.011, $t = 0.191$, $p = 0.848$) and *affective social goals* (β = -0.065, $t = 1.875$, $p = .061$).

Overall, children exhibiting higher levels of impulsivity/negative affect and inhibition, as well as engaging in friendships for extrinsic reasons (*instrumental social goals*), tended towards higher levels of *proactive aggression* (i.e., they said mean things, called people names, teased, prevented others from being in their group, told friends to do what they said, and got what they wanted by hitting, shoving, pushing, or threating others).

Reactive Aggression

Overall, the path model predicting reactive aggression indicated that social goals and temperament variables predicted a moderate proportion of the variance. Specifically, 28.3% of the variance in *reactive aggression* was explained by the path analysis.

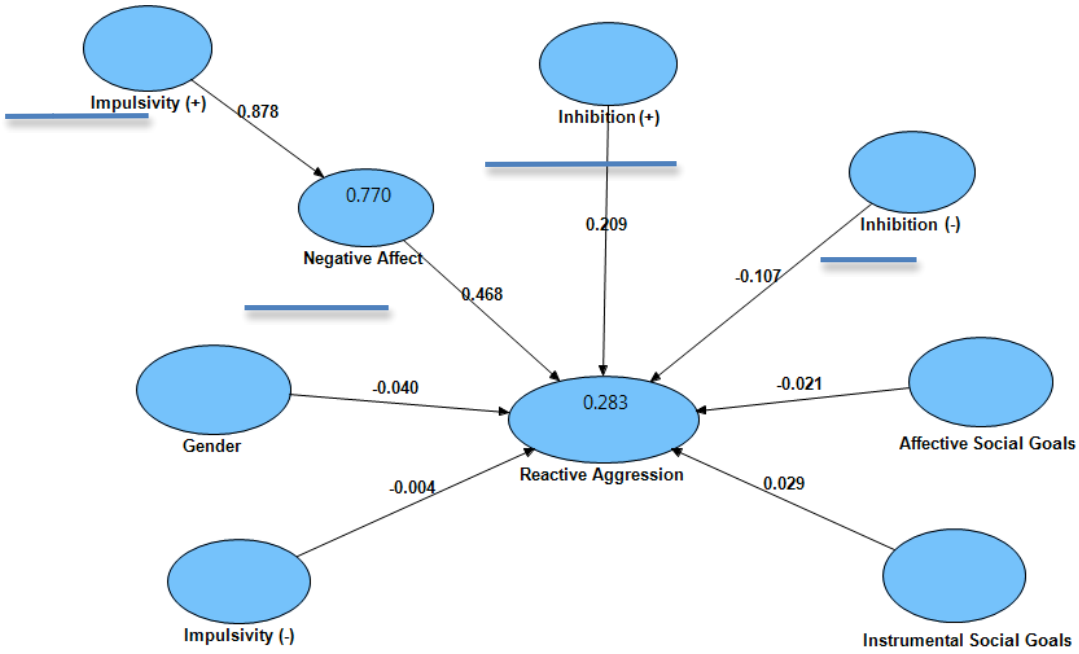

Figure 1.2 Path analysis to predict Reactive Aggression
Note: Underline denotes significant path Beta

The chained *high impulsivity* and *negative affect* factor was the strongest positive predictor of *reactive aggression* (β = 0.468, t = 8.164, p < .001). We did not expect to see a strong relationship between inhibition and *reactive aggression*; however, *low inhibition* negatively predicted *reactive aggression* (β = -0.107, t = 2.323, p = .020), while *high inhibition* was a significant positive predictor of *reactive aggression* (β = 0.209, t = 4.056, p < .001). Again, this result might be explained once individual items on the inhibition scales are examined.

Four of the exogenous variables were not significant predictors of *reactive aggression*, specifically gender (β = -0.040, t = 0.712, p = .477); *low impulsivity* (β =-0.004, t = 0.067, p = .946); *affective social goals* (β = -0.021, t = 0.791, p = .429); and *instrumental social goals* (β = 0.029, t = 0.986, p = .324). As a result, *reactive aggression* was not directly statistically associated with gender, or with *low impulsivity*, and/or with engagement in friendship related to social goals. But rather, children who tended towards *high impulsivity* and *negative affect*, were

insecure and lacked self-confidence (*high inhibition* items), and who were not sociable, open, and outgoing (*low inhibition* items) displayed higher levels of *reactive aggression*.

Social Withdrawal

Overall, $R^2 = 0.170$ indicated that a less than moderate proportion (17.0%) of the variance in *social withdrawal* was explained by the path analysis.

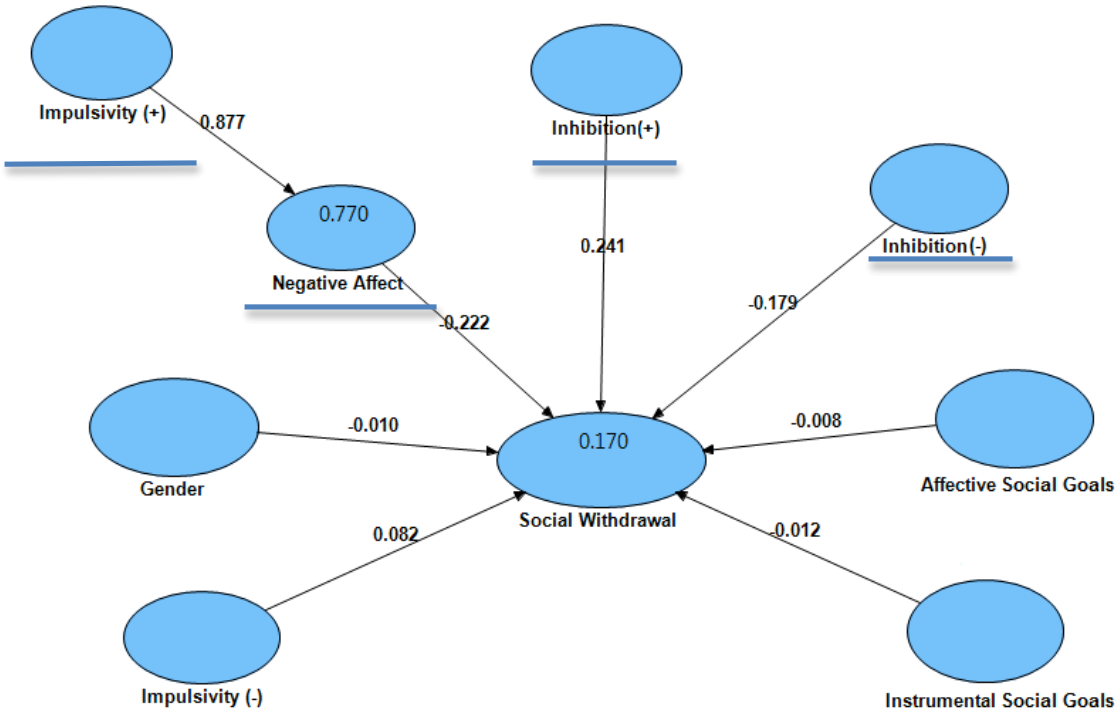

Figure 1.3 Path analysis to predict Social Withdrawal

Note: Underline denotes significant path Beta

As expected, *high inhibition* was the strongest predictor of *social withdrawal* ($\beta = 0.241$, $t = 5.801$, $p < .001$). The chained *high impulsivity* and *negative affect*, was also a significant negative predictor of *social withdrawal* ($\beta = -0.222$, $t = 5.243$, $p < .001$). Unsurprisingly, *low inhibition* negatively predicted *social withdrawal* ($\beta = -0.179$, $t = 3.101$, $p = .002$).

Four of the exogenous variables were not significant predictors of *social withdrawal*, specifically gender (β = -0.010*, t* = 0.317*, p* = .751); *low impulsivity* (-) (β = 0.082, *t* = 1.692, *p* = .091); *affective social goals* (β = -0.008, *t* = 0.279, *p* = .668); and *instrumental social goals* (β = -0.012, *t* = 0.478, *p* = .632). Thus, *social withdrawal* was not directly statistically associated with gender, *low impulsivity* and/or with engagement in friendship related to social goals. Overall, children who tended towards higher degrees of *high inhibition* (e.g., insecurity, difficulty making friends, etc.), high degrees of *high impulsivity*, and lower degrees of *low inhibition* (e.g., sociability, openness, etc.) exhibited higher levels of *social withdrawal*.

DISCUSSION

Our study had three major goals: (a) To determine to what extent *proactive, aggression, reactive aggression* and *social withdrawal* can be predicted by temperament factors, social goal orientations, and gender, (b) to determine the extent to which *negative affect* acts as a general predictor of all problem outcome behaviors, and (c) to discover whether including both temperament and social goals in the analyses aids in predicting the specific type of aggressive behavior children perceived their peers to exhibit.

Our results indicated that (1) *proactive* and *reactive aggression* and *social withdrawal* can be predicted by temperament, social goals, and gender. As expected, we found the largest predictor for *proactive* and *reactive aggression* to be *high impulsivity*/*negative affect*, whereas the largest predictors of *social withdrawal* were *high inhibition* and *impulsivity*/*negative affect*. While these predictors accounted for the largest amount of variance, other variables still played significant roles. (2) Both social goal orientations and temperament aided in predicting which type of social aggression was exhibited: *instrumental social goals* were a significant predictor of *proactive aggression*, while neither *affective* nor *instrumental social goals* were significant predictors of *reactive aggression*. (3) Lastly, as expected, *negative affect* (chained with high impulsivity) did act as a general risk factor for all problem outcome behaviors.

Negative Affect as a General Risk Factor

In agreement with prior research, our findings suggest *negative affect* acts as a general risk factor for various types of problematic social behaviors (Muris & Ollendick, 2005; Rothbart, Ahadi, & Hershey, 1994; Leon et al, 1999). Furthermore, we found that a combination of temperament and social goals helped to predict peer rated *proactive aggression* beyond the general risk factor of *negative affect*. Additionally, we found that impulsivity and inhibition

predicted *reactive aggression* and *social withdrawal* beyond the general risk factor of *negative affect*.

Interestingly, we found *negative affect* to be very closely related to impulsivity. The items making up the *high impulsivity* scale included the following:
"manipulates to get his or her way, wants things his or her way, is stubborn, is hard headed, is mean, is selfish, is uncooperative, forgets things easily, and is easily distracted" (Deal et al, 2007), while the *negative affect* scale included the following: "is quick-tempered, gets angry easily, is moody, and is irritable" (Deal et al, 2007). Thus, the impulsivity factor includes items that at face value seem to relate more closely to the idea of negative affect than impulsivity (i.e., "mean, selfish, stubborn", etc.), in addition to more classic aspects of impulsivity (i.e., "easily distracted, and forgets things easily"). As a result, it makes sense that *negative affect* and *high impulsivity* were so strongly correlated in the path analyses.

Predicting Type of Aggression from Temperament and Social Goals

Prior research has suggested that children with high levels of impulsivity and negative emotionality/affect engage in more aggressive behavior than children with low levels of these temperament traits (Rothbart et al, 1994; Rothbart et al, 2001; Deal et al, 2005). Previous research also suggests that children who endorse instrumental social goals engage in more aggressive behavior (Ojanen et al, 2005; Rudolph et al, 2011). The present findings add to this research by differentiating between the types of aggressive behavior using measures of temperament and social goals. We found that children who were had high degrees of *negative affect/high impulsivity* as well as *high inhibition* (i.e., "lacks confidence, is insecure, is withdrawn", etc.) and *instrumental goals* exhibited more *proactive aggression*. Gender was also marginally predictive with boys engaging in *proactive aggression* more often than girls. On the

other hand, *low impulsivity* and *affective social goals* were not significant predictors. We anticipated that *negative affect* and *instrumental goals* would be predictive of *proactive aggression*; however, we incorrectly expected that children with higher *affective goals* would be less likely to act with *proactive aggression* with peers. In other words, we thought higher degrees of *affective goals* would be "protective." Furthermore, we did not anticipate any relationship between *high inhibition* and *proactive aggression*. This result appears to be in direct conflict with studies like Wichmann et al (2004), which suggests that inhibited children prefer nonassertive/withdrawn social strategies. However, after a closer look at the items making up the *high inhibition* factor, which includes items related to insecurity, lacking confidence, and being fearful, perhaps this can at least partly be explained by ineffective social skills of inhibited and insecure children (Stewart & Rubin, 1995; Rubin, 1985). Furthermore, the proactive aggression measure included items tapping into relational aggression; some have argued that children who aggress in social or relational ways with peers do so at least partly due to poor social competence (Rose-Krasnor, 1997; Hawley, 2007).

We correctly anticipated that *negative affect* and *high impulsivity* would positively predict *reactive aggression*; however, we did not anticipate that *high inhibition* would act as a significant predictor. Again, this is likely related to the items measuring insecurity and low confidence within the *high inhibition* factor. This seems consistent with the literature, which suggests that children who are less socially skilled engage in reactive aggression more often than their more outgoing peers (Bierman et al, 1993). Furthermore, Poulin and Boivin (2000) found that not only was reactive aggression perceived more negatively by peers than proactive aggression, it was associated with social and behavioral maladjustment, social withdrawal, peer victimization, and negative peer status.

The nonsignificant relationship found between *reactive aggression* and gender is not surprising. Prior research has had similar results to ours, and reported no gender differences for reactive forms of aggression (Connor et al, 2003) or a negligibly higher rate in boys (Little et al, 2003). The fact that social goals did not have an effect on *reactive aggression* met our expectations, as *reactive aggression* appears to be more related to poor impulse control and poor social skills rather than social motivation (Raine et al, 2006; Xu & Zhang, 2007).

Predicting Social Withdrawal from Temperament

Our findings supported the hypothesis that *social withdrawal* would be related to temperament but not friendship goals. Specifically, *social withdrawal* was strongly predicted by *high inhibition*, whereas *high impulsivity*/*negative affect* as well as *low inhibition* negatively predicted *social withdrawal*. Consequently, consistent with previous research (Rubin et al, 2002; Eisenberg et al, 2000; Eisenberg et al, 2001), we found that children who exhibited higher levels of insecurity, shyness, fearfulness (*high inhibition*), and low degrees of sociability/openness (*low inhibition*) as well as high degrees of stubbornness, manipulation, distractedness, etc. (*high impulsivity*) tended towards higher levels of *social withdrawal*. Again, consistent with the literature, both genders were equally likely to exhibit *social withdrawal* (Coplan, Molina, Lagace-Seguin, & Wichmann, 2001; Coplan et al., 1994; Coplan & Rubin, 1998; Rubin, 1982). Prior research has shown that gender differences arise not in the prevalence of social withdrawal but in its social implications (i.e., fostering higher social maladjustment in boys) (Simpson & Stevenson-Hinde, 1985; Coplan et al, 2001; Rubin et al, 1993). Our results also suggest that social goals and *low impulsivity* (i.e., "considerate, sensitive, friendly", etc.) (Deal et al, 2007) were not predictive of *social withdrawal*.

Future Directions and Limitations

While our study illuminates clear connections between temperamental traits, social goals, and social behaviors not previously reported in the literature, there are some clear limitations. Most importantly, it would have been ideal to analyze longitudinal data to better capture temperamental traits during early childhood and relate those to social behavior and goals in late childhood. Similarly, our study includes teacher report of temperamental traits versus the traditional parent report, which has both strengths and weaknesses. A particular strength of our study is the inclusion of three different sources of raters: Peer reported behavior, self-reported social goals, and teacher reported temperament.

Another limitation with our study was our measure of temperament. Our restructured use of the ICID required us to use temperament factors (particularly impulsivity) that differed from what one would typically think of those constructs. Ideally we would have been able to use a scale that measured a more classic construct of impulsivity and inhibition, or create our own. This is something that will be considered in future studies.

Practically speaking, our findings suggest that we can use temperamental traits and social goals to inform the likelihood of social aggression and withdrawal. Social goals are particularly of interest when it comes to interventions because they are potentially malleable. Previous research has shown success in targeting social goals as a means for changing social behavior, specifically by decreasing social aggression and peer rejection (Garandeau, Lee & Salmivalli, 2014; Frey et al, 2005; Atria & Spiel, 2007).

Temperamental traits, like personality traits, are often enduring through adulthood and thus are not meant to be targeted for change in interventions, but rather, may be useful in pinpointing children who are at risk for these problematic social behaviors. Early screening for behavioral difficulties and symptoms of psychiatric disorders has seen a recent surge in interest

by school districts and other community health initiatives (O'Shaughnessy et al, 2003; Glascoe, 2005; Briggs-Gowan & Carter, 2008). Our study suggests that by including items assessing negative affect, impulsivity, and inhibition on such screening measures can improve predictive results.

CHAPTER 3

IS THE PATHWAY FROM CHILDREN'S TEMPERAMENT TO SOCIAL ACCEPTANCE MODERATED BY SOCIAL GOALS?

Understanding peer acceptance is necessary as it is an important predictor of later adjustment (Ladd 1990; Ladd et al, 1996; Bagwell et al, 2001; Bagwell et al, 1998; Waldrip et al, 2008; Parker & Asher, 1993; Pederson et al, 2007; Vandell & Hembree, 1994). Friendships and interactions with other peers during childhood and adolescence are also important contexts in which children learn critical interpersonal skills (Berndt & Ladd, 1989; Newcomb & Bagwell, 1995; Parker & Gottman, 1989; Ladd & Hart, 1992; Newcomb & Bagwell, 1998; Maguire & Dunn, 1997). In general, unhealthy peer relationships are linked to anxiety, loneliness, depression, and school maladaptation (Boulton & Underwood, 1992; Kochenderfer & Ladd 1996; Rudolph & Asher, 2000; Ladd 1999 for a review). Peer rejection, in particular, predicts internalizing and externalizing problems (Asher & Coie, 1990; Sandstrom & Coie, 1999; Ladd, 1999; Coie et al, 1992; Boivin & Hymel, 1995; Rubin & Mills, 1988; Vitaro et al, 1990; Pederson et al, 2007; Parker & Asher, 1987), as well as grade retention and adjustment difficulties during key developmental periods, such as the transition to middle school (Coie et al, 1992; Buhs & Ladd, 2001; Buhs 2005; DeRosier & Kupersmidt, 1994; Wentzel 1991; Wentzel & Asher, 1995). Although social status has been shown to be relatively stable and highly related to status from the previous year, rejected (i.e., disliked) social status, in particular, has been found to be more stable than average, well-liked, popular, and neglected (i.e., overlooked or

ignored) status. In general, research suggests that rejected children either stay rejected, become neglected, or -- at best -- move to an average status position, but they are unlikely to become socially accepted over time (Coie & Dodge, 1982; Sandstrom & Coie, 1999; Asher & Coie, 1990; Boulton & Smith, 1994).

Studies suggest that the pathway to peer acceptance or peer rejection includes multiple factors, including personality/temperamental traits and competent, skilled social behavior (Panak & Garber, 1992; Asher & Coie, 1990; Rubin et al, 1990; Walker et al, 2001; Dodge et al 2003; Hodges & Perry, 1999). One factor that influences the production of skilled behavior is a child's social goals, which, in turn, affect the pathway to peer acceptance. Research suggests that goals of dominance and power are related to aggressive behavior, whereas goals of communion and intimacy are related to prosocial behavior (Ojanen et al, 2005; Salmivalli et al, 2005). Further, researchers have found intervening on children's social goals to be an effective way to reduce peer aggression (Garandeau, Lee & Salmivalli, 2014; Frey et al, 2005; Atria & Spiel, 2007). Children's social goals vary from dominance, power, and influence, to goals focused on communion, relationship maintenance, and increasing intimacy (Caravita & Cillessen, 2012; Ojanen et al, 2005; Salmivalli et al, 2005). There are also goals focused on approaching social situations and others on avoiding social embarrassment (Gable et al, 2006; Ryan & Shim, 2006; Elliot & Thrash, 2002). Thus, a child's social goal orientation affects the way that they engage with the social world around them (Jarvinen & Nicholls, 1996; Lochman et al, 1993; Erdley et al, 1997; Ojanen et al, 2005). Research also suggests that social goals may moderate the relationship between a child's stable traits and peer acceptance (Rose-Krasnor 1997; Mikami et al, 2010).

Social goals and personality affect the way a child relates with the social world, but personality/temperament traits also affect the way that the social world interacts with the child. A

child's personality elicits certain treatment from others. For example, a child with personality traits that are attractive to others, receives different attention and interactions than a child with personality traits deemed unattractive to others (Buss and Plomin, 2014; Plomin et al, 1977; Scarr and McCartney, 1983). In other words, children who are highly accepted by their peers appear to possess certain personality traits/characteristics (Scholte et al, 1997; Szewcyk-Sokolowski et al, 2005; Sanson et al, 2004; van der Linden et al, 2010; Mendelson et al, 1994; Guinouard & Rychlak, 1962; Gleason et al, 2005). For example, Hintsanen et al (2010) found that the strongest predictor for low social status was low inhibition for girls and high impulsivity/activity in boys. Yet, to date there is minimal work connecting temperamental traits to older children/adolescents' social status. The purpose of the current study is to explore the moderating role of social goals in the pathway from temperament to social acceptance or, conversely, social rejection.

Social Status and Friendship Research in Developmental Literatures

Social status research is complicated, because it includes multiple facets and diverse terminology, and researchers from differing fields define social status differently. Currently, common terms in status research include sociometric popularity, perceived popularity, social preference, social acceptance, likeability, peer rejection, and peer neglect (Newcomb, Bukowski, & Patee, 1993; Parkhurst & Hopmeyer, 1998; Coie, Dodge, & Kupersmidt, 1990; Asher & Wheeler, 1985; Lease & Musgrove, 2002; Coie, Dodge, & Coppotelli, 1982). In general, sociometric popularity, rooted in developmental psychology, refers to peer acceptance and is based on ratings of liking and disliking, whereas perceived popularity, based in sociology, refers to centrality and social visibility (Parkhurst & Hopmeyer, 1998; Lease et al, 2002) and is related to extraversion and agreeableness (Jensen-Campbell et al, 2002). Research has shown that

perceived popularity, while moderately associated with sociometric popularity, is also moderately related to social dominance and especially relational aggression, whereas sociometric popularity is related to prosocial and academic behaviors (Lease et al, 2002; Parkhurst & Hopmeyer, 1998; Sandstrom & Cillessen, 2006; Andreou 2006). Social preference, as noted above, is being measured in this study; it is a combination of liking and disliking and is thus an overall index of acceptance. Social preference, a specific measure of social acceptance or likeability derived using sociometric methods, is often used when a continuous variable is desirable (Coie et al, 1982; Newcomb & Bukowski, 1983; Lease et al, 2002). Finally, peer rejection is a classification that refers to active dislike in the form of low levels of positive and high numbers of negative peer nominations; students who are peer rejected score very low on social preference. Peer rejection is associated with high levels of aggression -- especially reactive forms – as well as withdrawal and low levels of sociability (Newcomb, Bukowski, Pattee, 1993 for review; Bierman et al, 1993; Parkhurst & Asher, 1992). Peer neglect, in contrast, is not about peer disliking, but rather low visibility and dominance. Children who are neglected are overlooked by peers and demonstrate low sociability and aggression but not necessarily poor outcomes (Asher & Wheeler, 1985; Newcomb, Bukowski, & Pattee, 1993 for review).

The current study examines social preference (i.e., social/peer acceptance), which is the antithesis to peer rejection and a strong predictor of social-emotional adjustment (Coie et al, 1990; Gifford-Smith and Brownell, 2003; Hymel et al, 1990). In the developmental psychology field, Coie et al (1982) were some of the first researchers to create a quantitative, methodological framework for classifying children into social status categories. Specifically, the input data for this categorization scheme was based on peer nominations of liked and disliked classmates: both were included as they measure different aspects of social status. Using these two types of

nominations, subjects were classified into one of five categories: popular, controversial, average, rejected, and neglected. Continuous sociometric variables- social preference and social impact- were also created and used for this purpose. Social preference is calculated by subtracting like-least peer nominations from like-most, whereas social impact is calculated by adding like-least and like-most nominations.

To determine the relationship between personality and peer status it is important to study and understand peer acceptance and rejection. Peer rejection is associated with maladjustment and in extreme cases psychopathology (Bagwell, Newcomb, & Bukowski, 1998; Kupersmidt, Coie, & Dodge, 1990; Ladd & Troop-Gordon, 2003; Hodges et al, 1999; Ladd, 1999). Studies show a connection between peer rejection to anxiety and depression (Pederson et al, 2007; Bagwell et al 1998; Gazell & Ladd, 2003), suicidal ideation (Prinstein et al, 2000), and academic difficulties and delinquency (Ladd 1990; Coie 199; Kupersmidt, et al 1990; Parker & Asher, 1987). Thus, the developmental significance of peer rejection and by default, acceptance, points to the importance of further investigating its developmental precursors and motivational/behavioral factors, which undoubtedly play important roles in social-emotional adjustment. Consequently, for the current study, we chose to examine social preference to include a measure of status that takes into account not only how well a child is liked by their peers but also how they are disliked (Coie et al 1982).

Social Status and Temperament

We are interested in the relationship between temperament and social status, because previous research has shown that personality traits, closely related to temperament, are important predictors of social status levels (Eisenberg, Fabes, Bernzweig, Karbon, Poulin, & Hanish, 1993; Maszk, Eisenberg, & Guthrie, 1999; Berdan, Keane, & Calkins, 2008; Sanson et al 2004; Gunnar

et al 1998). [Previous research has established that personality and temperament are closely related constructs (Buss & Plomin, 2014; Rothbart, Ahadi, & Evans, 2000; De Pauw, Mervielde, & Van Leeuwen, 2009; Rothbart 2007; Digman 1994; Rothbart, Ahadi, & Hershey, 1982).] There is a substantial amount of research examining the connection between personality traits and social status and related outcome variables in adults (Selfhout et al, 2010; Anderson et al, 2001; Asendorpf et al, 1998; Paunonen, 2003; Anderson et al, 2001), but there is less of a consistent history of research linking temperament/personality and social status in later childhood and early adolescence.

The most ubiquitous model of personality is the "Big 5," which includes Extraversion, Neuroticism, Agreeableness, and Conscientiousness (Goldberg, 1980; Goldberg, 1990; John & Srivastava, 1999). As far as research on "Big 5" personality and status, studies examining adults have shown that social preference and high social status are related to extraversion (Selfhout et al, 2010; Anderson et al, 2001; Asendorpf et al, 1998; Paunonen, 2003), whereas high neuroticism predicts lower social status in men (Anderson et al, 2001). In children, higher levels of agreeableness and extraversion are related to peer preference (Jensen-Campbell et al, 2002), whereas lower levels of extraversion and agreeableness are correlated with peer rejection (Newcomb et al, 1993) (Ozer & Benet-Martinez, 2006 for review).

In contrast to personality research, which tends to focus on older adolescents or adults, temperament studies examining social difficulties have mostly been conducted in young children from toddlerhood to Kindergarten/1st grade; such studies suggest that rejected children have higher reactivity and fear levels, hyperactivity, higher distractibility, and lower persistence than their average status peers (Walker et al, 2001; Berdan et al, 2008; Wilson 2006; Sanson et al, 2004). This relationship between reactivity/hyperactivity/distractibility and peer rejection

appears to be stronger for boys than girls (Sanson et al 1996). Higher levels of social preference, on the other hand, is reportedly related to sociability and happiness (Bonney 1943; Skarness & Carson, 1986; Stocker & Dunn, 1990), whereas peer neglect is related to low adaptability, high negative affect/emotionality, and high temperamental shyness (Walker et al, 2001; Asendorpf 1993).

Other research has linked two temperamental traits, in particular, to social-emotional maladjustment and that research has implications for children's relationships. Research in psychopathology has viewed inhibition and impulsivity, as major risk factors for internalizing and externalizing disorders such as anxiety, depression, conduct disorder, and substance abuse (Gray 1982; Barkley 1997; Quay 1988; Johnson et al, 2003 and Muris et al, 2005 for reviews). Both internalizing and externalizing disorders and symptoms are related to peer rejection, and most experts in this area point to peer rejection as a predictor of internalizing and externalizing disorders (Bagwell, Newcomb & Bukowski, 1998; Parker & Asher, 1987; Boivin & Hymel, 1995; Deater-Deckhard 2001; Kim & Cicchetti, 2010; Asher & Coie, 1990; Laird, Jordan & Dodge, 2001; Coie, Terry, Lenox, & Lochman, 1995; Coie et al, 1992). Research in this area suggests that ADHD symptoms such as hyperactivity, inattention, and impulsivity may be related to peer rejection. For instance, Bachini et al (2008) found that temperamental traits have a direct relation to ADHD symptoms, which then have a direct relation to peer rejection. Furthermore, Gresham et al (1998) examined children with hyperactivity, impulsivity, inattention, and conduct problems and compared them to children with an internalizing and externalizing behavior pattern and a control group. They found that the largest difference between the groups was on measures of peer rejection, peer preference, and teacher-rated social skills. Two-thirds of the

hyperactive/impulsive/inattentive group were rejected as compared to one-third of the combined internalizing/externalizing group and only 10% of the control group.

Although there is a fair amount of research on status and personality in adults as well as temperament and status in young children, less research exists that connects social status and personality/temperament in older children and adolescents. However, Van der Linden et al (2010) found that, for a group of 14 year olds, extraversion and emotional stability were associated with peer preference/likeability and perceived popularity, whereas agreeableness was related to peer preference alone and conscientiousness was negatively related to popularity. Similarly, Sterry et al (2010) found that for a group of 8-16 year olds, higher peer preference ratings were associated with lower general activity level, greater flexibility (adaptability), and greater attentional focus. They also found that the association between general activity level and social preference was stronger for the younger children in the sample, and that the relationship between attentional focus and activity level to social preference is stronger in boys. This gender difference is consistent with past research and might exemplify how cultural expectations and contexts impact the relationship between temperament and social functioning (Sterry et al, 2010; Eisenberg et al, 1993; Eisenberg et al, 1995)

The temperament studies mentioned above measured traits such as surgency, inhibition, effortful control, reactivity, distractibility, and low persistence. Temperament research is guided by and makes use of many different theories, traits, and labels. One such model is the BIS/BAS theory originally put forth by Gray (1972, 1981). This theory states that there are two major brain systems, which form the foundation of temperament: (1) The behavioral inhibition system (BIS), which is responsible for regulating anxiety-relevant cues, punishment, and novelty, and (2) the behavioral activation system (BAS), which regulates approach behaviors and is sensitive to

reward (Carver & White, 1994). Research suggests that individuals high on BIS have a tendency to withdraw and become upset in novel situations, whereas those high on BAS possess an increased likelihood to be impulsive, have high activity level, lack task persistence, and display negative emotions when denied access to reward (Gray 1972, 1981).

In the current study, we have chosen to use a 3-factor model of temperament (impulsivity, inhibition, and negative affect) based on previous research by Martin and Bridger (1999) and Rothbart (2001), and related to BIS/BAS theories by Gray (1972, 1981). The focus of this study is on the connection between these three temperamental factors, social goals, and peer acceptance.

Social Status and Social Goals

Examining children's social goals in relation to status is important, because previous research suggests that children and adolescents of differing social status endorse different social goals, which guide social decision-making. In essence, social goals indicate a child's motivation to pursue varying social outcomes (Caravita & Cillessen, 2012; Jarvinen & Nicholls, 2005; Taylor 1984; Renshaw & Asher, 1983; Dodge & Coie, 1987). The current study examines affective and instrumental social goals, because past studies suggest that peer acceptance acts as a moderating variable between social goals and relational aggression for children with low (affective) communal and high agentic (instrumental) goals (Ojanen et al, 2014). Following earlier research from Hawley, Little, and Pasupathi (2002), a 22-item self-report scale of Friendship Goals was included in the current study that is based on the value put on social relationships, ranging from valuing relationships for their intrinsic qualities, like intimacy, and the valuing peer relationships for what they help one achieve (i.e., allies, popularity, recognition) (Hawley et al, 2002). Valuing relationships for their intrinsic qualities is referred to as *affective*

social goals, whereas valuing relationships for extrinsic reasons and for what they can help you achieve is referred to as *instrumental* social goals.

Most research on the relationship between social goals and social preference focuses on social behavior (i.e., prosocial and aggressive behavior) (Ojanen et al, 2014, Kiefer & Wang, 2015; Ojanen et al, 2005; Salmivalli et al, 2005; Crick & Dodge, 1996; Rose & Asher, 1999; Chung & Asher, 1996; Erdley & Asher, 1996). To our knowledge, there have not been studies explicitly examining how social goals moderate the empirical relationship between temperament and social status.

Current Study

Two children could be equally as impulsive, but one is rejected by peers and the other accepted. Why would this be the case? There are likely numerous factors at play, but our hypothesis is that while there may not be any direct relationship between temperament and social goals, social goals likely moderate the relationship between temperament and acceptance. For example, high inhibition predicts peer rejection (Rubin et al, 1990; Boivin & Hymel, 1995, Ladd 1999), but affective goals may make that outcome less likely. It is possible that affective goals will act as "buffers," whereas instrumental goals will exacerbate social problems. In this way, we expected that affective goals would be protective, whereas instrumental goals would act as risk factors to magnify and worsen social outcomes for children who are high on temperamental impulsivity and negative affect. Based on previous research (Oberle et al, 2010; Sterry et al, 2010; Eisenberg et al, 1993; Eisenberg et al, 1995), we also anticipated that there would be significant gender differences in the way that social goals moderate the relationship between temperament and social preference, thus we conducted analyses separately for boys and girls.

Methods

Participants and Procedure

Participants consisted of 473 fourth and fifth grade students (52% girls; mean age= 11.08 years; 58% White, 40% African American/Black, and 2% Other) from 26 classrooms in a school system in the rural southeastern United States. The participating schools averaged 70% free and reduced lunch.

Participation in the study required both parental consent and child assent. Consent forms were sent home with students to their parents in the spring of the school year. Data collection took place during the late spring of the school year. The forms included a designated area to sign granting consent and a place to sign denying consent. The rate of consent for child participation was 88%.

Measures included in this study were peer, teacher, and self-report. Questionnaires were group administered by trained research team-members in two 1-hour sessions, and written items were read aloud to students. All students in the class were given a token gift for their time, whether they participated in the study, or not.

The participants were told that their answers were confidential and were asked to keep their responses to themselves in order to minimize classroom discussion related to the questionnaire. Each participant was given a class roster with a corresponding number for each student to ensure quick and easy nomination. Peer nomination items allowed the participants to nominate three participating classmates for each item, and students were asked to choose the student(s) who best fit the description for the peer-nomination items.

Measures

SOCIAL STATUS

Following procedures outlined in earlier research by Coie and colleagues (1982) and Lease et al (2002), like-most and like-least peer nominations were gathered to measure children's social acceptance. Participants were told they could nominate up to three peers from their class roster for each question. Children were asked, "Who do you like to play with the most?" and "Who do you like to play with the least?" Numbers of like-most and like-least nominations received by each participant were then summed and standardized, within classroom and gender, to a mean of 0 and a standard deviation of 1. *Social preference*, calculated as standardized like-most scores minus standardized like-least scores (Coie et al, 1982), was used in analyses as an overall index of social acceptance, or social status, within the school-based peer group.

TEMPERMENTAL TRAITS: ICID-S

Temperamental traits were assessed through teacher report using a 61-item version of the Index of Children's Individual Differences, short form (ICID-S). The ICID-S (50 item short version) was further reduced by Deal, Halverson, Martin, Victor & Baker in 2007, however, that version was unavailable when the data for the current study was collected. Thus, an interim form of the ICID was used containing 61 items. The ICID has been widely cited in temperament research and is based on the five-factor model of personality (Deal et al, 2003; Deal et al, 2007; Zupancic et al, 2004; Grist et al, 2012; Herzoff and Tackett, 2012, etc). The ICID was developed by gathering and analyzing over 50,000 parental descriptors of children from eight different countries (Deal et al, 2003). The scale measures 14 temperament dimensions: intelligence, open/curious, achievement orientation, positive emotionality, considerate-of-others, activity level, negative emotionality, antagonistic, strong-willed, distractibility, disorganized, inhibition,

social withdrawal, and insecure/fearful. Following previous work by Ahadi and Rothbart (1994), Rothbart and colleagues (2001), Martin and Bridger (1999), and Deal et al (2005), we chose to examine inhibition, impulsivity, and negative affect (emotionality) domains. Inhibition, impulsivity and negative affect are being widely studied by psychopathology researchers: Impulsivity and inhibition appear to be the primary temperamental risk factors for internalizing and externalizing disorders (Gray 1982; Barkley 1997; Quay 1988; Johnson et al, 2003 and Muris et al, 2005 for reviews), whereas negative affect (or emotionality) appears to operate as a risk factor for psychopathology in general (Muris & Ollendick, 2005; Rothbart, Ahadi, & Hershey, 1994; Leon et al, 1999). Results from a previous study were reviewed to determine which ICID items should be included into each of the three temperament domains (Deal et al, 2007). Specifically, Deal and colleagues examined the ICID domains for correlation with the Temperament Assessment Battery (TAB-R Martin and Bridger, 1999) Inhibition and Impulsivity factors. They found that the ICID "Antagonism" domain ("Manipulates to get his/her own way, is stubborn, hard-headed, mean, selfish, uncooperative, forgets things easily and is easily distracted") correlated strongly with the TAB (.58) Impulsivity scale, thus this domain makes up our Impulsivity (+) or *high impulsivity* factor. The ICID domain "Agreeable" ("Sweet, a joy to be with, friendly, cheerful, sensitive to others' feelings, affectionate, kind and caring") was broken up into two domains in the Deal et al (2007) study, "Positive Emotions" and "Considerate," and was strongly negatively correlated with the TAB Impulsivity (-.42 and -.45) scale. Thus, the "Agreeable" domain comprises our Impulsivity (-) or *low impulsivity* factor. The ICID "Shy" domain ("Lacks confidence, is insecure, has difficulty making friends, is slow to warm up to new people/situations, withdrawn, and fearful") correlated strongly with the TAB (.68) scale of Inhibition, thus making up our Inhibition (+) or *high inhibition* factor. And lastly,

the ICID "Sociability" domain ("Always on the move, energetic, outgoing, sociable, loves to be with other people, and makes friends easily") on the ICID was strongly negatively correlated with Inhibition on the NEO Five Factor Inventory (Costa and McCrae, 1992) and TAB (-.66), thus comprising our Inhibition (-)/*low inhibition* factor.

For our temperament measure, teachers were given instructions to "Please read each statement. Look at the scale and circle the number that corresponds to the degree that you think the statement describes the child in comparison to other children his/her age." The rating scale provided indicated that 1= much less than the average child or not at all, 2= less than in the average child, 3= slightly less than in the average child, 4= same as in the average child, 5= slightly more than in the average child, 6= more than in the average child, 7= much more than in the average child." The items are listed in Table 2.2. Internal consistency for each of the factors was examined using Cronbach's alpha. Because our scales for *inhibition* and *impulsivity* measure both directions of the construct (positive and negative values), the reliability of the scales were below our expectations when including both directions in one factor. However, when separating *inhibition* and *impulsivity* into the positive and negative directions, reliability of the scales improved. Thus, we decided to keep the constructs separate – *high inhibition*, *low inhibition*, *high impulsivity*, and *low impulsivity* -- for the remainder of the study. The items measuring *negative affect* only evaluate the positive direction of the construct, thus it remains one factor. The reliability tests resulted in .91 for *negative affect* (4 items), .92 for *high impulsivity* (9 items), .95 for *low impulsivity* (7 items), .87 for *high inhibition* (6 items), and .90 for *low inhibition* (6 items).

Table 2.1
ICID-S items with correlating factor

Factor	Items
Negative Affect	Is quick-tempered
	Gets angry easily
	Is moody
	Is irritable
Impulsivity (+)	Manipulates to get his/her own way
high impulsivity	Wants things his/her own way
	Is stubborn
	Is hard-headed
	Is mean
	Is selfish
	Is uncooperative
	Forgets things easily
	Is easily distracted
Impulsivity (-)	Is sweet
low impulsivity	Is a joy to be with
	Is friendly
	Is cheerful
	Is sensitive to others' feelings
	Is affectionate
	Is kind and caring
Inhibition (+)	Lacks confidence
high inhibition	Is insecure
	Has difficulty making friends
	Is slow to warm up to new people/situations
	Is withdrawn
	Is fearful
Inhibition (-)	Is always on the move
low inhibition	Is energetic
	Is outgoing
	Is sociable
	Loves to be with other people
	Makes friends easily

SOCIAL GOALS

Following earlier research from Hawley, Little, and Pasupathi (2002), a 22-item, 4-point (strongly disagree, disagree, agree, strongly agree), self-report scale was included to assess *affective* and *instrumental social goals* (i.e., valuing friendship for quality and intimacy vs. for what you can gain from friendships). This scale drew from previous research by Deci and Ryan (1985) and has been widely used and cited by researchers in the social motivation field (i.e., Ojanen et al 2005, Ojanen et al 2010, Salmivalli, 2010, etc.) The students were given the following instructions: "Below is a list of reasons kids might have for becoming friends with another kid. I would choose to become friends with…" Children were asked to choose whether they strongly disagreed, disagreed, agreed, or strongly agreed with the statement. Items are listed in Appendix A.

Principal components analysis was used to identify and compute composite scores for the factors underlying the Friendship Goals scale. Initial eigenvalues indicated that two factors would be retained according to the Kaiser and Guttman rule, accounting for a total of 36% of the variance. The first factor, *instrumental social goals* explained 22% of the total variance, while the second factor, *affective social goals*, explained 16% of the total variance. Internal consistency for each of the factors was examined using Cronbach's alpha. The alphas were adequate: .78 for *instrumental social goals* (12 items) and .81 for *affective social goals* (10 items). No substantial increases in alpha for any of the scales could have been achieved by eliminating more items.

PROCEDURE

Research Design and Data Analysis Procedure

The purpose of this study was to determine to whether social goals act as significant moderators in the relationship between temperament factors and peer acceptance. A correlational research design was applied to explore the statistical relationships defined in the research questions. The research questions and hypotheses in this study examined moderation using path analysis.

Path analysis could potentially be conducted by multiple linear regression (MLR) analysis, based on ordinary least squares (OLS), using generalized statistical software such as SPSS. MLR analysis is, however, a first-generation method, and is sometimes difficult to implement in practice, because it requires a large number of theoretical assumptions that are often violated (Cohen et al., 2003); MLR has been largely superseded by superior second generation methods developed in the last 20 years (Alavifar, Karimimalayer, & Annuar, 2012). These modern methods include covariance-based (CB) modeling and variance-based modeling with partial least squares (PLS) using software such as SmartPLS, which was used for this study. (Hair, Anderson, Babin, Tatman, & Black, 2010).

In our analyses, the R^2 values were interpreted to provide an estimate of the effect sizes (i.e., the proportions of the variance in the exogenous variables explained by the endogenous variables). The criterion for interpreting R^2 followed the criterion of Ferguson (2009) where < 4% was a negligible effect; 25% a moderate effect, and 64% a strong effect. The statistical significance of each β coefficient was evaluated by bootstrapping. A total of 5000 sub-samples were drawn from the empirical data, with 300 cases in each sub-sample. After bootstrapping, the mean (M) and standard error (SE) of each β coefficient was computed. Two-tailed one-sample *t*-tests (where $t = M/SE$) were conducted to determine if the mean value of each β coefficient was

significantly different from zero at the conventional $\alpha = 0.05$ level of significance, within an infinite number degrees of freedom. To evaluate the results of the path analysis, the β coefficients were functionally interpreted in the same way as the standardized partial regression coefficients in a multiple regression model (Hair et al. 2014).

The current study evaluates the moderating effect of social goals on the relationship between temperament types and social preference. Moderation refers to a third variable, termed a moderator, which changes the strength and/or direction of the statistical association between a predictor variable and an outcome variable (Baron & Kenny, 1986). The moderating effect is defined as the β coefficient derived from the statistical association between the outcome and the product of the predictor x the moderator. In order to create the moderating variable in Smart PLS, we used the two-stage approach based on previous work by Chin et al (2003). Using this method, we ran the main effect model and extracted the latent variable scores. We then used those latent variable scores as indicators of the exogenous and endogenous variables. The elementwise product of the latent variable scores the exogenous variable and the moderator variable then functioned as the indicator of the interaction term.

RESULTS

Two major research questions guided this study, the first of which was to determine if social goals act as significant moderators in the relationship between teacher-reported temperament factors and peer acceptance (i.e., *social preference*). Secondly, we sought to determine whether this relationship differed based on gender. To answer these questions, we ran a path analyses for all three temperament factors and peer-reported *social preference*, first with self-reported *instrumental social goals* as a moderator and a second one with *affective social goals* as a moderator. We ran these path analyses separated by gender. Table 2.2 displays descriptive statistics of the study variables, and Table 2.3 displays correlations between study variables. Tables 2.4-2.7 display results of the path analyses. Correlation statistics suggest that social preference is significantly positively correlated with *low inhibition* (.309), and *low impulsivity* (.109), and significantly negatively correlated with *high inhibition* (-.256). Thus, the sociable and agreeable traits measured by *low inhibition* and *low impulsivity* are positively related to *social preference*, whereas the withdrawn and shy traits measured by the *high inhibition* factor are negatively related to *social preference*.

Instrumental Goals

The results contained in Table 2.4, for the female participants, and Table 2.5, for the male participants, indicate that self-reported *instrumental social goals*, irrespective of gender, do not have a statistically significant moderating effect on the relationships between teacher-reported temperament factors and peer-reported *social preference*. Consequently, both boys and girls who engaged in friendship for extrinsic reasons and for what they could get out of it did not have an elevated or depressed *social preference*, irrespective of their temperaments. However, for girls, the moderating effect of *instrumental social goals* on the relation between *low inhibition* and

social preference nearly reached significance (p= .057). (Figures 2.1-2.6 display a visual representation of the significant moderating effects.) Furthermore, for boys, the moderating effect of *instrumental social goals* on the relation between *high inhibition* and *social preference* nearly reached significance (p=.076).

Affective Goals

In contrast, the results from Table 2.6 and 2.7 indicate that *affective social goals* acted as significant moderators on the relationship between certain temperament traits and *social preference*. The significant positive β coefficients were (a) for the moderating effect of *affective social goals* in the pathway from *low inhibition* to social preference in Table 2.6 for girls (β = 0.208, t = 2.601, p =.009) (Figure 2.3) and (b) in Table 2.7 (β = 0.177, t = 2.170, p = .030) for boys (Figure 2.6). Consequently, endorsing *affective social goals* (i.e., being motivated to engage in friendships for companionship and trust) for both boys and girls who tended to be always on the move, energetic, outgoing, sociable, loved to be with other people, and made friends easily led to an elevated level of social preference.

The significant negative β coefficients for both genders in Table 2.6 and Table 2.7 were for the moderating effect of *affective social goals* on the relationship between *negative affect* (girls β = -0.227, *t* = 2.181, *p* = .007, see Figure 2.1) (boys β = -0.229, t = 2.423, p = .015, see Figure 2.4) and *high inhibition* (girls β = -0.290, t = 2.601, p = .010, see Figure 2.2) (boys β = -0.195, t = 2.742, p = .030, see Figure 2.5) and *social preference*. Consequently, endorsing affective social goals for both boys and girls who lacked confidence, were insecure/fearful, quick tempered, irritable, moody led to a *lower* level of *social preference*. In sum, a higher level of self-reported *affective social goals* led to increased peer-reported social preference when paired

with teacher-reported sociable traits (*low inhibition*), but decreased levels of social preference when paired with *negative affect* and *high inhibition* temperaments.

Table 2.2

Descriptive statistics of study variables

	N	Minimum	Maximum	Mean	Std. Deviation
High impulsivity	452	9.00	62	30.29	11.69
Low impulsivity	458	7.00	49	31.68	8.47
High inhibition	450	6.00	39	19.7	7.13
Low inhibition	456	6.00	42	27.37	6.43
Negative affect	457	4.00	28.0	13.35	5.98
Instrumental Social Goals	466	1.0	4.0	2.44	.63
Affective Social Goals	464	1.8	4.0	3.41	.402
Social preference	473	-1.71	2.73	.00	.944

Table 2.3
Correlation coefficients (Pearson's R) of study variables

Note: **. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

Measure	1	2	3	4	5	6	7	8	9
1. *Social Preference*	1								
2. *Negative Affect*	-.018	1							
3. *High Impulsivity*	-.031	.872**	1						
4. *Low Impulsivity*	.109*	-.657**	-.642**	1					
5. *High Inhibition*	-.256**	.446**	.488**	-.465**	1				
6. *Low Inhibition*	.309**	-.248**	-.199**	.638**	-.636**	1			
7. *Instrumental Social Goals*	.022	.106*	.112*	-.092*	.032	.00	1		
8. *Affective Social Goals*	.014	-.035	-.096*	.149**	-.106*	.12*	.00	1	
9. Gender	-.001	-.016	-.019	.084	.008	-.024	-.121*	.136**	1

Table 2.4

Moderation of the Relationship between Temperament Factors and Social Preference by Instrumental Social Goals (Female Participants)

Temperament Factor	**β coefficient (Moderating Effect of Instrumental Social Goals)**	***t*-test statistic**	***p***
Negative Affect	0.013	0.116	.908
High Impulsivity	-0.010	0.215	.830
Low Impulsivity	0.060	0.359	.720
High Inhibition	-0.108	0.743	.458
Low Inhibition	0.181	1.904	.057

Table 2.5

Moderation of the Relationship between Temperament Factors and Social Preference by Instrumental Social Goals (Male Participants)

Temperament Factor	**β coefficient (Moderating Effect of Instrumental Social Goals)**	***t*-test statistic**	***p***
Negative Affect	0.039	0.301	.763
High Impulsivity	0.129	1.174	.240
Low Impulsivity	0.075	0.525	.600
High Inhibition	-0.114	1.776	.076
Low Inhibition	0.077	0.573	.567

Table 2.6

Moderation of the Relationship between Temperament Factors and Social Preference by Affective Social Goals (Female Participants)

Temperament Factor	**β coefficient (Moderating Effect of Affective Social Goals)**	***t*-test statistic**	***p***
Negative Affect	-0.227	2.191	.028*
High Impulsivity	-0.147	1.886	.059
Low Impulsivity	0.091	0.647	.518
High Inhibition	-0.290	2.593	.010*
Low Inhibition	0.208	2.601	.009*

Note: * Significant ($p < .05$)

Table 2.7

Moderation of the Relationship between Temperament Factors and Social Preference by Affective Social Goals (Male Participants)

Temperament Factor	**β coefficient (Moderating Effect of Affective Social Goals)**	***t*-test statistic**	***p***
Negative Affect	-0.229	2.423	.015*
High Impulsivity	-0.117	1.187	.235
Low Impulsivity	0.106	0.985	.325
High Inhibition	-0.195	2.742	.006*
Low Inhibition	0.177	2.170	.030*

Note: * Significant ($p < .05$)

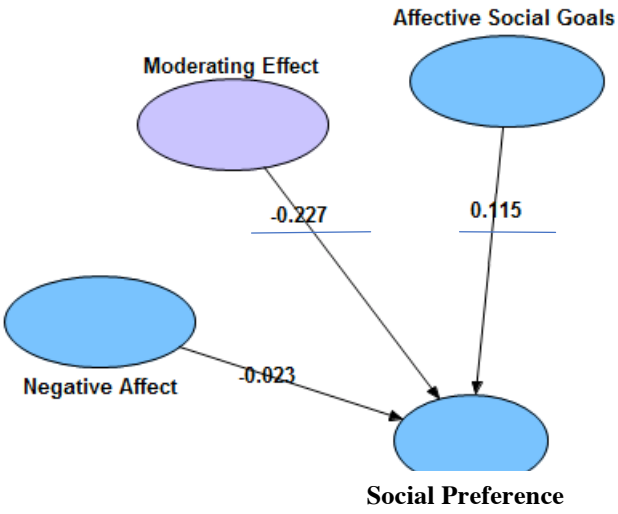

Figure 2.1
Moderating Effect of *Affective Social Goals* on the relationship between *Negative Affect* and Social Preference for Female Participants

Note: Underline denotes significant path Beta

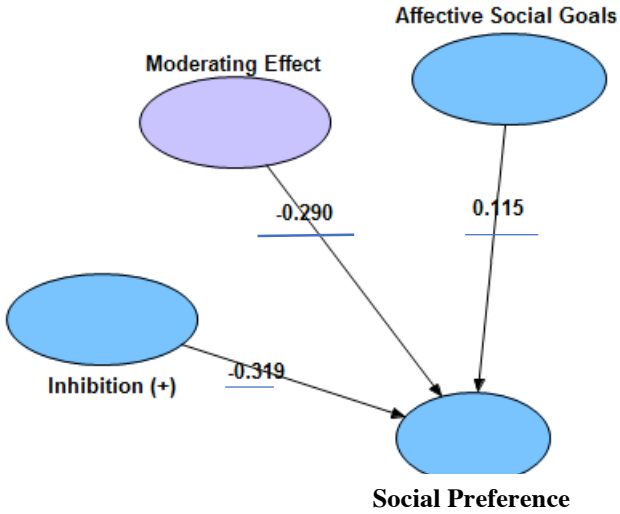

Figure 2.2
Moderating Effect of *Affective Social Goals* on the relationship between *High Inhibition* and Social Preference for Female Participants

Note: Underline denotes significant Beta

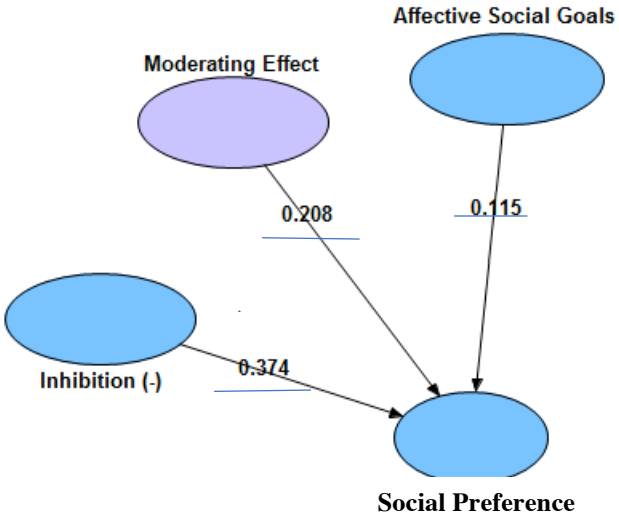

Figure 2.3
Moderating Effect of *Affective Social Goals* on the relationship between *Low Inhibition* and Social Preference for Female Participants

Note: Underline denotes significant Beta

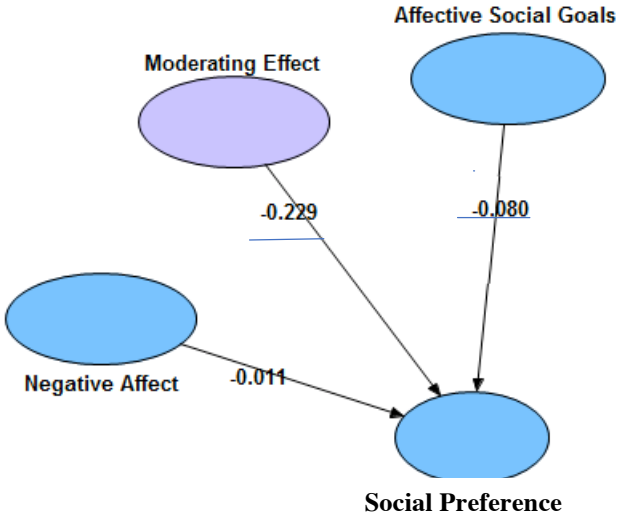

Figure 2.4
Moderating Effect of *Affective Social Goals* on the relationship between *Negative Affect* and Social Preference for Male Participants

Note: Underline denotes significant Beta

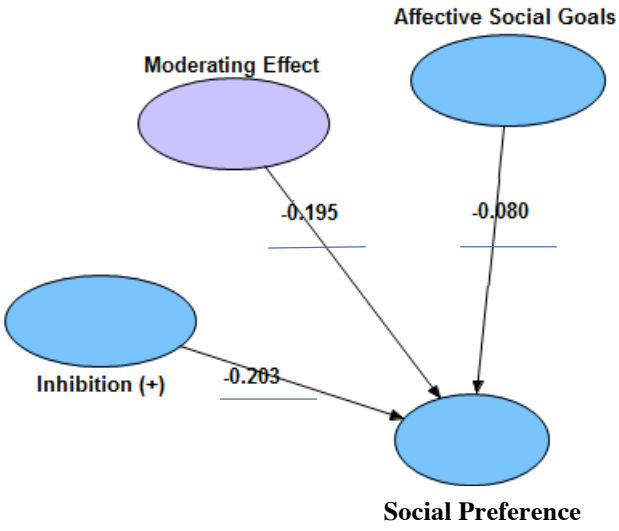

Figure 2.5
Moderating Effect of *Affective Social Goals* on the relationship between *High Inhibition* and Social Preference for Male Participants

Note: Underline denotes significant Beta

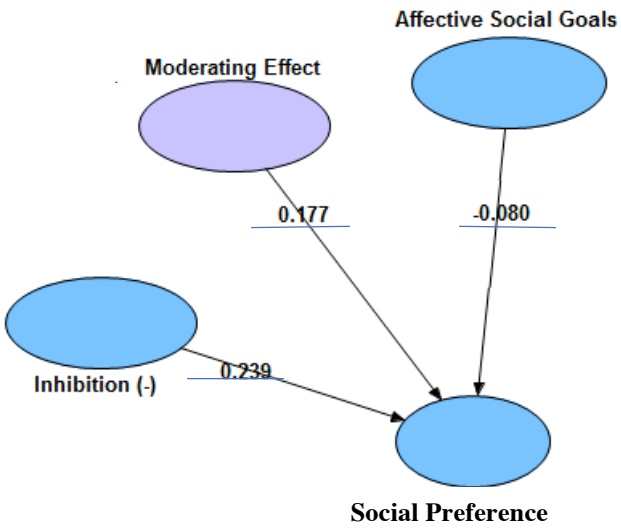

Figure 2.6
Moderating Effect of Affective Social Goals on the relationship between *Low Inhibition* and Social Preference for Male Participants

Note: Underline denotes significant Beta

DISCUSSION

The main aim of the present study was to determine whether social goals moderate the relationship between temperamental traits and *social preference* (i.e., peer/social acceptance) in a sample that included children in the late childhood/early adolescent developmental period. We predicted that self-reported social goals would moderate the relationship between teacher-reported temperament and peer-reported social preference, and that affective goals would be protective, while *instrumenta*l *social goals* would worsen social outcomes for children high on *impulsivity* and *negative affect*.

Contrary to expectations, we found that *instrumental social goals* did not have a statistically significant moderating effect on the relationship between temperament and social acceptance. However, as expected, *affective social goals* were significant moderators for certain temperament factors. Surprisingly, and contrary to expectations and previous research, results indicated that the moderating effect of *affective social goals* between temperament traits and *social preference* was consistent across boys and girls, suggesting no significant gender differences.

Results of this study suggest interesting relationships between temperamental traits, social goals, gender, and social acceptance that has not been discussed in previous research. Most research on social motivation in children and adolescents is centered around its relation to aggressive behavior (Erdley, 1996 for a review; Crick & Dodge, 1996; Dodge, 1980; Dodge et al, 2002; Lochman et al, 1993). Similarly, there is very little previous research on links between temperamental traits and social acceptance, particularly in late childhood/early adolescence, although Ojanen, Gronrros, and Salmivalli (2005) found that social behaviors (aggression, withdrawal, and prosocial behavior) mediate the relationship between social goals and

sociometric status. In the Ojanen et al study, goals predicted behaviors which, in turn, then affected the way peers viewed each other.

Although direct links between social goals and social status have not been previously reported in research, studies suggest that goals of dominance and power are related to aggressive behavior, whereas goals of communion and intimacy are related to prosocial behavior (Ojanen et al, 2005; Salmivalli et al, 2005). We also know that social behavior and status are closely linked (Coie, Dodge, and Kupersmidt, 1990 for a review). Thus, we expected *instrumental social goals* to decrease peer acceptance; however, we found that *instrumental social goals* did not have a significant moderating effect on the relationship between temperamental traits and social acceptance. On the other hand, *affective social goals* were significant moderators for certain temperamental traits. For both girls and boys, higher levels of endorsed *affective social goals* moderated the relationship between *low inhibition* and peer acceptance in a positive way. In other words, girls and boys who were sociable had higher levels of social acceptance if they endorsed *affective social goals*. This result is not surprising given that high levels of optimism and positive affect are predictive of peer acceptance for girls and high positive affect and low anxiety predict peer acceptance for boys (Oberle et al, 1010). Similarly, high levels of inhibition have been associated with low status (particularly for girls) (Hintsasen et al, 2010).

Interestingly, the relationships between *high inhibition* and peer acceptance and *negative affect* and peer acceptance were moderated negatively by *affective social goals*. Thus, children who lacked confidence, were insecure and fearful, and who were quick tempered, irritable, and moody yet endorsed higher levels of *affective social goals* tended to have lower peer acceptance. Therefore, higher levels of *affective social goals* lead to higher peer acceptance when paired with sociable traits, but lower peer acceptance when paired with *negative affect* and *inhibited*

temperamental traits. High levels of anxiety and inhibition in both genders has been shown to be correlated with low social status (Oberle et al, 2010; Hintsasen et al, 2010), but the fact that *affective social goals* amplified rather than protected this relationship is note-worthy and worth exploring further in future research. Perhaps it exemplifies children who want to have the intimacy and trusting relationships that friendship brings but do not engage in the types of social behaviors that could help foster such relationships. That is in contrast with children who lack those same social behaviors yet are happier spending time alone or have fewer or less intense affective motivation when it comes to developing and maintaining friendships.

Future Directions and Limitations

Our study has the benefit of multiple methods of report (peer, self, and teacher) and captures information about temperament and social goals from a large sample of children seldomly studied in that regard. It is worth noting, however, that longitudinal temperament data would have been ideal for such a study. Further, researchers currently studying the relationship between temperament and psychopathology make use of temperament measures that adhere more closely to the BIS/BAS model of Gray and others. (Bijttebier et al 2009; Kimbrel et al, 2007; Meyer, Johnson, & Winters, 2001). Similarly, our choice to use Smart PLS for the analyses also created a limitation. With PLS-SEM you can only evaluate a unidirectional effect of a moderator between one predictor and one outcome. It is possible that re-examining these relationships with bidirectional analyses would offer different and interesting results.

While social status is relatively stable and related to status from previous school years, peer rejection is even more stable and long lasting (Coie & Dodge, 1982; Sandstrom & Coie, 1999; Asher & Coie, 1990; Boulton & Smith, 1994). Peer rejection can lead to internalizing and externalizing problems (Asher & Coie, 1990; Sandstrom & Coie, 1999; Ladd, 1999; Coie et al,

1992; Boivin & Hymel, 1995; Rubin & Mills, 1988; Vitaro et al, 1990; Pederson et al, 2007; Parker & Asher, 1987), and school related difficulties (i.e., grade retention and adjustment difficulties) (Coie et al, 1992; Buhs & Ladd, 2001; Buhs 2005; DeRosier & Kupersmidt, 1994; Wentzel 1991; Wentzel & Asher, 1995). Given this sound research on the adverse outcomes of peer rejection, research illuminating connections between malleable factors such as social goals to social status/acceptance is important. In fact, social goal interventions have been successful in recent years (Garandeau, Lee & Salmivalli, 2014; Frey et al, 2005; Atria & Spiel, 2007). Similarly, revealing connections between temperament and social status should help inform early intervention projects.

In addition to the trend towards early intervention projects, a major movement in schools across the country is the development of social emotional learning (SEL) programs and positive behavioral interventions and supports (PBIS). In his 1997 paper, Elias defines SEL as "the process of acquiring core competencies to recognize and manage emotions, set and achieve positive goals, appreciate the perspectives of others, establish and maintain positive relationships, make responsible decisions, and handle interpersonal situations constructively." PBIS is a prevention strategy to reduce problematic behaviors through the use of behavioral/social learning, and organizational behavioral principles (Simonson & Segai, 2013; Bradshaw et al, 2008; Waasdorp and Bradshaw, 2012). As of 2017, school-wide PBIS has been implemented in over 7000 schools across the country (PBIS.org, 2017). Furthermore, studies measuring the effects of SEL programs suggest promising positive results (i.e., increased prosocial behavior, lower levels of problem behavior, less emotional distress, improved academic performance) (Zins et al., 2004; Greenberg et al., 2003; Catalano et al., 2002). Both PBIS and SEL include social learning and are well suited for the addition of social goal

interventions within their curricula. Our study adds to this discussion in important ways by illuminating links not only between temperament and sociometric status but the role of social goals for children with certain temperamental/personality traits (i.e., inhibition and negative affect).

References

Achenbach, T. M., & Edelbrock, C. S. (1978). The classification of child psychopathology: a review and analysis of empirical efforts. *Psychological Bulletin*, *85*(6), 1275.

Ahadi, S. A., & Rothbart, M. K. (1994). Temperament, development, and the Big Five. *The developing structure of temperament and personality from infancy to adulthood*, *189207*.

Alavifar, A., Karimimalayer, M., & Annuar, M.K. (2012). Structural equation modeling vs. multiple regression. The first and second generation of multivariatetechniques. *Engineering Science and Technology: An International Journal, 2*, 326-329.

Allen, M.J., & Yen, W. M. (2002). *Introduction to measurement theory.* Long Grove, IL: Waveland Press.

Allport, G. W., & Odbert, H. S. (1936). Trait-names: A psycho-lexical study. *Psychological monographs*, *47*(1).

Andreou, E. (2006). Social preference, perceived popularity and social intelligence: Relations to overt and relational aggression. School Psychology International, 27, 339 351.

Asher, S. R., & Coie, J. D. (1990). *Peer rejection in childhood*. CUP Archive.

Asendorpf, J. B. (1993). Abnormal shyness in children. *Journal of Child Psychology and Psychiatry*, *34*(7), 1069-1083.

Atria, M., & Spiel, C. (2007). Viennese Social Competence (ViSC) training for students: Program and evaluation. *Bullying, victimization and peer harassment: A handbook of prevention and intervention*, 179-198.

Austin, J., Vancouver, J. (1996). Goal constructs in psychology: Structure, process, and content. *Psychological Bulletin, 120.* 338-375.

Asendorpf, J. B., & van Aken, M. A. (1994). Traits and relationship status: Stranger versus peer group inhibition and test intelligence versus peer group competence as early predictors of later self-esteem. *Child Development*, 1786-1798.

Asendorpf, J. B., & Wilpers, S. (1998). Personality effects on social relationships. *Journal of personality and social psychology*, *74*(6), 1531.

Bagwell, C. L., Newcomb, A. F., & Bukowski, W. M. (1998). Preadolescent friendship and peer rejection as predictors of adult adjustment. *Child development*, *69*(1), 140-153.

Bagwell, C. L., Schmidt, M. E., Newcomb, A. F., & Bukowski, W. M. (2001). Friendshipand peer rejection as predictors of adult adjustment. *New directions for child and adolescent development*, *2001*(91), 25.

Baumeister, R., Leary, M. (1995). The need to belong: Desire for interpersonal attachment as a fundamental human motivation. *Psychological Bulletin, 117*, 497-529.

Barkley, R. A. (1997). Behavioral inhibition, sustained attention, and executive functions: constructing a unifying theory of ADHD. *Psychological bulletin*, *121*(1), 65.

Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology, 51*, 1173-1182.

Bell, R. Q. (1974). Contributions of human infants to caregiving and social interaction. In M. Lewis & L. A. Rosenblum (Eds.), The effect of the infant on its caregiver (pp. 1–20). New York: Wiley

Berdan, L. E., Keane, S. P., & Calkins, S. D. (2008). Temperament and externalizing behavior: social preference and perceived acceptance as protective factors. *Developmental psychology*, *44*(4), 957.

Berndt, T. J. (2002). Friendship quality and social development. *Current directions in psychological science*, *11*(1), 7-10.

Berndt, T. J., & Ladd, G. W. (1989). *Peer relationships in child development*. John Wiley & Sons.

Bierman, K. L., Smoot, D. L., & Aumiller, K. (1993). Characteristics of aggressive rejected, aggressive (nonrejected), and rejected (nonaggressive) boys. *Child development*, *64*(1), 139-151.

Bijttebier, P., Beck, I., Claes, L., & Vandereycken, W. (2009). Gray's Reinforcement Sensitivity Theory as a framework for research on personality–psychopathology associations. *Clinical psychology review*, *29*(5), 421-430.

Björkqvist, K., Lagerspetz, K. M. J., & Österman, K. (1992). Direct and indirect aggression scales (DIAS). *Vasa, Findland: Abo Academi University, Department of Social Sciences*.

Blair, K. A., Denham, S. A., Kochanoff, A., & Whipple, B. (2004). Playing it cool: Temperament, emotion regulation, and social behavior in preschoolers. *Journal of school psychology*, *42*(6), 419-443.

Blake, J., Lease, A. M., Turner, T. & Outley, C. W. (2012). Exploring ethnic variation in the adjustment patterns of aggressive girls. *Journal of Black Psychology*, 38, 10-131.

Boivin, M., Hymel, S., & Bukowski, W. M. (1995). The roles of social withdrawal, peer rejection, and victimization by peers in predicting loneliness and depressed mood in childhood. *Development and Psychopathology*, *7*(04), 765-785.

Booth-LaForce, C., & Oxford, M. L. (2008). Trajectories of social withdrawal from grades 1 to 6: prediction from early parenting, attachment, and temperament. *Developmental psychology*, *44*(5), 1298.

Boulton, M. J., & Smith, P. K. (1994). Bully/victim problems in middle-school children: Stability, self-perceived competence, peer perceptions and peer acceptance. *British journal of developmental psychology*, *12*(3), 315-329.

Boulton, M. J., & Underwood, K. (1992). Bully/victim problems among middle school children. *British Journal of Educational Psychology*, *62*(1), 73-87.

Buhrmester, D. (1996). Need fulfillment, interpersonal competence, and the developmental contexts of early adolescent friendship. In W. Bukowski, A.Newcomb, & W. Hartup (Eds.), *The company they keep: Friendship in childhood and adolescence* (pp. 158-185). New York: Cambridge University Press.

Buhs, E. S. (2005). Peer rejection, negative peer treatment, and school adjustment: Self-concept and classroom engagement as mediating processes. *Journal of School Psychology*, *43*(5), 407-424.

Buhs, E. S., & Ladd, G. W. (2001). Peer rejection as antecedent of young children's school adjustment: An examination of mediating processes. *Developmental psychology*, *37*(4), 550.

Buss, A. H., & Plomin, R. (2014). *Temperament (PLE: Emotion): Early Developing Personality Traits* (Vol. 3). Psychology Press.

Bradshaw, C. P., Koth, C. W., Bevans, K. B., Ialongo, N., & Leaf, P. J. (2008). The impact of School-Wide Positive Behavioral Interventions and Supports (PBIS) on the organizational health of elementary schools. *School Psychology Quarterly*, *23*(4), 462.

Briggs-Gowan, M. J., & Carter, A. S. (2008). Social-emotional screening status in early childhood predicts elementary school outcomes. *Pediatrics*, *121*(5), 957-962.

Catalano, R. F., Hawkins, J. D., Berglund, M. L., Pollard, J. A., & Arthur, M. W. (2002). Prevention science and positive youth development: competitive or cooperative frameworks? *Journal of Adolescent Health*, *31*(6), 230-239.

Caspi, A. (2000). The child is father of the man: personality continuities from childhood to adulthood. *Journal of personality and social psychology*, *78*(1), 158.

Caspi, A., Henry, B., McGee, R. O., Moffitt, T. E., & Silva, P. A. (1995). Temperamental origins of child and adolescent behavior problems: From age three to age fifteen. *Child development*, *66*(1), 55-68.

Caspi, A., & Silva, P. A. (1995). Temperamental qualities at age three predict personality traits in young adulthood: Longitudinal evidence from a birth cohort. *Child development*, 486 498.

Cattell, R. B. (1943). The description of personality: basic traits resolved into clusters. *The journal of abnormal and social psychology*, *38*(4), 476.

Cattell, R. B., Eber, H. W., & Tatsuoka, M. M. (1970). *Handbook for the sixteen personality factor questionnaire (16 PF): In clinical, educational, industrial, and research psychology, for use with all forms of the test*. Institute for Personality and Ability Testing.

Caravita, S., & Cillessen, A. H. (2012). Agentic or communal? Associations between interpersonal goals, popularity, and bullying in middle childhood and early adolescence. *Social Development*, *21*(2), 376-395.

Card, N. A., & Hodges, E. V. (2008). Peer victimization among schoolchildren: Correlations, causes, consequences, and considerations in assessment andintervention. *School Psychology Quarterly*, *23*(4), 451.

Carver, C. S., & White, T. L. (1994). Behavioral inhibition, behavioral activation, and affective responses to impending reward and punishment: the BIS/BAS scales. *Journal of personality and social psychology*, *67*(2), 319.

Chin, W. W. (2010). How to Write Up and Report PLS Analyses. In: V. E. Vinzi, W. W. Chin, J. Henseler & H. Wang (Eds.), *Handbook of Partial Least Squares:Concepts, Methods and Applications* (pp. 655-690). Berlin: Springer.

Chung, T., Asher, S. (1996). Children's goals and strategies in peer conflict situations. *Merrill Palmer Quarterly, 42*, 1, 125-147.

Cillessen, A. H., Schwartz, D., & Mayeux, L. (Eds.). (2011). *Popularity in the peer system*. Guilford Press.

Cillessen, A. H. (2011). Toward a theory of popularity. *Popularity in the peer system*, 273-299.

Closson, L. M. (2009). Status and gender differences in early adolescents' descriptions of popularity. *Social Development*, *18*(2), 412-426.

Cohen, J., Cohen P., West, S.G., & Aiken, L.S. (2003). *Applied multiple regression/correlation analysis for the behavioral sciences.* Hillsdale, NJ: Lawrence Erlbaum Associates.

Coie, J. D., & Dodge, K. A. (1998). Aggression and antisocial behavior. In W. Damon (Series Ed.) & N. Eisenberg (Vol. Ed.), Handbook of child psychology (Vol. 3, pp. 779 – 862). New York: Wiley.

Coie, J. D., Dodge, K. A., & Coppotelli, H. (1982). Dimensions and types of social status: A cross-age perspective. *Developmental Psychology*, *18*(4), 557.

Coie, J. D., Dodge, K. A., & Kupersmidt, J. B. (1990). Peer group behavior and social status. *Peer rejection in childhood*, *17*.

Coie, J. D., Lochman, J. E., Terry, R., Hyman, C. (1992). Predicting early adolescent

disorder from childhood aggression and peer rejection. *Journal of Consulting and Clinical Psychology, 60*, 783-792.

Coie, J., Terry, R., Lenox, K., Lochman, J., & Hyman, C. (1995). Childhood peer rejection and aggression as predictors of stable patterns of adolescent disorder. *Development and Psychopathology*, *7*(04), 697-713.

Coie, J. D., Dodge, K. A., & Kupersmidt, J. B. (1990). 2 Peer group behavior and social status. *Peer rejection in childhood*, *17*.

Collier, D., Sekhon, J.S., &. Stark, P. (2010). *Statistical models and causal inference, a dialogue with the social sciences.* Cambridge: Cambridge University Press.

Compas, B. E., Connor-Smith, J., & Jaser, S. S. (2004). Temperament, stress reactivity, and coping: Implications for depression in childhood and adolescence. *Journal of Clinical Child and Adolescent Psychology*, *33*(1), 21-31.

Connor, D. F., Steingard, R. J., Anderson, J. J., & Melloni, R. H. (2003). Gender differences in reactive and proactive aggression. *Child Psychiatry & Human Development*, *33*(4), 279 294.

Coplan, R. J., Gavinski-Molina, M. H., Lagace-Seguin, D. G., & Wichmann, C. (2001). When girls versus boys play alone: Nonsocial play and adjustment in kindergarten. *Developmental psychology*, *37*(4), 464.

Coplan, R. J., & Rubin, K. H. (1998). Exploring and assessing nonsocial play in the preschool: The development and validation of the Preschool Play Behavior Scale. *Social Development*, *7*(1), 72-91.

Coplan, R. J., Rubin, K. H., Fox, N. A., Calkins, S. D., & Stewart, S. L. (1994). Being alone, playing alone, and acting alone: Distinguishing among reticence and passive and active solitude in young children. *Child development*, *65*(1), 129-137.

Courtney, M. L., & Cohen, R. (1996). Behavior segmentation by boys as a function of aggressiveness and prior information. *Child development*, *67*(3), 1034-1047.

Crick, N. R. (1996). The role of overt aggression, relational aggression, and prosocial behavior in the prediction of children's future social adjustment. *Child development*, *67*(5), 2317-2327.

Crick, N. R., & Grotpeter, J. K. (1995). Relational aggression, gender, and social psychological adjustment. *Child development*, 710-722.

Crick, N. R., Murray-Close, D.., Marks, P. E., & Mohajeri-Nelson, N. (2009). Aggressionand peer relationships in school-age children. *Handbook of peer interactions, relationships, and groups*, 287-302.

Crick, N. R., Ostrov, J. M., Burr, J. E., Cullerton-Sen, C., Jansen-Yeh, E., & Ralston, P. (2006). A longitudinal study of relational and physical aggression in preschool. *Journal of Applied Developmental Psychology*, *27*(3), 254-268.

Crick, N. R., & Zahn-Waxler, C. (2003). The development of psychopathology in females and males: Current progress and future challenges. *Development and psychopathology*, *15*(3), 719-742.

Crijnen, A. A., Achenbach, T. M., & Verhulst, F. C. (1997). Comparisons of problems reported by parents of children in 12 cultures: total problems, externalizing, and internalizing. *Journal of the American Academy of Child & Adolescent Psychiatry*, *36*(9), 1269-1277.

Deal, J. E., Halverson, C. F., Havill, V., & Martin, R. (2005). Temperament factors as longitudinal predictors of young adult personality. *Merrill-Palmer Quarterly*, *51*(3), 315 334.

Deal, J. E., Halverson Jr, C. F., Martin, R. P., Victor, J., & Baker, S. (2007). The Inventory of Children's Individual Differences: Development and validation of ashort version. *Journal of Personality Assessment*, *89*(2), 162-166.

Deater-Deckard, K. (2001). Annotation: Recent research examining the role of peer relationships in the development of psychopathology. *Journal of child Psychology and Psychiatry*, *42*(5), 565-579.

Delveaux, K. D., & Daniels, T. (2000). Children's social cognitions: Physically and relationally aggressive strategies and children's goals in peer conflict situations. *Merrill-Palmer Quarterly (1982-)*, 672-692.

De Pauw, S. S., Mervielde, I., & Van Leeuwen, K. G. (2009). How are traits related to problem behavior in preschoolers? Similarities and contrasts between temperament and personality. *Journal of abnormal child psychology*,*37*(3), 309-325.

Derryberry, D., & Rothbart, M. K. (1988). Arousal, affect, and attention as components of temperament. *Journal of personality and social psychology*, *55*(6), 958.

DeRosier, M. E., Kupersmidt, J. B., & Patterson, C. J. (1994). Children's academic and behavioral adjustment as a function of the chronicity and proximity of peer rejection. *Child development*, *65*(6), 1799-1813.

Digman, J. M. (1994). Child personality and temperament: Does the five-factor model embrace both domains. *The developing structure of temperament and personality from infancy to adulthood*, 323-338.

Dodge KA. The structure and function of reactive and proactive aggression. In: Pepler D, Rubin K, editors. The Development and Treatment for Childhood Aggression. Hillsdale: Erlbaum; 1991. pp. 201–218.

Dodge, K. A., & Coie, J. D. (1987). Social-information-processing factors in reactive and proactive aggression in children's peer groups. *Journal of personality and social psychology*, *53*(6), 1146.

Dodge KA, Lochman JE, Harnish JD, Bates JE. Reactive and proactive aggression in school children and psychiatrically impaired chronically assaultive youth. *Journalof Abnormal Psychology*. 1997;106:37–51.

Dodge, K. A., & Somberg, D. R. (1987). Hostile attributional biases among aggressive boys are exacerbated under conditions of threats to the self. *Child Development*, 213-224.

Dodge, K. A., Lansford, J. E., Burks, V. S., Bates, J. E., Pettit, G. S., Fontaine, R., & Price, J. M. (2003). Peer rejection and social information-processing factors in the development of aggressive behavior problems in children. *Child development*, *74*(2), 374-393.

Elliot, A. J., & Thrash, T. M. (2002). Approach-avoidance motivation in personality: approach and avoidance temperaments and goals. *Journal of personality and social psychology*, *82*(5), 804.

Eisenberg, N., Cumberland, A., Spinrad, T. L., Fabes, R. A., Shepard, S. A., Reiser, M., & Guthrie, I. K. (2001). The relations of regulation and emotionality to children's externalizing and internalizing problem behavior. *Child development*, *72*(4), 1112-1134.

Eisenberg, N., Fabes, R. A., Bernzweig, J., Karbon, M., Poulin, R., & Hanish, L. (1993). The relations of emotionality and regulation to preschoolers' social skills and sociometric status. *Child development*, *64*(5), 1418-1438.

Eisenberg, N., Fabes, R. A., Guthrie, I. K., & Reiser, M. (2000). Dispositional emotionality and regulation: their role in predicting quality of social functioning. *Journal of personality and social psychology*, *78*(1), 136.

Eisenberg, N., Fabes, R. A., Carlo, G., & Karbon, M. (1992). Emotional responsivity to others: Behavioral correlates and socialization antecedents. *New directions for child and adolescent development*, *1992*(55), 57-73.

Erdley, C. A., & Asher, S. R. (1996). Children's social goals and self-efficacy perceptions as influences on their responses to ambiguous provocation. *Child development*, *67*(4), 1329 1344.

Farmer, E. M., Compton, S. N., Burns, J. B., & Robertson, E. (2002). Review of the evidence base for treatment of childhood psychopathology: Externalizing disorders. *Journal of consulting and clinical psychology*, *70*(6), 1267.

Ferguson, C.F. (2009). An effect size primer: a guide for clinicians and researchers. *Professional Psychology: Research and Practice, 40*, 532-538.

Fiske, D. W. (1949). Consistency of the factorial structures of personality ratings from different sources. *The Journal of Abnormal and Social Psychology*, *44*(3), 329.

Fite, P. J., Raine, A., Stouthamer-Loeber, M., Loeber, R., & Pardini, D. A. (2009).Reactive and proactive aggression in adolescent males: Examining differential outcomes 10 years later in early adulthood. *Criminal Justice and Behavior*.

Fowles, D. C. (1980). The three arousal model: Implications of Gray's two-factor learning theory for heart rate, electrodermal activity, and psychopathy. *Psychophysiology*, *17*(2), 87-104.

Furman, W., & Buhrmester, D. (1992). Age and sex differences in perceptions of networks of personal relationships. *Child Development*, *63*(1), 103-115.

Frey, K. S., Nolen, S. B., Edstrom, L. V. S., & Hirschstein, M. K. (2005). Effects of a school based social–emotional competence program: Linking children's goals, attributions, and behavior. *Journal of Applied Developmental Psychology*, *26*(2), 171-200.

Gable, S. L. (2006). Approach and avoidance social motives and goals. *Journal of personality*, *74*(1), 175-222.

Garandeau, C. F., Lee, I. A., & Salmivalli, C. (2014). Differential effects of the KiVa anti bullying program on popular and unpopular bullies. *Journal of Applied Developmental Psychology*, *35*(1), 44-50.

Gazelle, H., & Ladd, G. W. (2003). Anxious solitude and peer exclusion: A diathesis stress model of internalizing trajectories in childhood. *Child development*, *74*(1), 257-278.

Gifford-Smith, M. E., & Brownell, C. A. (2003). Childhood peer relationships: Social acceptance, friendships, and peer networks. *Journal of school psychology*, *41*(4), 235 284.

Glascoe, F. P. (2005). Screening for developmental and behavioral problems. *Developmental Disabilities Research Reviews*, *11*(3), 173-179.

Gleason, T. R., Gower, A. L., Hohmann, L. M., & Gleason, T. C. (2005). Temperament and friendship in preschool-aged children. *International Journal of Behavioral Development*, *29*(4), 336-344.

Goldberg, L. R. (1981). Language and individual differences: The search for universals in personality lexicons. *Review of personality and social psychology*, *2*(1), 141-165.

Goldberg, L. R. (1980, May). Some ruminations about the structure of individual differences: Developing a common lexicon for the major characteristics of human personality. In *meeting of the Western Psychological Association, Honolulu, HI*.

Goldberg, L. R. (1982). From Ace to Zombie: Some explorations in the language of personality. *Advances in personality assessment*, *1*, 203-234.

Goldberg, L. R. (1990). An alternative" description of personality": the big-five factor structure. *Journal of personality and social psychology*, *59*(6), 1216.

Gottman, J., Gonso, J., & Rasmussen, B. (1975). Social interaction, social competence, and friendship in children. *Child development*, 709-718.

Gray, J. A. (1970). The psychophysiological basis of introversion-extraversion. Behavior Research and Therapy, 8, 249-266.

Gray, J. A. (1971). The psychology of fear and stress. New York: McGraw-Hill.

Gray, J. A. (1975). Elements of a two-process theory of learning. New York: Academic Press.

Gray, J. A. (1978). The neuropsychology of anxiety. British Journal of Psychology, 69, 417 434.

Gray, J. A. (1979). A neuropsychological theory of anxiety. In C. E. Izard (Ed.), Emotions in personality and psychopathology. New York: Plenum.

Gray, J. A. (1982). The neurospychology of anxiety. New York: Oxford University Press.

Greenberg, M. T., Weissberg, R. P., O'brien, M. U., Zins, J. E., Fredericks, L., Resnik, H., & Elias, M. J. (2003). Enhancing school-based prevention and youth development through coordinated social, emotional, and academic learning. *American psychologist*, *58*(6-7), 466.

Guinouard, D. E., & Rychlak, J. F. (1962). Personality correlates of sociometric popularity in elementary school children. *The Personnel and Guidance Journal*, *40*(5), 438-442.

Gunnar, M. R., Sebanc, A. M., Tout, K., Donzella, B., & van Dulmen, M. M. (2003). Peer rejection, temperament, and cortisol activity in preschoolers. *Developmental psychobiology*, *43*(4), 346-368.

Gurtman, M. B. (1993). Constructing personality tests to meet a structural criterion: Application of the interpersonal circumplex. *Journal of Personality*,*61*(2), 237-263.

Haenlein, M., & Kaplan, A. (2004). A beginners guide to partial least squares analysis. *Understanding Statistics, 3,* 283-297.

Hagekull, B. (1994). Infant temperament and early childhood functioning: Possible relations to the five-factor model.

Hair, J., Anderson, R. E., Babin, B. J., Tatman, R. L., & Black, W. C. (2010). *Multivariate data analysis*. Upper Saddle River, NJ: Prentice Hall.

Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2014). *A primer on partial least squares structural equation modeling* (PLS-SEM). Thousand Oaks, CA: Sage.

Halverson, C. F., Havill, V. L., Deal, J., Baker, S. R., Victor, J. B., Pavlopoulos, V., & Wen, L. (2003). Personality structure as derived from parental ratings of free descriptions of children: The Inventory of Child Individual Differences. *Journal of personality*, *71*(6), 995-1026.

Harackiewicz, J. M., Barron, K. E., Pintrich, P. R., Elliot, A. J., & Thrash, T. M. (2002). Revision of achievement goal theory: Necessary and illuminating.

Harris, J. A. (1995). Confirmatory factor analysis of the Aggression Questionnaire. *Behaviour Research and Therapy*, *33*(8), 991-993.

Harter, S. (1982). The perceived competence scale for children. *Child development*, 87-97.

Hawker, D. S., & Boulton, M. J. (2000). Twenty years' research on peer victimization and psychosocial maladjustment: a meta-analytic review of cross-sectional studies. *Journal of child psychology and psychiatry*, *41*(4), 441-455.

Hawley, P., Little, T., Pasupathi, M. (2002). Winning friends and influencing peers: Strategies of peer influence in late childhood. *International Journal of Behavioral Development, 26,* 466-474.

Hawley, P., Little, T., Pasupathi, M. (2002). Winning friends and influencing peers: Strategies of peer influence in late childhood. *International Journal of Behavioral Development, 26,* 466-474.

Hawley, P. H. (2003). Strategies of control, aggression, and morality in preschoolers: An evolutionary perspective. *Journal of experimental child psychology*, *85*(3), 213-235.

Hinshaw, S. P. (2003). Impulsivity, emotion regulation, and developmental psychopathology: specificity versus generality of linkages. *Annals of the New York Academy of Sciences*, *1008*(1), 149-159.

Hintsanen, M., Alatupa, S., Pullmann, H., Hirtstio-Snellman, P., Keltikangas-Jarvinen, L. (2010). Associations of self-esteem and temperament traits to self-and teacher reported social status among classmates. *Scandinavian journal of psychology*, *51*(6), 488-494.

Howes, C. (1989). Friendships in very young children: Definition and functions. In *Social competence in developmental perspective* (pp. 127-129). Springer Netherlands.

Hudley, C., & Graham, S. (1993). An attributional intervention to reduce peer-directed aggression among African-American boys. *Child development*, 124-138.

Humphrey, N., Kalambouka, A., Wigelsworth, M., & Lendrum, A. (2010). Going for Goals An Evaluation of a Short, Social-Emotional Intervention for Primary School Children. *School Psychology International*, *31*(3), 250-270.

Hymel, S., Rubin, K. H., Rowden, L., & LeMare, L. (1990). Children's peer relationships: longitudinal prediction of internalizing and externalizing problems from middle to late childhood. *Child development*, *61*(6), 2004-2021.

Jarvinen, D. W., & Nicholls, J. G. (1996). Adolescents' social goals, beliefs about the causes of social success, and satisfaction in peer relations. *Developmental psychology*, *32*(3), 435.

John, O. P., & Srivastava, S. (1999). The Big Five trait taxonomy: History, measurement, and theoretical perspectives. *Handbook of personality: Theory and research*, *2*(1999), 102-138.

Johnson, S. L., Turner, R. J., & Iwata, N. (2003). BIS/BAS levels and psychiatric disorder: An epidemiological study. *Journal of Psychopathology and Behavioral Assessment*, *25*(1), 25-36.

Keane, S. P., & Calkins, S. D. (2004). Predicting kindergarten peer social status from toddler and preschool problem behavior. *Journal of Abnormal Child Psychology*, *32*(4), 409-423.

Kiefer, S. M., & Wang, J. H. (2016). Associations of coolness and social goals with aggression and engagement during adolescence. *Journal of AppliedDevelopmental Psychology*, *44*, 52-62.

Kiesler, D. J. (1983). The 1982 Interpersonal Circle: A taxonomy for complementarity in human transactions. *Psychological review*, *90*(3), 185.

Kim, J., & Cicchetti, D. (2010). Longitudinal pathways linking child maltreatment, emotion regulation, peer relations, and psychopathology. *Journal of Child Psychology and Psychiatry*, *51*(6), 706-716.

Kimbrel, N. A., Nelson-Gray, R. O., & Mitchell, J. T. (2007). Reinforcement sensitivity and maternal style as predictors of psychopathology. *Personality and Individual Differences*, *42*(6), 1139-1149.

Kline, R.B. (2010). *Principles and practices of structural equation modelling* (3rd ed.) New York: Guildford Press.

Klomek, A. B., Marrocco, F., Kleinman, M., Schonfeld, I. S., & Gould, M. S. (2008). Peer victimization, depression, and suicidiality in adolescents. *Suicide and Life Threatening Behavior*, *38*(2), 166-180.

Kochenderfer, B. J., & Ladd, G. W. (1996). Peer victimization: Cause or consequence of school maladjustment? *Child development*, *67*(4), 1305-1317.

Kuhlen, R. G., & Lee, B. J. (1943). Personality characteristics and social acceptability in adolescence. *Journal of Educational Psychology*, *34*(6), 321.

Kupersmidt, J. B., & Coie, J. D. (1990). Preadolescent peer status, aggression, and school adjustment as predictors of externalizing problems in adolescence. *Child development*, *61*(5), 1350-1362.

Kupersmidt, J. B., & Patterson, C. J. (1991). Childhood peer rejection, aggression,withdrawal, and perceived competence as predictors of self-reported behavior problems in preadolescence. *Journal of Abnormal Child Psychology*, *19*(4), 427449.

Kwon, K., & Lease, A. M. (2007). Clique membership and social adjustment in children's same gender cliques: The contribution of the type of clique to children's self-reported adjustment. *Merrill-Palmer Quarterly (1982-)*, 216-242.

Ladd, G. W. (1990). Having friends, keeping friends, making friends, and being liked by peers in the classroom: Predictors of children's early school adjustment? *Child development*, *61*(4), 1081-1100.

Ladd, G. W., Kochenderfer, B. J., & Coleman, C. C. (1996). Friendship quality as a predictor of young children's early school adjustment. *Child development*, *67*(3), 1103-1118.

Ladd, G. W., Birch, S. H., & Buhs, E. S. (1999). Children's social and scholastic lives in kindergarten: Related spheres of influence? *Child development*, *70*(6).

Ladd, G. W., & Troop-Gordon, W. (2003). The role of chronic peer difficulties in the development of children's psychological adjustment problems. *Child development*, *74*(5), 1344-1367.

Lagerspetz, K. M., & Björkqvist, K. (1994). Indirect aggression in boys and girls. In *Aggressive Behavior* (pp. 131-150). Springer US.

Laird, R. D., Jordan, K. Y., Dodge, K. A., Pettit, G. S., & Bates, J. E. (2001). Peer rejection in childhood, involvement with antisocial peers in early adolescence, and the development of externalizing behavior problems. *Development and psychopathology*, *13*(02), 337-354.

Lease, A. M., Kennedy, C. A., & Axelrod, J. L. (2002). Children's social constructions of popularity. *Social Development*, *11*(1), 87-109.

Leary, M. R., Cottrell, C. A., & Phillips, M. (2001). Deconfounding the effects of dominance and social acceptance on self-esteem. *Journal of personality and social psychology*, *81*(5), 898.

Lemerise, E. A., Fredstrom, B. K., Kelley, B. M., Bowersox, A. L., Waford, R. N. (2006). Do provocateurs' emotion displays influence children's social goals and problem solving? *Journal of Abnormal Child Psychology, 34*, 559-571.

Leon, G. R., Fulkerson, J. A., Perry, C. L., Keel, P. K., & Klump, K. L. (1999). Three to four year prospective evaluation of personality and behavioral risk factors for later disordered eating in adolescent girls and boys. *Journal of Youth and adolescence*, *28*(2), 181-196.

Lewis, M. (1989). Culture and biology: The role of temperament. Challenges to developmental paradigms: Implications for theory, assessment and treatment, 203 223.

Little, T., Henrich, C., Jones, S., & Hawley, P. (2003). Disentangling the" whys" from the" whats" of aggressive behaviour. *International Journal of Behavioral Development*, *27*(2), 122-133.

Lochman, J. E., Coie, J. D., Underwood, M. K., & Terry, R. (1993). Effectiveness of a social relations intervention program for aggressive and nonaggressive, rejected children. *Journal of Consulting and Clinical Psychology*, *61*(6), 1053.

Locke, E. (2000). Motivation, cognition, and action: An analysis of studies of task goals and knowledge. *Applied Psychology*, *49*(3), 408-429.

Luthar, S., McMahon, T. (1996). Peer reputation among inner city adolescents: Structure and correlates. *Journal of Research on Adolescence, 6*, 581-603.

Maguire, M. C., & Dunn, J. (1997). Friendships in early childhood, and social understanding. *International Journal of Behavioral Development*, *21*(4), 669-686.

Martin, R. P., & Bridger, R. C. (1999). The temperament assessment battery for children revised. *Athens, Georgia: The University of Georgia*.

Martin, R. P., Olejnik, S., & Gaddis, L. (1994). Modeling effects of temperament and scholastic ability on academic achievement. In W. Carey & S. McDevitt (Eds.). Prevention and early intervention: Individual differences as risk factors for the mental health of children (pp. 59-68). New York: Bruner/Mazel.

Martin, R. P., Wisenbaker, J., & Huttuener, M. O. (1994). The factor structure of instruments based on the Chess-Thomas model of temperament; Implication for the Big Five. In C. F. Halverson, G. Kohnstamm, & R. Martin (Eds.). The developing structure of temperament and personality from infancy to adulthood (pp. 157-172). Hillsdale, NJ: Erlbaum.

Maszk, P., Eisenberg, N., & Guthrie, I. K. (1999). Relations of children's social status to their emotionality and regulation: A short-term longitudinal study. *Merrill-Palmer Quarterly (1982-)*, 468-492.

McCrae, R. R., & Costa Jr, P. T. (1997). Personality trait structure as a human universal. *American psychologist*, *52*(5), 509.

McEvoy, M. A., Estrem, T. L., Rodriguez, M. C., & Olson, M. L. (2003). Assessing relational and physical aggression among preschool children: Intermethod agreement. *Topics in early childhood special education*, *23*(2), 51-61.

Mendelson, M. J., Aboud, F. E., & Lanthier, R. P. (1994). Personality predictors of friendship and popularity in kindergarten. *Journal of Applied Developmental Psychology*, *15*(3), 413-435.

Meyer, B., Johnson, S. L., & Winters, R. (2001). Responsiveness to threat and incentive in bipolar disorder: Relations of the BIS/BAS scales with symptoms. *Journal of Psychopathology and Behavioral Assessment*, *23*(3), 133-143.

Mikami, A. Y., Lerner, M. D., & Lun, J. (2010). Social context influences on children's rejection by their peers. *Child Development Perspectives*, *4*(2), 123-130.

Muris, P., & Ollendick, T. H. (2005). The role of temperament in the etiology of child psychopathology. *Clinical child and family psychology review*, *8*(4), 271-289.

Nelson, D. A., & Crick, N. R. (1999). Rose-colored glasses: Examining the social information processing of prosocial young adolescents. *The Journal of Early Adolescence*, *19*(1), 17-38.

Newcomb, A. F., Bukowski, W. M., & Pattee, L. (1993). Children's peer relations: a meta analytic review of popular, rejected, neglected, controversial, and average sociometric status. *Psychological bulletin*, *113*(1), 99.

Newcomb, A. F., & Bagwell, C. L. (1998). 13 The developmental significance of children's friendship relations. *The company they keep: Friendships in childhood andadolescence*, 289.

Norman, W. T. (1967). 2800 Personality Trait Descriptors—Normative Operating Characteristics for a University Population.

Oberle, E., Schonert-Reichl, K. A., & Thomson, K. C. (2010). Understanding the link between social and emotional well-being and peer relations in early adolescence: Gender-specific predictors of peer acceptance. *Journal of Youth and Adolescence*, *39*(11), 1330-1342.

Ojanen, T., & Findley-Van Nostrand, D. (2014). Social goals, aggression, peer preference, and popularity: Longitudinal links during middle school. *Developmental psychology*, *50*(8), 2134.

Ojanen, T., Kiefer, S. (2013). Instrumental and reactive functions and overt and relational forms of aggression: Developmental trajectories and prospective associations during middle school. I*nternational Journal of Behavioral Development, 37*, 514 517.

Ojanen, T., Gronroos, M., Salmivalli, C. (2005). An interpersonal cirumplex model of children's social goals: Links with peer-reported behavior and sociometric status. *Developmental Psychology, 41*, 5, 699-710. Doi: 10.1037/00121649.41.5.699.

Olweus, D. (1993). Bullying at school: What we know and what we can do. WileyBlackwell.

O'Shaughnessy, T. E., Lane, K. L., Gresham, F. M., & Beebe-Frankenberger, M. E. (2003). Children placed at risk for learning and behavioral difficulties: Implementing a school wide system of early identification and intervention. *Remedial and Special Education*, *24*(1), 27-35.

Pakaslahti, L., & Keltikangas-Järvinen, L. (1998). Types of aggressive behavior among aggressive-preferred, aggressive non-preferred, non-aggressive preferred and non aggressive non-preferred 14-year-old adolescents. *Personality and individual differences*, *24*(6), 821-828.

Panak, W. F., & Garber, J. (1992). Role of aggression, rejection, and attributions in the prediction of depression in children. *Development and psychopathology*, *4*(01), 145-165.

Parker, J. G., & Asher, S. R. (1987). Peer relations and later personal adjustment: Are low accepted children at risk?. *Psychological bulletin*, *102*(3), 357.

Parker, J. G., & Asher, S. R. (1993). Friendship and friendship quality in middle childhood: Links with peer group acceptance and feelings of loneliness and social dissatisfaction. *Developmental psychology*, *29*(4), 611.

Parker, J. G., & Gottman, J. M. (1989). Social and emotional development in a relational context: Friendship interaction from early childhood to adolescence.

Parker, J. G., & Seal, J. (1996). Forming, losing, renewing, and replacing friendships: Applying temporal parameters to the assessment of children's friendship experiences. *Child Development*, *67*(5), 2248-2268.

Parkhurst, J. T., & Hopmeyer, A. (1998). Sociometric popularity and peer-perceived popularity two distinct dimensions of peer status. *The Journal of Early Adolescence*, *18*(2), 125-144.

Pearl, J. (2009). Causal inference in statistics: an overview. *Statistics Surveys, 4*, 96-146.

Pedersen, S., Vitaro, F., Barker, E. D., & Borge, A. I. (2007). The timing of Middle Childhood peer rejection and friendship: Linking early behavior to Early Adolescent adjustment. *Child development*, *78*(4), 1037-1051.

Pervin, L. A., & John, O. P. (1999). *Handbook of personality: Theory and research*. Elsevier.

Poulin, F., & Boivin, M. (2000). Reactive and proactive aggression: evidence of a two-factor model. *Psychological assessment*, *12*(2), 115.

Prinstein, M. J., & Cillessen, A. H. (2003). Forms and functions of adolescent peer aggression associated with high levels of peer status. *Merrill-Palmer Quarterly(1982)*, 310-342.

Quay, H. C. (1988). The behavioral reward and inhibition system in childhood behavior disorder.

Quay, H. C. (1993). The psychobiology of undersocialized aggressive conduct disorder: A theoretical perspective. *Development and Psychopathology*, *5*(1-2), 165-180.

Raine, A., Dodge, K., Loeber, R., Gatzke-Kopp, L., Lynam, D., Reynolds, C., ... & Liu, J.(2006). The reactive–proactive aggression questionnaire: Differential correlates of reactive and proactive aggression in adolescent boys. *Aggressive behavior*, *32*(2), 159-171.

Reijntjes, A., Kamphuis, J. H., Prinzie, P., & Telch, M. J. (2010). Peer victimization and internalizing problems in children: A meta-analysis of longitudinal studies. *Child abuse & neglect*, *34*(4), 244-252.

Rodkin, P. C., Ryan, A. M., Jamison, R., & Wilson, T. (2013). Social goals, socialbehavior, and social status in middle childhood. *Developmental Psychology*, *49*(6), 1139.

Rose, A. J., Swenson, L. P., & Waller, E. M. (2004). Overt and relational aggression and perceived popularity: developmental differences in concurrent and prospective relations. *Developmental Psychology*, *40*(3), 378.

Rothbart, M. K. (1989). Biological processes in temperament. *Temperament in childhood*, 77 110.

Ruff, H. A., & Rothbart, M. K. (2001). *Attention in early development: Themes and variations*. Oxford University Press.

Rothbart, M. K., Ahadi, S. A., Hershey, K. L., & Fisher, P. (2001). Investigations of temperament at three to seven years: The Children's Behavior Questionnaire. *Child development*, *72*(5), 1394-1408.

Rothbart, M. K., Ahadi, S. A., & Hershey, K. L. (1994). Temperament and social behavior in childhood. *Merrill-Palmer Quarterly (1982-)*, 21-39.

Rothbart, M. K., Ahadi, S. A., & Hershey, K. L. (1994). Temperament and social behavior in childhood. *Merrill-Palmer Quarterly (1982-)*, 21-39.

Rubin, K. H. (1982). Nonsocial play in preschoolers: Necessarily evil? *Child Development*, 651-657.

Rubin, K. H., Hymel, S., Mills, R. S., & Rose-Krasnor, L. (2014). 4 Developmental Pathways. *Internalizing and Externalizing Expressions of Dysfunction*, *2*, 91.

Rubin, K. H., Burgess, K. B., & Coplan, R. J. (2002). Social withdrawal and shyness. *Blackwell handbook of childhood social development*, 330-352.

Rubin, K. H., Coplan, R. J., & Bowker, J. C. (2009). Social withdrawal in childhood. *Annual review of psychology*, *60*, 141-171.

Rubin, K. H., LeMare, L. J., & Lollis, S. (1990). Social withdrawal in childhood: Developmental pathways to peer rejection. *Peer rejection in childhood*, 217-249.

Rubin, K. H., & Mills, R. S. (1988). The many faces of social isolation in childhood. *Journal of consulting and clinical psychology*, *56*(6), 916.

Rudolph, K., Abaied, J., Flynn, M., Sugimura, N., Agoston, A. M. (2011). Developing relationships, being cool, and not looking like a loser: Social goal orientation predicts children's responses to peer aggression. *Child Development, 82*, 1518-1530.

Ryan, A. M., & Shim, S. S. (2006). Social achievement goals: The nature and consequences of different orientations toward social competence. *Personality andSocial Psychology Bulletin*, *32*(9), 1246-1263.

Salmivalli, C., & Isaacs, J. (2005). Prospective relations among victimization, rejection, friendlessness, and children's self-and peer-perceptions. *Child development*, *76*(6), 1161 1171.

Sandstrom, M. J., & Coie, J. D. (1999). A developmental perspective on peer rejection: Mechanisms of stability and change. *Child development*, *70*(4), 955-966.

Sanson, A., Hemphill, S. A., & Smart, D. (2004). Connections between temperament and social development: A review. *Social Development*, *13*(1), 142-170.

Sanson, A., Pedlow, R., Cann, W., Prior, M., & Oberklaid, F. (1996). Shyness ratings: Stability and correlates in early childhood. *International Journal of Behavioral Development*, *19*(4), 705-724.

Schwartz, C. E., Snidman, N., & Kagan, J. (1999). Adolescent social anxiety as an outcome of inhibited temperament in childhood. *Journal of the American Academy of Child & Adolescent Psychiatry*, *38*(8), 1008-1015.

Scholte, R. H., van Aken, M. A., & van Lieshout, C. F. (1997). Adolescent personality factors in self-ratings and peer nominations and their prediction of peer acceptance and peer rejection. *Journal of personality assessment*,*69*(3), 534-554.

Selfhout, M., Burk, W., Branje, S., Denissen, J., Van Aken, M., & Meeus, W. (2010). Emerging late adolescent friendship networks and Big Five personality traits: A social network approach. *Journal of personality*, *78*(2), 509-538.

Sijtsema, J. J., Veenstra, R., Lindenberg, S., & Salmivalli, C. (2009). Empirical test of bullies' status goals: Assessing direct goals, aggression, and prestige. *Aggressive Behavior*, *35*(1), 57-67.

Simonsen, B., & Sugai, G. (2013). PBIS in alternative education settings: Positive support for youth with high-risk behavior. *Education and Treatment of Children*, *36*(3), 3 14.

Smollar, J., & Youniss, J. (1982). Social development through friendship. In *Peer relationships and social skills in childhood* (pp. 279-298). Springer New York.

Spinrad, T. L., Eisenberg, N., Gaertner, B., Popp, T., Smith, C. L., Kupfer, A., & Hofer, C. (2007). Relations of maternal socialization and toddlers' effortful control to children's adjustment and social competence. *Developmental psychology*, *43*(5), 1170.

Stahelski, A. J., & Paynton, C. F. (1995). The effects of status cues on choices of social power and influence strategies. *The Journal of Social Psychology*, *135*(5), 553-560.

Stewart, S. L., & Rubin, K. H. (1995). The social problem-solving skills of anxious withdrawn children. *Development and Psychopathology*, *7*(02), 323-336.

Szewczyk-Sokolowski, M., Bost, K. K., & Wainwright, A. B. (2005). Attachment, temperament, and preschool children's peer acceptance. *Social Development*, *14*(3), 379-397.

Thomas, A., Chess, S., & Birch, H. G. (1970). *The origin of personality*. WH Freeman and Company.

Tupes, E. C., & Christal, R. E. (1961). *Recurrent personality factors based on trait ratings* (No. ASD-TR-61-97).

Vaillancourt, T., & Hymel, S. (2006). Aggression and social status: The moderating roles of sex and peer-valued characteristics. *Aggressive Behavior*, *32*(4), 396-408.

Vandell, D. L., & Hembree, S. E. (1994). Peer social status and friendship: Independent contributors to children's social and academic adjustment. *Merrill-Palmer Quarterly (1982-)*, 461-477.

Van der Linden, D., te Nijenhuis, J., & Bakker, A. B. (2010). The general factor of personality: A meta-analysis of Big Five intercorrelations and a criterion-related validity study. *Journal of research in personality*, *44*(3), 315-327.

Van Geel, M., Vedder, P., & Tanilon, J. (2014). Relationship between peer victimization, cyberbullying, and suicide in children and adolescents: a meta-analysis. *JAMA pediatrics*, *168*(5), 435-442.

Van Schoiack-Edstrom, L., Frey, K. S., & Beland, K. (2002). Changing adolescents' attitudes about relational and physical aggression: An early evaluation of a school based intervention. *School Psychology Review*, *31*(2), 201.

Vitaro, F., Gagnon, C., & Tremblay, R. E. (1990). Predicting stable peer rejection from kindergarten to grade one. *Journal of Clinical Child Psychology*, *19*(3), 257-264.

Vitaro, F., Barker, E. D., Boivin, M., Brendgen, M., & Tremblay, R. E. (2006). Do early difficult temperament and harsh parenting differentially predict reactive and proactive aggression?. *Journal of Abnormal Child Psychology*,*34*(5), 681-691.

Waasdorp, T. E., Bradshaw, C. P., & Leaf, P. J. (2012). The impact of schoolwide positive behavioral interventions and supports on bullying and peer rejection: A randomized controlled effectiveness trial. *Archives of Pediatrics & Adolescent Medicine*, *166*(2), 149-156.

Waldrip, A. M., Malcolm, K. T., & Jensen-Campbell, L. A. (2008). With a little help from your friends: The importance of high-quality friendships on early adolescent adjustment. *Social Development*, *17*(4), 832-852.

Walker, S., Berthelsen, D. C., & Irving, K. A. (2001). Temperament and peer acceptance in early childhood: Sex and social status differences. *Child Study Journal*, *31*(3), 177-192.

Wentzel, K. R. (1991). Relations between social competence and academic achievement in early adolescence. *Child development*, *62*(5), 1066-1078.

Wentzel, K. R., & Asher, S. R. (1995). The academic lives of neglected, rejected, popular, and controversial children. *Child development*, *66*(3), 754-763.

Wichmann, C., Coplan, R. J., & Daniels, T. (2004). The social cognitions of socially withdrawn children. *Social Development*, *13*(3), 377-392.

Wilson, B. J. (2006). The entry behavior of aggressive/rejected children: The contributions of status and temperament. *Social Development*, *15*(3), 463-479.

Windle, M. (1992). Temperament and social support in adolescence: Interrelations with depressive symptoms and delinquent behaviors. *Journal of Youth and Adolescence*, *21*(1), 1-21.

Wong, K. K. K. (2013). Partial least squares structural equation modeling (PLS-SEM) techniques using SmartPLS. *Marketing Bulletin*, *24*(1), 1-32.

Wuensch, K.L. (2016). An introduction to path analysis. Retrieved from: http://core.ecu.edu/psyc/wuenschk/MV/SEM/Path.pdf.

Xie, H., Farmer, T. W., & Cairns, B. D. (2003). Different forms of aggression among inner-city African–American children: Gender, configurations, and school social networks. *Journal of School Psychology*, *41*(5), 355-375.

Xu, Y., & Zhang, Z. (2008). Distinguishing proactive and reactive aggression in Chinese children. *Journal of abnormal child psychology*, *36*(4), 539-552.

Zentner, M., & Bates, J. E. (2008). Child temperament: An integrative review of concepts, research programs, and measures. *International Journal of Developmental Science*, *2*(12), 7-37.

Zins, J. E. (Ed.). (2004). *Building academic success on social and emotional learning: What does the research say?*. Teachers College Press.

APPENDIX A

Friendship Goals Scale (Instrumental/Affective) Items

Instrumental **Items**

Someone who can help me out with things
A person who can protect me from bullies
Someone who will not be looking to make friends with other kids while they are friends with me
Someone who is really cool; hanging around them could make me look cool too
Someone who has a lot of power and influence over other kids
Someone who can help me be part of the winning team
Someone who is really popular
A person who will do what I ask or say
A person who can help me get to be more popular

Someone who lets me decide what we're going to do or which games we're going to play
Someone who is loyal and will stick up with me
Someone who gets a lot of attention from other kids and gets me attention too

***Affective* Items**
A person I can help out when he/she needs it
Someone who accepts me just the way I am even though I'm not good at some things
Someone who is considerate and thoughtful, and cares about how I feel
A person who I like to play with
Someone I like and who likes me
Someone who will stay best friends even when they're mad at me
Someone who I can trust, so that I can talk about secrets and special things that I don't talk to other kids about
Someone who has the same interests and believes the same things as me
A person who will treat me as their most important friend of all
Someone I admire and respect; a person I think is neat