

CONSIDERATION OF POTENTIAL MODERATORS OF THE RELATION BETWEEN  
SOCIAL DOMINANCE AND EMOTIONAL ADJUSTMENT: FRIENDSHIP,  
TEMPERAMENT, AND PARENT-CHILD RELATIONSHIPS

by

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(Under the Direction of A. Michele Lease)

ABSTRACT

The focus of the present study was an effort to explain meager relations between social dominance and outcome measures of emotional adjustment for children in middle childhood. The current study employed six moderating variables including friendship quality, dominance level of friend, negative emotionality, positive emotionality, sociability, and parent-child relationships. Outcome variables consisted of self-report using the Behavior Assessment System for Children and peer ratings using a peer-nomination format. Multiple regression and post-hoc analyses were run separately by gender to assess the effect of the moderator. Differential results were found for males and females. For males, several indices of self-report were predicted by social dominance when specific moderators were considered; this was not so for females. Social dominance predicted peer-ratings of emotional adjustment for both genders when several moderating variables were employed.

INDEX WORDS: Social Dominance, Peer Ratings, Self-Report, Adjustment

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## DEDICATION

I would like to dedicate this dissertation to my parents, Wayne and Rosemary Dix. They have always encouraged me to think independently, set high goals, and never underestimate my abilities. They have never doubted me. For this, I am eternally thankful. Without their strong, positive influence in my life, I would never have made it this far. Thank you, Mom and Dad.

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## CHAPTER 1: INTRODUCTION

Peer relationships have proven to play a fundamental role in the emotional and psychological well being of children. Children naturally vary in terms of their relationships with peers. That is, some children tend to have better relationships with peers than do other children. Positive peer relationships such as friendships are considered to help safeguard children against depressive and anxious problems as well as conduct-related misbehaviors, including delinquency, drug use, and academic failure (Parker, Rubin, Price, & DeRosier, 1995; Parker & Asher, 1987).

In order to reach such conclusions, researchers categorize individuals based on specific traits or characteristics. Within the sociometric literature, researchers typically categorize children based on social status, or how well liked a child is among peers in his or her peer group (Coie, Dodge, & Coppotelli, 1982). Peer-ratings of likeability generate two dimensions of social status: *Social impact* is based on the number of overall ratings, whether negative or positive, and *social preference* is based primarily on likeability (Coie et al., 1982). Five status groups are generated based on the assessment of those two dimensions: Popular, average, controversial, rejected, and neglected (Frederickson & Furnham, 1998).

A primary issue facing researchers is that inherent in this method of classification is the assumption that social status is based primarily on how well liked a child is; however, the distinguishing feature of neglected status children is not their likeability but their lack of visibility in the peer group (Newcomb, Bukowski, & Pattee, 1993). This group of children might be better described by methods that assess a child's level of



social dominance within a peer group. Specifically, similarities between children classified via sociometric means as neglected and children identified as low dominant have been documented (Hawley, 1999; Lease, Musgrove, & Axelrod, 2002). In fact, dominance might better assess the factor that distinguishes this group of children from others.

Theoretically, a child who is lower in dominance among peers should not have access to or receive needed or wanted social resources, such as attention from peers and visibility in the peer group (Hawley, 1999). From a theoretical standpoint, a child who lacks sufficient resources should experience some level of difficulty, manifested as either emotional or behavioral problems (see Kupersmidt & Patterson, 1991; Lease et al., 2002). However, a preliminary study found limited support for this relation for children in middle childhood (Dix, 2004). The current study seeks to expand on the Dix (2004) study by examining potential moderating variables that might affect the relation between social dominance and emotional maladjustment. Specifically, the effect of friendship quality, the dominance level of a child's friend, temperamental characteristics (e.g., negative emotionality and positive affect), and parent-child relationships will be studied.

It was hypothesized that all moderating variables, albeit in varying degrees of strength, will affect the relation between peer-rated social dominance and self- and peer-reported emotional maladjustment.

## **CHAPTER 2: REVIEW OF THE LITERATURE**

Although investigation of children's peer relationships began in the early 1900's, research exploring the relations between peer group functioning and adjustment particularly flourished in the 1980's. Since that time, many researchers have documented the importance of healthy peer relations for the emotional and behavioral well being of children. Several narrative reviews of the current literature conclude that children who successfully form friendships and integrate themselves into their peer social systems tend to have few psychological and behavioral difficulties, whereas those who do not or cannot perform these tasks are at risk for academic failure, delinquency, drug abuse, and loneliness (see Ladd, 1999, Parker et al., 1995; Deater-Deckard, 2001; Parker & Asher, 1987). Further, children who are less capable of successful navigation of the peer network are at an elevated risk for anxiety and mood disorders (Rubin, Bukowski, & Parker, 1998).

Peer relations researchers estimate a child's degree of social success within the peer group by using sociometric classification methods, generally using the peer nomination method developed by Coie, Dodge, and Coppotelli (1982). In this procedure, children are asked to identify three children whom they like the most and three children whom they like the least. These nominations are then used to determine social status within the child's peer group. The like-most/like-least nomination procedure also produces two continuous variables, social impact and social preference, that are considered to be the underlying dimensions of social status (Coie et al., 1982). Social impact refers to a child's visibility in the classroom; it is calculated by

adding the number of like-most and like-least nominations that a child receives (Newcomb & Bukowski, 1983). Social preference is determined by subtracting the number of like-least nominations from the number of like-most nominations that a child receives (Newcomb & Bukowski, 1983). Social impact and social preference differ in that social impact does not reflect a generally positive or negative view of a child by peers; rather, it is a reflection of strong reaction that the child engenders from others in the classroom. Conversely, social preference is a summary measure of the degree that a child is liked by his or her peers (Lease, Musgrove, & Axelrod, 2002).

Sociometric methods use like-most, like-least, social impact, and social preference scores to divide children into five status groups: Popular, average, controversial, neglected, and rejected (Coie et al., 1982; Frederickson & Furnham, 1998). The average status group serves as the origin of the two intersecting dimensions of sociometric status - social preference and social impact. Popular and rejected groups serve as the two extremes of the social preference dimension. Whereas popular children receive many “like-most” nominations and few “like-least” nominations from peers and high social preference scores, rejected children receive many “like least” and few “like most” nominations and low social preference scores. Together, controversial and neglected statuses serve as the two extremes of the social impact dimension. Controversial children receive many “like most” and “like least” nominations and high social impact scores, whereas neglected children garner few “like most” *and* “like least” nominations and earn low social impact scores. Within the classroom, controversial children are noticed, be it in a positive or negative light. Conversely, it is assumed that neglected status children are essentially overlooked or ignored.

The classifications defined by each dimension of social status differ in terms of their psychometric properties. The groups defined primarily by the social preference dimension (e.g., popular and rejected) have been shown to be reliable across time (Frederickson & Furnham, 1998) and across methods (Maassen, Steenbeek, & van Geert, 2004). Construct validity has also been documented for the popular and rejected groups (Frederickson & Furnham, 1998). However, the classifications that anchor the social impact dimension do not show sound psychometric properties. Several studies have shown controversial and neglected status groups to be unreliable, which calls into question the predictive validity, and perhaps the appropriateness, of the two sociometric groups (Rubin et al., 1998; Frederickson & Furnham, 1998; Maassen et al., 2004). For example, one-year stability estimates are poor for children classified as neglected. Ollendick and colleagues found approximately 11% of neglected status children remained in that status group at a one-year follow-up (1991), leaving 89% who moved to different status groups within a twelve-month period. The change in status for children formerly categorized as sociometrically neglected is not necessarily a downward shift. In fact, many children tend to shift to the average status group rather than to a lower status group (e.g., rejected) (Terry & Coie, 1991).

Furthermore, the characteristics of the children in the neglected status group are ill defined. For example, some studies portray neglected status children as suffering from internalizing symptoms such as anxiety and loneliness (Hymel, Ruben, Rowden, & LeMare, 1990; Crick & Ladd, 1993) and as having higher rates of social withdrawal (Begin, 1986). Other research suggests no greater emotional or psychological distress than that documented for average status children (Coie & Dodge, 1982; Parker et al., 1995). Crick and Ladd (1993) found neglected status children have levels of anxiety equal to that of popular children and less than

that of average status children. Further, neglected status children and average status children have been found to be quite similar on ratings of loneliness, social dissatisfaction and academic performance (Cassidy & Asher, 1992; Ollendick, Weist, Borden, & Greene, 1992).

The lack of differentiation of the neglected status group from other groups and the lack of consistent behavioral, psychological, and emotional characteristics displayed by this group might be explained by the use of like-most and like-least peer nominations to identify these children when social impact, or visibility, is the central issue for these children, not likeability (Newcomb, Bukowski, & Pattee, 1993). Identification of conceptual flaws in using sociometric methods (i.e. like-most and like-least nominations) coupled with recent research suggests that this method is likely not the optimal technique to fully and accurately describe the characteristics of all children within the context of the peer group, particularly those classified in the neglected status group (see Lease et al., 2002; Dix, 2004). A better tool to describe this group of children might rely on a more direct estimation of visibility and influence in the peer group rather than an indirect measure based on patterning of likeability nominations (Newcomb et al., 1993; Lease et al., 2002). That is, examining comparative levels of social dominance of group members might better differentiate this group of children from others.

Lease and colleagues' effort (2002) to uncover status groups of middle childhood, based partly on social dominance measures, yielded a Low Dominant classification group, the members of which were similar to the conceptualized neglected status children. That is, the Low Dominant group garnered average likeability scores; they were no more liked or disliked than the majority of other children. However, the Low Dominant group obtained popularity and social dominance scores that were significantly below average; the children in this group were less popular and less socially dominant than their peers. In addition, female members of the Low

Dominant group were found to be emotionally sensitive, socially withdrawn and socially anxious compared to average status females (Lease et al., 2002). Low Dominant males were rated as more socially withdrawn as compared to Average males, although Low Dominant males were not seen by peers as “feelings hurt easily” as were Low Dominant girls (Lease et al., 2002). This limited evidence suggests that a richer understanding of the social status and outcomes related to “neglected” status children might arise from including social dominance measures in the assessment of social status, as this would tap the underlying unifying factor of this group – lack of visibility.

### Social Dominance.

Social dominance is broadly conceptualized as a set of behaviors that are used to gain wanted or needed resources, those things that are external to an individual and necessary for survival (Axelrod, 2002). The study of social dominance is rooted in ethological literature with original research based on primates’ methods of group defense and social group organization (Carpenter, 1942; Jolly, 1972; Furuya, 1960). Researchers have incorporated social dominance theories into studies conducted with toddlers and, in later research, with young children (see Strayer & Strayer, 1980). The majority of the studies focus on the method by which children obtain resources (e.g., aggression) (Hawley, 1999).

The level of a child’s social dominance within the peer group can be determined by estimating where he or she falls on a dominance hierarchy, a naturally occurring phenomena that is based on repeated interactions between dyads within a group (Bjorklund & Pelligrini, 2001). Dominance hierarchies are believed to function linearly. That is, if child A dominates child B and child B dominates child C, then child A should also dominate child C (Bjorklund & Pelligrini, 2001). Dominance hierarchies tend to be temporally stable and serve as a functional

method to divide children into groups (Savin-Williams, 1979; Chase, 1984). For example, children at the top of the hierarchy, those who demonstrate more functional social dominance strategies that are accepted by peers, are better able to obtain resources and meet their needs (Bjorklund & Pelligrini, 2001). Those at the bottom of the hierarchy are less apt to have needs met by their own social dominance efforts (Hawley, 1999).

Dominance hierarchies are believed to serve two primary functions within a social group. First, intra-group aggression and the costs associated with personal conflict are reduced when a dominance hierarchy is established; group members are aware of who they can and cannot dominate because the dominance status of members of the group is clear (Strayer & Strayer, 1980; Hawley, 1999). Second, a dominance hierarchy increases cohesion among members of the group (Savin-Williams, 1979). When working together, a group might be able to obtain resources that a single individual could not, thus resulting in providing more resources for all members of the group (Savin-Williams, 1979).

#### Resource Acquisition Strategies.

Hawley (1999) defined social dominance by its function, the use of one or more strategies employed to gain material or social resources within the peer group, rather than by its behavioral manifestation (Hawley, 1999). Hawley's attempt to define dominance according to function without specifying the strategies employed is influenced by the fact that social dominance might manifest in a variety of ways across development. For example, younger children tend to dominate through aggressive means, such as hitting and taking wanted objects from peers (Abramovich & Grusec, 1978). Other children employ prosocial methods of resource acquisition such as forming alliances with peers (Chapais, 1992), cooperating with others (Charlesworth, 1988), and responding in turn to peers (Axelrod, 1984). Some children use both

aggressive and prosocial strategies to gain resources (Hawley, 1999). For example, a child might use aggressive methods with some children and prosocial strategies with other children.

Children who are socially dominant, be it through prosocial or aggressive means, have the ability to garner and control resources in the peer group, thus affording them access to social and material resources that are valued by their peers (Hawley, 1999). Despite a similar end result - gaining resources- the emotional and psychological outcomes that result might vary depending on the strategy employed. Prosocial strategies foster cooperative relationships between individuals in a group and encourage “goodwill, reciprocity, and loyalty, such as helping, sharing, and appearing altruistic” (Hawley, Little, & Pathspati, 2002). Examples of relevant prosocial skills include the development and use of well-developed perspective-taking skills, the recognition of the emotional state of others, incorporating positive social problem solving skills, and the ability to self-regulate (Rubin et al., 1998). Children foster and maintain friendships and positive relationships with peers in general by incorporating prosocial skills into their social interactions (Rubin et al., 1998). The use of prosocial strategies should attract peers (Chung & Asher, 1996) and, thus, increase the ease of promoting or maintaining their ranking in the social dominance hierarchy. Following this logic, positive emotional outcomes would be associated with prosocial resource acquisition strategies (Hawley et al., 2002), including a greater number of friendships and increased intimacy among friends (Franzoi, Davis, & Vasques-Suson, 1994), both of which are considered to be buffers against emotional distress and social dissatisfaction (Asher et al., 1990).

Children who employ coercive or aggressive strategies secure resources by monopolizing those things that other children seek, thwarting the efforts of others who attempt to gain access to resources, and taking resources from others (Hawley et al., 2002; Coie, Dodge & Terry, 1991;



LaFreniere & Charlesworth, 1983). The agonistic nature of coercive strategies is likely to repel instead of attract peers and thus lead to poorer emotional outcomes than those associated with prosocial resource controllers, particularly as children age (Chung & Asher, 1996; Hopmeyer & Asher, 1997). That is, the negative outcomes associated with the use of aggression as a means of resource acquisition appear to be more relevant after early elementary school. For example, children who use aggression to gain resources in the peer group tend to lose status as well as social support of peers, or friendships, after third grade (Hawley 1999).

Developmental changes occur with regard to the types of dominance strategies children employ. The majority of male *and* female children employ aggression as a means of acquiring resources during the toddler years (Abramovitch & Grusec, 1978). However, as toddlers enter early childhood, the tendency of females to exhibit overt aggression declines, leading to a higher rate of overt aggression for males of this age (Bjorklund & Pelligrini, 2001). The shift from aggressive strategies to more prosocial means as the primary acquisition strategy for both genders generally occurs by third grade, which also coincides with a developing understanding of justice, increases in empathy, and a decline in egocentrism (Hawley, 1999). Thus, as children mature, many of them learn more socially appropriate methods of gaining wanted resources.

Despite the natural decline in aggression, some children continue to utilize aggressive dominance strategies; however, the manifestation or form of the aggression changes. That is, a shift has been noted from physical to verbal forms of aggression as children mature (Hawley, 1999). Children who successfully navigate the shift to verbal aggression tend to receive less disapproval from the peer group as compared to those who continue to make use of physically aggressive strategies to dominate. For example, Sandstrom and Coie (1999) found that of a group of fourth grade males who were previously unaccepted in the peer group, those who did

not successfully transition from physically aggressive behaviors made fewer social gains in the peer group as compared to equally unaccepted males who used alternatives to aggressive strategies to interact with others in the peer group.

Females' use of aggressive dominance strategies evolves as they age and often differs from those employed by males. Rather than overt physical or verbal aggression that is typically observed with males, aggressive females tend to employ relationally aggressive techniques (Bjorklund & Pelligrini, 2001). Only recently have researchers begun to include less overt aggressive behaviors and more socially aggressive and subtle techniques in the study of dominance, and aggression more generally, in children. Relational aggression usually takes the form of ignoring or actively excluding specific peers in order to damage reputations or manipulate others in the peer group (Crick & Grotpeter, 1995; Cairnes, Cairnes, Neckerman, Ferguson, & Garipey, 1989). The aggressor gains status and resources while denying others closeness, acceptance, social experiences, and friendships (Crick, Bigbee, & Howes, 1996; Crick, Casas, & Nelson, 2002).

Some children are believed to incorporate both aggressive and prosocial methods into their repertoire of resource acquisition techniques. Specifically, Hawley and colleagues have suggested that this group of children would gain all of the positives associated with prosocial controllers as well as all of the negatives associated with an aggressive child's quest for dominance (2002). Indeed, this group self-reported the highest level of control in the peer group compared to their peers but reported less overall positive feelings than children who reportedly used prosocial strategies only (Hawley et al., 2002). As a result, children who might be highest in levels of dominance do not necessarily demonstrate the most positive adjustment overall.

Some children employ neither aggressive nor prosocial strategies (Hawley, Little, & Pasupathi, 2002). Children who fall into this category appear to be either unmotivated or unwilling to engage in either type of dominance strategy, rendering them less able to acquire needed resources on their own (Hawley, 2002). For example, children might be docile rather than assertive with peers; children might lack or choose not to employ functional social skills when interacting with members of the peer group, rendering them without the tools used by other children to gain access to resources. Lacking these tools, access to resources is likely significantly reduced.

In fact, those children who employ few if any dominance strategies are considered as adapting most poorly (Hawley et al., 2002). They do not gain resources via their own efforts, be it through aggression or through use of prosocial strategies (Hawley et al., 2002). Therefore, children who use neither coercive nor prosocial strategies should not reap the benefits associated with either resource acquisition strategy (Hawley et al., 2002). Hawley and colleagues theorized that these children, identified as “subordinates,” do not appear to take advantage of the mediating effects of others in the peer group, such as gaining resources from group experiences or through affiliation with more dominant individuals in the peer group (2002). However, Hawley and colleagues (2002) did not indicate a clear demarcation between low dominant, or subordinate, children who are unwilling or unmotivated to employ dominance strategies in the peer group and those who attempt dominance strategies but are unsuccessful.

Children who tend not to employ any type of dominance strategy should have fewer friendships, less visibility in the peer group, and little attention from peers as compared to dominant peers. Lack of such social resources would lead to increased risk for negative emotional and psychological outcomes. In support of this assumption, Kupersmidt and Patterson

(1991) found an increased risk of depressive symptoms for sociometrically defined neglected females. Further, a study conducted by Lease and colleagues (2002) found several elevated indices of maladjustment for children who ranked lower in social dominance. A preliminary study by Dix, Lease, and Foels (2003) indicated difficulty for both males and females who were low in dominance in relation to peers. Specifically, indices of leadership skills were lower, higher levels of school problems were noted, and an elevated risk for anxious symptoms for males was found as compared to females (Dix, Lease, & Foels, 2003). In a 2002 study, Hawley and colleagues found that children who tend not to employ any dominance strategy were considered by peers as demonstrating the lowest level of positive affect, as compared to others who employed some type of dominance strategy. Moreover, low dominant children reported feeling the least connected to the peer group (Hawley et al., 2002). Lack of connection to individuals in the peer group reduces the number of opportunities a child is afforded to build friendships and allows for fewer instances to practice social skills (Asher et al., 1990). Fewer interactions with others and fewer friendships result in a reduction of future social opportunities, which could result in a cycle of missed opportunities. Continued difficulty in this area could increase the likelihood of emotional maladjustment. For example, research indicates that a lack of friendships is associated with loneliness and social dissatisfaction (Asher et al., 1990).

Theoretically, children who rank lowest in social dominance are expected to suffer some level of maladjustment as they are unable to gain resources that are associated with positive outcomes (Hawley, 1999; Hawley et al., 2002). A preliminary, unpublished study sought to test this hypothesis by assessing self-rated and peer-rated social dominance and the relation of those ratings with indices of maladjustment (Dix, 2004). Children in grades four through six were presented with all same-sex dyads of children in their classroom. Dominance was determined by

presenting children with all same-sex dyads of the members of their class; children then chose the member of each dyad that had more “power and influence.” Self-rated dominance was calculated by totaling the number of times a child chose him or herself as the more dominant member of a dyad and dividing the total by the number of times a child could have chosen him or herself as more dominant. Peer-rated dominance scores were determined by similar means. Specifically, the number of times that a child was chosen by peers as the dominant member of a dyad was totaled and divided by the number of times a child’s name was listed as a choice. Self- and peer-rated dominance scores were correlated with measures of self-rated, teacher-rated, and peer-rated internalizing and externalizing problems. Contrary to expectations, self-rated dominance was not significantly correlated with the measures of maladjustment used as outcome measures (e.g., self-reported loneliness, self- and peer-rated depression, self- and peer-rated anxiety, teacher-rated leadership, or self-reported locus of control) (Dix, 2004). Although, peer-rated dominance was found to be related to a lower self-reported self-concept, at least for males, as well as higher teacher-rated levels of social withdrawal, at least for females, the relation between peer-rated dominance and maladjustment was lower than expected (Dix, 2004).

The goal of this study was to follow up on the results reported in the Dix (2004) study to determine why low dominance scores were not related to emotional maladjustment in light of theoretical work (e.g., Hawley et al., 2002; Hawley, 2002; Kupersmidt & Patterson, 1991) and earlier studies (Lease et al., 2002; Dix, Lease, and Foels, 2003) suggesting the contrary should occur. In the current study, three potential moderators were examined to determine potential influence on the relation between dominance and outcome measures.

First, it was hypothesized that various facets of friendship might moderate the outcomes experienced by children who rank lower in social dominance than their peers. Specifically,

having a friendship of high quality versus low quality might moderate maladjustment outcomes by allowing social needs (e.g., attention, connectedness, affiliation, reciprocation) to be met through alternatives to social dominance. Moreover, forging a friendship with an individual who is higher on the dominance hierarchy might allow a child to gain resources that he or she would not have if he or she relied solely on his or her own motivation and abilities, as opposed to children who have friendships with other low dominant children. That is, a child might not reap social resources, including attention and group inclusion, as a result of their own efforts; rather, the child could gain needed or wanted resources through affiliation with a child who is socially dominant in the peer group and includes the child in group activities.

Second, it was hypothesized that temperamental variables might moderate the relation between social dominance and poor adjustment outcomes. Specifically, the current study focuses on three facets of temperament: Positive affect, negative emotionality, and sociability. A child who has a temperamental type that lends itself more toward negativity (e.g., negative affect) might experience peer group situations in a more pessimistic manner or be more disturbed by his or her standing in the dominance hierarchy, leading to increased emotional distress such as low self-esteem, anxious symptoms, and indications of depression. Alternatively, if a child has a temperamental structure that is more positive in nature (e.g., higher positive affect), he or she might be able to better cope with peer group difficulties and be less affected by lower social standing, leading to less emotional difficulty. Likewise, children higher in sociability might have means other than dominance to gain resources in the peer group, associated with extraversion and other contributors to sociability.

Finally, parent-child relationships might moderate the relation between social dominance and emotional or psychological maladjustment by providing a venue in which the child receives

needed social resources such as attention, reciprocation, trust, and high regard, albeit from adults rather than from peers. Thus, even though the child might not gain social resources in the peer group, the resources received in a different environment and from a different source might be somewhat compensatory. However, parent-child relationships might play less of a role as children enter early adolescence and place more importance on affiliation within the peer group and on the opinions of their peers.

### Facets of Friendship

Friendships play a major role in the lives of most individuals. Friendships begin early in life and are distinct from other relationships that a person might be involved in including relationships with family members, teachers, and co-workers (Gifford-Smith & Brownell, 2003). Friendship during middle childhood serves many functions. For example, friends act as companions, recreational partners, allies, loyal confidants, and kind critics and add to the stability of a child's life (Asher et al., 1990). In addition, the development of friendships adds to the development and evolution of a personal identity that allows for a deeper understanding of self (Sullivan, 1953). Two additional functions of dyadic friendship have been proposed: (1) to help children gain functional skills and (2) to create a referential group or culture to facilitate shaping of behaviors (Bukowski et al., 1994).

The dynamics operating within a childhood friendship dyad are distinguished from other dyadic interactions between same-age peers. A dyad of friends encompasses a greater incidence of positive interactions that include reciprocated conversation, positive affect, and facilitated cooperation than interactions between dyads of non-friends (Newcomb & Bagwell, 1995). Interactions in a friendship dyad are less likely to include attempts to gain control or dominance within the dyad (Gifford-Smith & Brownell, 2003). In addition, individuals in friendship dyads

are also more able to quickly overcome disagreements and conflict between each other as opposed to a dyad of non-friends (Hartup & Laursen, 1999).

In measurement terms, friendship is defined as the repeated interaction between two individuals that are voluntary in nature, satisfy the specific interests of each party, and are based on reciprocity (MacDonald, 1996). Determination of friendship dyads is typically based on reciprocated “like most” or “best friend” nominations between two individuals, generally within the same classroom (Parker & Asher, 1993). This approach to assessing dyadic friendship is distinct from methods that tally unilateral friendship nominations regardless of whether the nomination is reciprocated (Furman, 1996).

The successful development of friendships by children has documented relations to indices of adjustment including self-esteem, loneliness, social competence, internalizing disorders, and academic achievement (Berndt & Keefe, 1995, Parker & Asher, 1993, Hymel et al., 1990; Evans, 1993; Erdley, Nangel & Newman, 2001). For example, a child who has friends demonstrates higher rates of sociability, cooperation with peers, and self-confidence than those children without friends (Newcomb & Bagwell, 1995). In a recent study conducted by Wentzel, Barry, and Caldwell (2004), friendlessness in middle school (grades 6 and 8) was related to a heightened level of emotional maladjustment, which was measured by level of depressive symptoms as well as indices of “low well being.” The effects of successful or unsuccessful attempts to develop and sustain quality friendship have long lasting effects into adulthood (Bagwell, Newcomb, & Bukowski, 1998).

Research regarding the relation between friendship and academic achievement is less clear. Specifically, earlier studies suggested that those children who earned higher grades and test scores had more friends than those children who earned lower grades and test scores (Berndt



& Keefe, 1995; Wentzel & Caldwell, 1997). An alternative finding has been noted in more recent research. Specifically, grade improvements were reported for children transitioning from elementary to middle school who lacked friends after the transition (Wentzel et al., 2004). The author posited that the increase in grades might be due to an increase in time available for academic pursuits stemming from little involvement in peer-group activities (Wentzel et al., 2004). Alternatively, older children who have negative peer relationships might be less inclined to attend school, which might lead to poorer grades and eventual school drop out (Buhs & Ladd, 2001).

Friendships encompass both positive and negative properties. A friendship of high quality is described as one that incorporates higher levels of prosocial behavior between the individuals in the dyad, intimacy, reciprocal praise and encouragement, and use of conflict resolution skills as well as low levels of conflict, rivalry, and dominance attempts (Berndt, 2002; Bukowski et al., 1990). High quality friendships also supply benefits of companionship: Cooperation, support, and trust (Gifford-Smith & Brownell, 2003). That is not to say that friends rarely experience conflict. On the contrary, conflict is present in many friendships; however, the conflict is often less intense and more easily resolved if the friendship is of higher quality (Newcomb & Bagwell, 1995).

Berndt (2002) suggests that all positive qualities are essentially representative of one dimension of friendship that ranges from low to high positivity, and all negative qualities represent a continuum from low to high negativity; the two dimensions are conceptually distinct from each other. It has been documented that if a child rates one positive factor in a friendship as high (e.g., intimacy), he or she tends to rate all positive aspects of the friendship as high (Berndt, 1996). Likewise, if a child rates a friendship as low on one negative friendship quality

(e.g., conflict), he or she is more likely to rate the friendship as low on all negative features (Berndt, 1996). For example, a child can rate positive characteristics of a friendship as high while having either high or low ratings for negative qualities. In addition to lower levels of negativity and higher levels of positivity, higher quality friendships display more temporal stability than lower quality friendships (Berndt & Hoyle, 1985).

Positive outcomes are associated with high quality dyadic friendships. Children involved in high-quality friendships tend to have higher levels of self-esteem, lower levels of loneliness, increased ability to cope with stressors, and appear as better socially adjusted than those with low quality friendships (Hartup & Stevens, 1997; Berndt & Keefe, 1995; Parker & Asher, 1993). Friendships of high quality are negatively related to manifestation of depressive symptoms and delinquency (Windle, 1994). Children with higher quality friendships appear to experience greater acceptance from the peer group as a whole (Furman, 1996). One caveat to this general pattern pertains to the identity of a given child's friend. Positive school adjustment, measured in terms of positive attitudes toward school and higher rates of achievement, has been shown to relate to high quality friendships for children who befriend non-delinquent peers during childhood (Berndt, 1999); in contrast, having a high-quality friendship with a delinquent peer might increase the potential for engagement in serious delinquent acts (Berndt, 1999; Berndt, 2002).

Dyadic friendships that are perceived as higher in negative qualities by members of the dyad - as indicated by reported dominance attempts, conflict, and rivalry - appear to be related to a higher rate of negative emotional, academic, and behavioral outcomes as compared to dyadic friendships rated lower in negative qualities. For example, conflicts among individuals in a friendship dyad in one study were related to heightened levels of loneliness, as compared to dyadic friendships rated as low in conflict (Ladd et al., 1996). Poor academic outcomes have

also been documented for children who reported involvement in a friendship of low quality. For example, kindergarten males who were involved in high-conflict relationships with peers were less involved in instruction and had a less favorable outlook of school by the end of the year (Ladd et al., 1996); the same relation was found for older children (Ladd et al., 1996). Berndt and Keefe (1995) documented an increase in disruptive behaviors for seventh grade males who participated in friendships that had higher rates of negative qualities, such as conflict and perceptions of minimal trust and companionship, as compared to males of that age who reported higher quality friendships. The pattern of negativity in a friendship dyad might lead to difficulties with peers in general or with adults as negative social skills are practiced and generalized to other interactions (Berndt, 2002). Although undocumented, it is likely that this relation between involvement in negative friendships and maladjustment is related to research that shows children with delinquent friends are at risk for externalizing and internalizing problems (see Dishion, French, & Patterson, 1995; Brendgen, Vitaro, & Bukowski, 2000; Vitaro, Brendgen, & Wanner, 2005).

Differences in the characteristics of friendship between females and males might affect perceptions of friendship quality differently for each gender. Research suggests that girls are more inclined to enter into smaller friendship groups, which afford more opportunities for the development of intimate relationships (Buhrmester, 1996). In turn, higher levels of intimacy could theoretically generate greater trust and a higher degree of perceived companionship. Alternatively, boys usually have larger friendship networks, which are not as conducive to intimacy as are the smaller friendship groups of girls (Eder & Hallinan, 1978). As a result, boys might not rate their friendships as highly intimate or close, producing lower scores for friendship

quality for males as compared to females. Thus, girls' friendships might be perceived as higher in quality than those of males.

In fact, gender-specific trends have been documented in regard to friendship quality and outcome measures (Demir & Urberg, 2004). In a recent study, level of friendship quality was significantly related to emotional adjustment (e.g., higher reported happiness, fewer reported depressive symptoms) for males only; however, the effect of conflict in the friendship on emotional adjustment was twice as large for females versus males (Demir & Urberg, 2004). That is, while low friendship quality was related to greater emotional maladjustment for males, the cost associated with conflict in friendship was greater for females. The damaging effect of conflict in females' friendships might be due to socialization against conflict or the high emphasis that is placed on intimacy between females (Demir & Urberg, 2004). A third hypothesis is that if females have smaller friendship groups, conflict between two members might be perceived as more socially damaging. For example, if a child has two close friends and is in conflict with one of them, she might be more likely to suffer more emotional costs as opposed to a child with eight friends who experiences conflict with one.

Research indicates that three factors influence children's friendship selections: (1) *facts*, or the proximity of the friendship; (2) *surface features*, such as race, gender, and age; and (3) *depth*, which refers to deeper features including personality characteristics, attitudes, and general character (Epstein, 1989). That is, children initially select friends from a pool of individuals that is readily available. Maintaining a friendship, however, calls for shared characteristics related to surface and depth. Specifically, friendship dyads are considered as formed and maintained based on similarities in attitudes and personality, or a sense of "sharedness" (Rubin et al., 1998).

There are many similarities that are evident between members of friendship dyads. For example, many children tend to befriend those who are similar in regard to surface features such as age, gender, and physical appearance as well as those who share similar levels or types of humor, sociability, and sensitivity (Gest, Graham-Bermann & Hartup, 2001; Epstein, 1989). Kupersmidt and colleagues (1995) found that children in friendship dyads shared more deep features of friendship than individuals who were not members of a friendship dyad. Indeed, as children age, same-sex, same-race, and same-age friendships are typical (e.g., Graham & Cohen, 1997; Kupersmidt, DeRosier & Patterson, 1995). Further, similarities between friends were documented on the basis of aggression, withdrawn behaviors, academic achievement, and social status (Kupersmidt et al., 1995). Additional research indicated similarities between members of friendship dyads based on activity preference, level of self-esteem, and role selection (Aboud & Mendelson, 1996). Whereas similarities appear to be important, perceived similarities might be more crucial for friendship maintenance than actual similarities (Epstein, 1989; Aboud & Mendelson, 1996).

Whereas evidence suggests similarities between friends are critical for friendship maintenance, dissimilarities among friends might also occur. First, differences between children with regard to surface features has been documented. Specifically, recent research highlighted differences in academic abilities between friends, with some achieving significantly higher in school than others (e.g., Brooks, 2002). Children who come from disparate socioeconomic backgrounds might develop friendships with each other (Bot, Engles, Knibbe, & Meeus, 2005). Cross-race friendships have been documented in approximately 30% of children in an elementary school sample (Kupersmidt et al., 1995) and in approximately 25% of children in middle childhood (Lease & Blake, 2005). Although similar deep features are noted, Aboud and

Mendelson (1996) note that evidence is lacking to put forth that members of friendship dyads share similar personality features.

Several characteristics emerge as desirable as rated by children as in middle childhood features regardless of their standing in the peer group or personal qualities. Specifically, those children considered as high in sociability, prosocial behavior, empathy, and self-esteem and low in aggressiveness, withdrawal, and emotional problems (e.g., anxiety, depression) tend to be more attractive to children of this age as potential friends (Aboud & Mendelson, 1996). It appears that even those children who, for example, experience more difficulty with sociability, empathy, withdrawal, or emotional maladjustment rate the same children as socially attractive as children who do not have similar difficulties. As a result, children who manifest more negative social qualities (e.g., emotional problems, withdrawal, poorly developed prosocial skills) might actively seek a friend who is different from him or herself, perhaps to purposefully increase his or her ranking in the peer group or simply because he or she finds the prospective friend attractive.

Given differences in surface features among members of friendship dyads, lack of evidence documenting personality similarities among friends (Aboud & Mendelson, 1996), and the commonality of desired characteristics of a friend regardless of rater characteristics (Aboud & Mendelson, 1996), it is possible that differences in dominance level among friends might also occur and influence emotional adjustment of children. That is, a less dominant child might become friends with a higher dominant child either (a) directly, a purposeful choice to befriend a child in order to gain access to resources that she cannot get on her own or (b) indirectly, by choosing a peer based on a perception of that child as desirable and subsequently benefiting from the dominant peer's ability to garner resources. Furthermore, a more highly dominant child

might choose to befriend a less dominant peer in order for the peer to play a complementary role in the relationship, which could award more power to the more dominant child (Forsyth, 1999; Bot et. al, 2005). In general, some research indicates that some individuals are pulled into higher status cliques by virtue of the individuals with whom they are friends, (e.g., Adler & Adler, 1998). Therefore, the less dominant children might gain attention and visibility, resources prized and sought by children, by being friends with a more dominant peer that increases access to resources. The access to resources would, in turn, likely lead to positive outcomes, despite the fact that the resources were not gained through the less dominant's child's characteristics.

### Temperament

Temperamental characteristics might play a moderating role in the relation between low social dominance and emotional maladjustment. Temperament has been defined in various ways. The conceptualization of temperament describes differences in individuals' behaviors that manifest early in life, display stability, are frequently emotional in nature, and are composed of genetic and/or biological components (Shiner, 1998; Bates, 1989). One of the earliest studies of temperament conducted from a developmental perspective with the New York Longitudinal Study conducted by Thomas and Chess (1977) in an effort to investigate the link between temperamental traits in infancy and early childhood and the later onset of psychopathology. Nine temperament characteristics were derived (Thomas & Chess, 1977), but the validity of seven temperamental characteristics was supported in later studies: Activity level, task persistence, social inhibition, biological rhythmicity, threshold, adaptability, and negative emotionality (Presley & Martin, 1994; Martin, Wisenbaker, & Huttunen, 1994).

Emotionality is an oft-studied component of temperament that has been demonstrated to have links to a variety of negative outcomes (see Rothbart, 1989). Emotionality is broadly

described as individual differences in the intensity, stimulation threshold, time interval between stimulus and reaction, and recovery from emotional reactions (Rothbart, 1989). The construct of emotionality can be divided into two orthogonal dimensions, negative emotionality and positive emotionality (Rothbart, 1989). Negative emotionality is conceptualized as existing along a continuum. That is, children might experience varying degrees of negative affect, from high to low. Negative emotionality likely manifests as a tendency to experience higher rates of negative emotions and behaviors, such as anxiety, anger, hostility, and crying, as well as a likelihood of engaging in antagonistic relationships and demonstrating vulnerability to stress (Nelson et al., 1999; Shiner, 1998). Higher rates of negative emotionality have been likened to uncontrollable distress (Goldsmith, Buss, Plomin, Rothbart, Thomas, Chess et al., 1987). For example, a child might cry excessively, tantrum, or be generally difficult to soothe (Goldsmith et al., 1987).

The behavioral and emotional qualities associated with negative emotionality are similar to those of Neuroticism (Nelson et al., 1999; Costa & McCrae, 1992), one of the five personality categories comprising “The Big Five” (e.g., Buss & Plomin, 1984; Hartup & van Lieshout, 1995; Shiner, 1998). Neuroticism is highlighted by irritability and fearfulness (Nelson et al., 1999; Costa & McCrae, 1992) and has been associated with internalizing and problems such as anxiety and depression (Eysenck & Eysenck, 1985; Nelson et al., 1999). Ahadi and Rothbart (1994) posit that anxiety and negative affect are the underlying temperament structures of the Neuroticism dimension.

Higher rates of negative emotionality have been theoretically linked to a variety of psychological, emotional, and academic problems. Early work conducted by Rutter and colleagues (e.g., 1964) indicated that children aged three years or younger referred for psychiatric problems were rated as higher in negative mood at ages 5 to 7 years. In a later



longitudinal study, Thomas and Chess reported correlations between negative emotionality and subsequent poor adjustment to school at age five years (1977). Further, negative emotionality has been found to be correlated with internalizing and externalizing problems for children in middle school (Rothbart & Bates, 1998) and negatively related to social skills and popularity for boys (Eisenberg et al., 1997). Nelson and colleagues (1999) found that negative emotionality, defined in their study as intensity of negative emotions, was significantly related to school performance problems, fewer positive social behaviors, and higher levels of externalizing and internalizing problems. In fact, negative emotionality was related to more outcomes and related more strongly to all outcomes than the other temperament characteristics assessed, which included poor self-regulation of attention and motor behavior and adaptability (Nelson et al., 1999).

Positive emotionality is described as individual differences in the rate of laughter, smiling, experience of pleasure, and sensitivity to positive environmental stimuli (Rothbart, 1989). Some researchers describe positive emotionality as the essence of extraverted behavior and inclusive of such characteristics as warmth, gregariousness, assertiveness, and experience of generally positive emotions (Costa & McCrae, 1992). Research suggests that positive emotionality can be further subdivided into two types: (1) positive emotionality that precedes goal attainment and (2) positive emotionality that follows goal attainment (Lengua, 2003; Davidson, 1994). The first type is related to behavioral activation or a greater tendency to approach novel situations, whereas the second type is described as a generally pleasing or stimulating state of being (Lengua, 2003; Davidson, 1994).

As with negative emotionality, there are two ends of the positive emotionality spectrum. That is, children might exhibit high or low levels of positive affect, which is conceptually

distinct from the amount of negative emotionality that the child might demonstrate (Tellegen, 1985). Studies have shown that higher rates of positive emotionality are related to positive outcomes. For example, Lengua (2003) found that higher levels of positive emotionality, as measured by self-reported rate of smiling or laughing and general satisfaction with self, were related to well-being and social competence.

Conversely, lower levels of positive affect, or emotionality, have been correlated with DSM-IV criteria for depressive disorders for adults and children (Brown, Chorpita, & Barlow, 1998; Chorpita, Albano, & Barlow, 1998). More recently, a study of children in grades 4 through 11 indicated that lower levels of positive emotionality, independent of rates of negative emotionality, were related to an increased risk for depressive disorders (Lonigan, Phillips, & Hooe, 2003).

Inhibition, or sociability, is a third temperamental characteristic that is considered to serve as a possible moderator between low social dominance and emotional adjustment. Inhibition is broadly conceptualized as reticence (e.g. fear or withdrawal) during encounters with novel stimuli such as environment or people (Kagan, Reznick, Clarke, Snidman & Garcia-Coll, 1984; Presley & Martin, 1994; Martin et al., 1994). Research has documented links between low sociability in childhood and the onset of internalizing problems, particularly anxiety, that range from modest to strong (see Sanson, Hemphill & Smart, 2004 for a review). For example, a study following children from early childhood through adolescence documented that the majority of the children classified as inhibited in early childhood exhibited symptoms of anxiety disorders during adolescence; a similar trend was not documented for uninhibited children (Schwartz, Snidman & Kagan, 1999). Moreover, studies with younger children (toddler to early childhood) have indicated that behavioral inhibition is strongly associated with the development of anxiety

disorders including social anxiety and separation anxiety disorder (e.g. Biederman, Rosenbaum, Bolduc-Murphy, Faraone, Chaloff, Hirschfeld, & Kagan, 1993). More recent research documented no increased risk of anxiety in adolescence for children described as inhibited during the toddler years; however, shyness, particularly when present over long periods of time, was a modest predictor of anxious symptoms in adolescence (Prior, Smart, & Sanson, 2000).

Studies considering the relation between inhibition and other internalizing problems, such as depression, are less common (Sanson et al., 2004). From the existing literature, it appears that some relation between the two might exist. Caspi (2000) found that children classified as inhibited at age 3 years were more likely to demonstrate depression as an adult and to have less social support than those individuals who were not classified as inhibited. Recent research indicated a possible relationship between self-reported behavioral inhibition and an early age of onset for a first depressive episode (e.g. prior to age 16 years) (Gladstone, Parker, Mitchell, Wilhelm, & Malhi, 2005).

In contrast, a study of kindergarten children found that those children described as sociable, or uninhibited, were rated as more popular by peers, which likely brings with it greater opportunities for resource acquisition (Skarpness & Carson, 1986). Further, longitudinal research conducted using a sample of Chinese children during middle childhood revealed that sociability was a strong negative predictor of loneliness and internalizing problems (Chen, Liu, Rubin, Cen, Gao & Li, 2002).

For the current study, it is hypothesized that positive emotionality and negative emotionality, acting independently, function as potential moderators of the relation between low social dominance and emotional maladjustment. That is, children who are lower in dominance, yet have a more pleasant disposition (higher positive affect) or less inclination to react negatively

(lower negative affect), would be less likely to experience emotional distress than a child with lower rates of positive emotionality and/or higher rates of negative emotionality. Although gaining limited access to resources could be emotionally stressful for a child, having a more positive outlook or a less negative disposition might buffer him or her against potential negative outcomes. It is further hypothesized that inhibition significantly moderates the relation between social dominance and adjustment. That is, low dominant children who are described as more inhibited or less sociable are expected to have higher rates of maladjustment as reported by self and peers.

### Parent-Child Relationships

Positive parent-child relationships might also ameliorate the negative affects of obtaining few social resources in the peer group for children in middle to late childhood. Recent research in the area of parent-child relationships suggests that the quality of the relationship is linked to a variety of outcomes including peer relationships assessed in the school setting, child maladaptive behavior, and child emotional maladjustment (Cohn, Patterson, & Christopoulos, 1991; O'Connor, 2002). Specific areas of inquiry have included levels of warmth, sensitivity, conflict, and parental control in a parent-child relationship, all of which have been documented to play a role a child's behavior and emotional adjustment (O'Connor, 2002).

While a preponderance of research has demonstrated a link between maternal characteristics and adjustment outcomes of the child (i.e. Diener & Kim, 2004; McClowery, Giangrande, Tommasini, & Clinton, 1994; Abidin, Jenkins & McGaughey, 1992; Lancaster, Prior & Adler, 1989), a more recent study by Kane and Garber (2004) indicates that father-child relationships might be equally important in the emotional and behavioral outcomes of children.

Thus, the current study considers both the mother-child and father-child relationship as important and does not differentiate between the two types of relationships.

Research suggests that emotionally healthy parent-child relationships are related to positive emotional and behavioral outcomes for children. For example, infants who were rated as securely attached to parents later demonstrated more adaptive social skills during early childhood (LaFreniere & Sroufe, 1985). Children with at least one healthy parent-child relationship demonstrated higher rates of sociability and optimism, which have been found to be related to positive adjustment, as compared to same aged peers without a healthy parent-child relationship (East, 1991; Korkeila, Kivela, Suominen, Vahtera, Kivimaki, Sundell, Helenius, & Koskenvuo, 2004). Behaviorally, children who experience strong bonds with parents are less likely to engage in delinquent behaviors that would elicit disappointment and loss of respect by their parents (Hirschi & Stark, 1969).

In more recent research, higher levels of family intimacy during adolescence were shown to be related to indices of positive adjustment in adulthood (Giordana, Cernkovich, Groat, Pugh, M.D., & Swinford, 1998). Specifically, strong adolescent-parent intimacy, as reflected by endorsements of trust, perceptions of pride, and a desire for proximity by the adolescent, were significantly related to the following subsequent outcomes as an adult: Higher self-esteem as an adult, general relationship satisfaction, adult family intimacy, and adult peer intimacy (Giordana et al., 1998). A recent study found that a close mother-child relationship during adolescence and strong maternal involvement during childhood were associated with life satisfaction by men and women during their 40's (Flouri, 2004). Further, research has indicated that strong adolescent-parent intimacy has been negatively related to later adult crime, domestic violence, and

psychological distress for the former adolescent as assessed by emotional and behavioral symptoms of anxiety and depression (Giordana et al., 1998).

Alternatively, parent-child relationships with lower rates of warmth, higher rates of interpersonal rejection, and higher levels of emotional withdrawal place children at an elevated risk for a variety of negative outcomes (see Burman, John, & Margolin, 1987). For example, children who live in a climate of anger or aggression in the home might have fewer opportunities to develop appropriate coping skills, anger management techniques, and conflict resolution skills (Jaycox & Repetti, 1993), which could foster and perpetuate poor peer interactions. Moreover, harsh discipline practices within the home are correlated with children's aggressive behaviors at school (Weiss, Dodge & Bates, 1992), which, in turn, are related to a heightened risk of peer rejection (Coie & Dodge, 1983; Hawley, 2002). Furthermore, harsh discipline practices might precipitate a generally negative self-perception, which might predispose a child to low self-esteem and internalizing problems (Jaycox & Repetti, 1993). A parent-child relationship that incorporates harsh discipline might also foster a view of the world as hostile and unsafe, perceptions that are associated with internalizing disorders.

Albeit speculative, the relation between social dominance and adjustment outcomes might be moderated by the relationship a child has with his or her parents. Research suggests that parents provide social support for children during times of significant stress (Orbuch, Parry, Chesler, Fritz, & Repetto, 2005). Thus, children with supportive parents might be able to better manage and recover from significant stresses with peers than those without such support. For example, in a study conducted by Dougherty, Klein, and Davila (2004), children with adverse parent-child relationships experienced increased level of depressive symptoms in response to stress as compared to those with more positive relationships with caregivers, which is consistent

with findings of Durbin, Klein, and Schwartz (2000). Furthermore, overweight teenage girls with positive parent relationships experienced less psychosocial risk than those with poorer relationships with parents (Turner, Rose, & Cooper, 2005). Thus, if a child receives attention, companionship, and trust from a parent, he or she might not experience emotional costs associated with lower dominance and limited access to social resources in the peer group.

### Current Study

The goal of the current study was to expand on initial findings (Dix, 2004) that revealed a weak correlation between low levels of social dominance and maladjustment. Theoretically, a child who is lower in dominance among peers should not have access to or receive needed or wanted social resources such as attention from peers and visibility in the peer group (Hawley, 1999). From a theoretical standpoint, a child who lacks sufficient resources should experience some level of difficulty, expressed either as emotional or behavioral problems (see Kupersmidt & Patterson, 1991; Lease et al., 2002). A preliminary study found limited support for this relation for children in middle childhood (Dix, 2004).

The current study examines several potential moderating variables that could affect the relation between low social dominance and emotional maladjustment. Specifically, the focus of this study was the role of five potential moderating variables of the relation between social dominance and internalizing difficulties for children in middle childhood. The study focuses first on friendship. Specifically, the effects of the quality of a mutual friendship (either more highly negative or more highly positive in quality) on emotional outcomes were analyzed. It was hypothesized that social dominance would be less predictive of emotional maladjustment when friendship quality is high. A second variable related to friendship, dominance level of a child's friend, was also assessed. It was hypothesized that the dominance level of a child's friend would

positively affect the relation between social dominance and adjustment. That is, lower dominance in association with a high dominant friend would predict less emotional maladjustment because the high dominant friend might provide increased access to social and material resources as compared to the low dominant friend.

The second area of inquiry is temperament. Specifically, the temperament factors of positive emotionality, negative emotionality, and sociability were evaluated to consider their influence on the relation between social dominance and emotional adjustment. Children with higher rates of negative emotionality are considered more likely to experience anxiety, anger, and hostility (Nelson et al., 1999; Shiner, 1998). Indeed, links have been reported between negative emotionality and negative psychological, emotional, and academic outcomes (see Rothbart & Bates, 1998; Eisenberg et al., 1997). Conversely, higher rates of positive emotionality have been found to be related to positive outcomes such as self-satisfaction, a general sense of well being, and might serve as a buffer for depressive symptoms (Leguna, 2003; Chorpita et al., 1998; Lonigan et al., 2003). Links between low sociability in childhood and internalizing problems including anxious and depressive disorders have been documented (Sanson et al., 2004; Schwartz et al., 1999; Caspi, 2000). It was hypothesized that dominance would be significantly related to more emotional maladjustment when lower rates of positive emotionality, higher rates of negative emotionality, or lower rates of sociability were present.

The third domain of interest is parent-child relationships. A positive parent-child relationship is considered a potential moderator between social dominance and outcome measures. Specifically, it can be speculated that a child who reports a positive relationship with his or her parents, as reflected by reports of trust and open communication, would be less likely to suffer the ill effects of low dominance in the peer group because the child would have



alternative methods of gaining valued social resources (e.g., attention, affiliation). Conversely, if a child perceives poor parent-child relationships, or feelings of distrust and lack of belonging, he or she might be more negatively affected by lower standing on the dominance hierarchy than if he or she perceived the parent-child relationship more positively. Thus, low dominance would be less likely to lead to emotional distress for children who perceive their parent-child relationship positively.

## CHAPTER 3: METHOD

### Participants

Analyses were conducted with data collected from 473 students in 11 fourth- and 15 fifth-grade classrooms from six rural elementary schools in the southeast region of the United States. The sample was comprised of 52% female, 54% white, 43% African American, and 3% Hispanic, Asian, or Multiracial. Each classroom was a self-contained regular education classroom.

### Procedure

Participants were recruited and data was collected during the late spring and late fall. Parental consent forms were sent home with spaces indicated for consent and refusal of consent. The consent rate obtained was 88.7% of possible participants (i.e., 473 of 533). In addition, children were asked to give their assent to participate. No student with consent declined to participate in the study. Only the names of the students with parental consent to participate were included on the peer nomination measure.

### Instruments and Measures.

*Social Dominance.* Paired comparisons were used to determine social dominance in the peer group, as demonstrated by methods reported in Axelrod (2000). This method is built on the idea that dominance manifests during dyadic interchanges (Hawley, 1999). Specifically, children were presented with all possible dyads of same-sex classmates and were asked to select the member of each dyad that demonstrated “more power and influence.” No cross-gender dyads were used due to prior findings suggesting that nominations in cross-gender dyads tend to be biased in favor of males (Axelrod, 2002). Thus, children completed ratings for same-sex

children in their classroom. Peer-rated dominance was calculated based on the total number of times that a child was chosen as the more dominant member of a dyad. The number of times the child was selected was summed and standardized within classroom and gender to a mean of 0 and a standard deviation of 1. Self-rated dominance was not utilized in this study, as a preliminary study suggested that peer-rated dominance was more highly related to adjustment measures than self-reported dominance (Dix, 2004).

*Peer Nominations of Behavior.* Participants were asked to nominate classmates that they identified as having specific behavioral and emotional characteristics, both positive and negative. Instructions similar to those from the Revised Class Play were used (Masten et al., 1985). The specific instructions are as follows: “Pretend that you are assigning roles in the upcoming class play. We would like for you to nominate three children who fit each role as listed below. You can nominate a person for more than one role.” (Masten et al., 1985).

Children nominated up to three participating classmates that they felt best matched the characteristics listed. Peer-report of the following characteristics will be used as indicators of emotional maladjustment, as perceived by peers: (a) “Feelings hurt easily”; (b) “sad or unhappy;” and (c) “worries/easily scared.” Previous studies have indicated that behavioral nominations by peers produce scores with high split-half reliabilities (Perry, Kusel, & Perry, 1988) and high test-retest reliabilities (Coie & Dodge, 1983).

*Self-Report of Emotional Adjustment.* Children completed the Behavior Assessment System for Children – Self Report of Personality (BASC-SRP) (Reynolds & Kamphaus, 1992) in order to assess the individual child’s perception of his or her own behavioral and emotional functioning. Internal consistencies of the individual scales on the BASC-SRP range from .70 to .89, with a mean of .80 (Reynolds & Kamphaus, 1992). Specific scales used as outcome measures of

adjustment include Depression, Self-Esteem, Interpersonal Relations, Locus of Control and Social Stress, all of which were found to be elevated in a particular cluster of children, identified as the *Internalizing Problems* cluster in Kamphaus and colleagues 2003 cluster analysis study.

To determine a child's view of his or her relationship with parents, a subscale from the BASC-SRP, Relations with Parents, was used. The Relations with Parents subscale measures whether or not a child views himself or herself as an integral member of the family, trust between the child and parent, level of concern that the parent has for the child, and the overall status of the relationship between child and parent (Reynolds & Kamphaus, 1992). Specific items include the following: "I am an important person in my family;" "I like to be close to my parents;" "My parents listen to what I say;" "My parents trust me" (Reynolds & Kamphaus, 1992). Again, internal consistency and reliability ratings are described as high, with a coefficient alpha of .72 for the Relations with Parents scale (Reynolds & Kamphaus, 1992).

*Assessment of Temperament.* Teacher ratings of temperament were conducted by administration of the short form of The Inventory of Child Individual Differences (Halverson, Havill, Deal, Baker, Victor, Pavlopoulou, Besevegis, & Wen, 2003), a sixty-one-item scale. Teachers were asked to rate each child in comparison to "other children his/her age." The ratings ranged from 1 (much less than the average child or not at all) through 7 (much more than in the average child) in a Likert-type format.

This scale assesses several temperament constructs, three of which are the focus of the current study: Positive affect, negative affect, and sociability. The Sociable scale was used as a negatively scored proxy for the construct of inhibition. Examples of positive affect items include: "Is happy;" "is cheerful;" "is loving;" and "has a sense of humor." Examples of items reflective of negative emotionality include: "is moody;" "is irritable;" and "gets angry easily."

Examples of items considered indicative of sociability include: “is friendly; “is outgoing;” and “is lively and enthusiastic.”

*Friendship Factors.* The Friendship Qualities Questionnaire (FQQ), originally developed by Bukowski and Hoza in 1989 and revised by Parker and Asher in 1993, was used to measure the quality of a child’s friendship with another individual in the classroom. The FQQ is a 41-item scale used by children to rate their relationships with a specific friend as determined through friendship nominations. Specifically, following guidelines set forth by Parker and Asher (1987), a child’s best friend was determined through a two-step process. Initially, children were asked to identify their three “best friends.” They were then asked to select one of their three choices as their “very best friend.” The highest level of reciprocated friendship was sought. In order to do so, four levels of friendship were determined, with ratings ranging from 1 (mutual very best friend) to 4 (no reciprocated friendships). A rating of 1 indicated that two children were mutual “very best friends.” That is, Child A and Child B circled the other’s name as their very best friend. A rating of 2 indicated that Child A chose Child B as a very best friend, but Child B chose Child A as only a best friend (e.g., Child B did not circle Child A’s name as his or her “very best friend”). A rating of 3 indicated a mutual friendship and was used if the peer selected by Child A as his or her “very best friend” did not nominate him or her as one of his or her three best friends. In this case, a child selected by Child A as a “best friend” was used if the child reciprocated the nomination of Child A as a friend. Finally, a rating of 4 was used if a child had no reciprocated friendships. That is, none of the three children identified by Child A nominated Child A as a best friend in return. In this case, the name of the child that Child A nominated as a “very best friend” was used in the questionnaire. Each participating child completed a survey, although a child’s FQQ results were used in analyses only if they received a rating of 1-3. The

name of the friend chosen to be on the FQQ was indicated at the top of the page and embedded in each item. Children were then asked to “think about” a specific child (e.g. the child with whom they shared the highest rated reciprocated friendship) when answering the Likert-scale items presented in measure. The options for each item range from 1 (not at all true) through 5 (really true). Examples of items include the following with the term “my friend” replaced with a specific name: “My friend and I always share things like stickers, toys, and games with each other;” “If I told my friend a secret, I could trust my friend not to tell any one else;” “My friend and I bug each other.”

The FQQ is divided into five subscales that measure specific factors related to friendship: Companionship, Help, Security, Closeness, and Conflict (Bukowski et al., 1994). The *Companionship* scale is comprised of items that reflect companionship, or sharing of pastimes and spending time together; whereas, the *Help* factor assesses a child’s perception of general assistance, guidance, and protection from individuals outside of the dyad (e.g., bullies) (Bukowski et al., 1994). The *Security* scale measures aspects of validation and caring between the friends; that is, the level of trust of the child in the individual friend as well as confidence that the relationship is permanent (Bukowski et al., 1994). *Closeness* refers to intimate exchanges between friends or the sharing of private feelings, experiences, and missing the friend should interactions be terminated or less frequent (Bukowski et al., 1994). The items contained in the *Conflict* scale refer to animosity and verbal disagreements or fights between the child and his or her best friend (Bukowski et al., 1994). Previous studies reported good internal consistency in that children reliably describe features of close relationships (Parker & Asher, 1993). In addition, studies by Bukowski et al. (1994) and by Schneider et al. (1997) have demonstrated concurrent and predictive validity; the scales have been shown to discriminate between

relationships with friends versus acquaintances and between relationships continuing versus noncontinuing friendship dyads (Schneider, 1999).

A second aspect of friendship, the dominance level of a child's closest reciprocated friendship, was considered to be a potential moderator of the relation between social dominance and emotional adjustment. As described previously, dominance scores were determined through peer-ratings of all same-sex dyads within a classroom of who had "more power and influence;" scores were standardized to have a mean of zero and a standard deviation of one. As with measurement of friendship quality, only the scores of children who had reciprocated friendships were used in the analyses.

## **CHAPTER 4: RESULTS**

The current study sought to expand on a prior unpublished study (e.g. Dix, 2004) that indicated meager correlations between social dominance and emotional adjustment for children in middle childhood. The results of the preliminary study were in contrast to theoretical research linking social dominance in childhood to emotional maladjustment due to lack of motivation or ability to gain social resources (Hawley, 1999). The current study examined potential moderator variables, sampled from three conceptual domains, in an effort to better explain the relation between social dominance and emotional adjustment. Specifically, friendship factors, temperament characteristics, and parent-child relationships were considered to possibly moderate the relation between social dominance and emotional adjustment for children in middle childhood. The significance of moderator variables were measured through multiple regression analyses with the interaction term serving as an indicator of the moderator effect (see Baron & Kenney, 1986; Holmbeck, 1994; Holmbeck, 2002).

Baron and Kenny (1989) have outlined procedures to assess the significance of a moderator dependent on the nature of the predictor and moderator (e.g. categorical versus continuous); however, Holmbeck (1997) indicated that using variables in a continuous form was preferred to arbitrarily dividing the data into groups. The predictor variable in this study (peer-rated dominance) and all moderators were considered to be better represented as continuous variables, as all were unimodal and generally normally distributed with acceptable levels of skew ( $\pm 2$ ) and kurtosis ( $\pm 7$ ) (Curran, West, & Finch 1996). An exception was observed for the moderator variable “friendship quality”, which was negatively skewed. To correct this, a square root transformation was computed (Hutcheson & Sofroniou, 1999).



A series of multiple regression analyses were conducted, with peer rated dominance, the specific moderator variable, and the interaction between dominance and the moderator included as predictors. The interaction term served as an indication of the significance of the moderator in the model (Baron & Kenny, 1989; Holmbeck, 1997; Holmbeck, 2002).

As a first step, all moderator variables (i.e., negative emotionality, positive emotionality, sociability, friendship quality, dominance of friend and parent-child relationships) were centered, per procedures outlined by Aiken and West (1991), to avoid complications of multicollinearity. Thus, all moderators had a revised sample mean of zero. This procedure has no effect on the coefficients (Holmbeck, 1994; Holmbeck, 2002). Interaction terms were then calculated by multiplying the values for peer-rated dominance by the centered moderator term.

Regression analyses were run using a combined sample of males and females with the following five variables serving as moderators of the relation between peer-rated dominance and self-reported adjustment variables: Negative emotionality, positive affect, sociability, friendship quality, dominance level of friend and parent-child relations. A second series of multiple regression analyses were run separately by gender. Identical moderator variables were employed. Results were similar between the two sets of analyses; therefore, only those separated by gender are included and discussed.

Post-hoc analyses were subsequently conducted to further investigate significant moderational effects following guidelines detailed in earlier studies (e.g., see Holmbeck, 2002). The presence of a significant interaction indicates that a significant moderational effect has been detected. That is, the combined effect of the predictor and the outcome is significantly different across levels of the moderator when main effects are controlled (Aiken & West, 1991; Holmbeck, 1997; Holmbeck, 2002). A significant interaction effect does not, however, indicate

the *specific* conditions under which the predictor is significantly related to the outcome (e.g., at higher levels of the moderator, lower levels of the moderator, or both) (Holmbeck, 2002).

Therefore, post-hoc tests are needed to thoroughly explore the nature of the interaction (Holmbeck, 2002).

Post-hoc probes were conducted by computing two new conditional moderator variables by manipulating the 0 point of the centered moderator used in the initial regression analyses (Holmbeck, 2002). Specifically, two new variables were created that represented (1) a conditional moderator with a mean equal to one standard deviation higher than the centered moderator variable and (2) a conditional moderator variable with a mean of one standard deviation below the centered moderator variable (Holmbeck, 2002). Essentially, the new moderator variables reflect high and low levels of the original moderator. New interaction terms were computed by multiplying the predictor by the each conditional moderator variable.

Subsequently, two sets of regression analyses were run to assess each significant interaction term (e.g. moderator effect) that emerged in the original regression analyses - one set of regression analyses using the predictor (i.e., peer-rated dominance), new high moderator variable (e.g., friendship quality, dominance of friend, negative emotionality, positive emotionality, sociability, parent-child relationships), and interaction term (predictor X high moderator) and one using the predictor, new low moderator variable, and the interaction term (predictor X low moderator) (Holmbeck, 2002). Rather than looking to the interaction term to determine significance at this point, attention was paid to the significance of the predictor variable (e.g. social dominance) on the outcome variable while including both main effects of X and Y variables (e.g. social dominance, friendship quality) and the interaction effect (e.g. social dominance X friendship quality) in the model (Holmbeck, 2002). This series of regression

analyses looked to assess the effect of the predictor on the criterion at specific levels of moderator. Regression equations for both conditional moderator variables were generated, and significance tests (t-tests) for each slope were computed to indicate the strength and direction of the influence of the predictor on the criterion (Holmbeck, 2002). Regression lines were plotted by substituting high and low values (e.g. one standard deviation above and one standard deviation below) of the predictor into the regression equation, which included the unstandardized regression weight for the predictor variable (Holmbeck, 1997; Holmbeck 2002).

The results are presented in two parts. Findings with self-reported adjustment measures as dependent variables are presented first followed by findings for peer-rated adjustment. For clarity, the term “personal dominance” is used to refer to the peer-rated social dominance of a specific child when discussing his or her own level of dominance in conjunction with the dominance level of his or her friend. A total of 96 multiple regression analyses were run, 16 (16.67%) of which were significant. This percentage is larger than what would be expected by chance alone.

#### Self-Report of Adjustment

The criterion variables for this portion of the analyses were the following scales on the BASC-SRP: Depression, Self-Esteem, Interpersonal Relations, Locus of Control, and Social Stress. Significance values associated with interaction effects have been reported in the tables as they represent the significance of the moderator in the model - the focus of the current study. A main effect, on the other hand, represents the effect of one factor, such as social dominance, on the dependent variable without regard to other factors in the analysis. The main effects are not of primary interest and are, therefore, not reported in the current study.

Results of the multiple regression analyses for self-rated emotional adjustment, conducted separately by gender, are presented in Table 1. The results were nonsignificant for females across all potential moderator variables, which suggest that the moderator variables employed do not significantly affect the relation between dominance and self-reported adjustment for females. This was inconsistent with expectations.

Several significant findings were noted for males, however. Results indicate that positive emotionality significantly moderated the relation between dominance and social stress for males ( $t_{(200)} = 2.322, p = .021$ ). Post-hoc testing revealed that males reported less social stress at higher levels of dominance when positive emotionality is high; males who were lower in positive emotionality did not report a change in level of social stress as dominance increased (see Figure 1). This is consistent with predictions that higher rates of positive emotionality coupled with higher social dominance would predict less emotional distress.

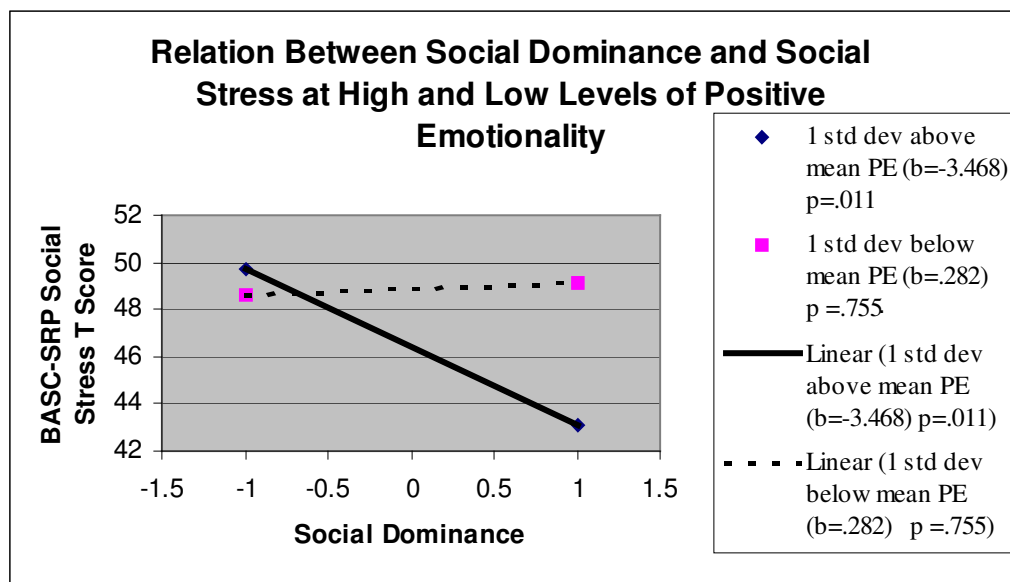


Figure 1.

Friendship quality significantly moderated the relation between social dominance and self-esteem for males ( $t_{(204)} = -2.744, p = .007$ ). Subsequent analyses indicated a significant

positive relation between dominance and self-esteem for males with friendship quality one standard deviation above the mean (See Figure 2). That is, males reported higher self-esteem at higher levels of dominance when friendship quality was high. When friendship quality was low (e.g. one standard deviation below the mean), however, dominance did not significantly predict self-esteem for males. This finding is consistent with predictions that friendship quality would significantly affect the relation between dominance and emotional adjustment; however, this finding only holds true when friendship quality is high.

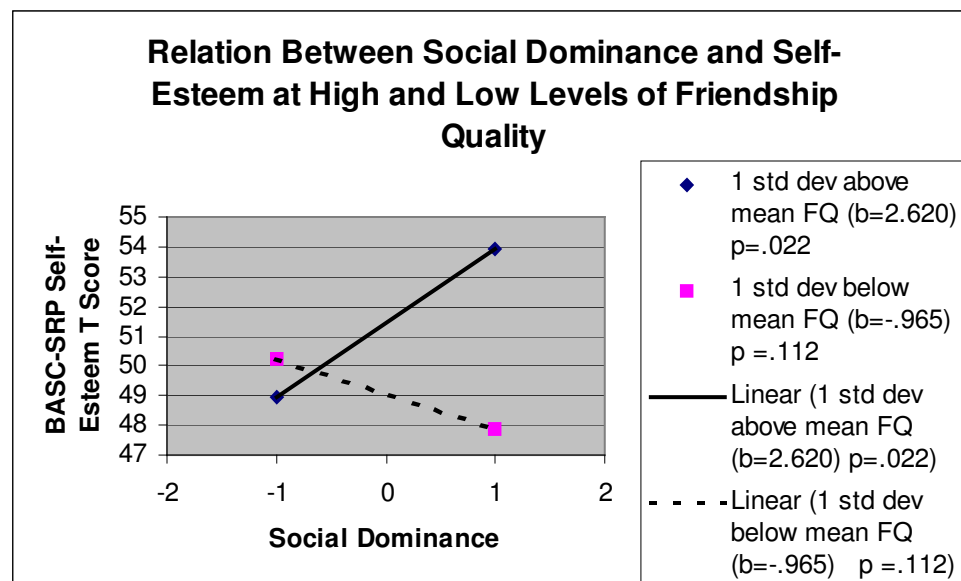


Figure 2.

For males engaged in a mutual friendship, the dominance level of a child's friend significantly moderated several outcomes for males, as hypothesized. First, the relation between dominance and self-reported self-esteem was significantly moderated by the dominance level of a child's friend ( $t_{(170)} = 1.980, p = .049$ ). Post-hoc analyses indicated a significant positive relation between social dominance and self-esteem when friend dominance was high ( $t_{(170)} = 2.126, p = .035$ ) (Figure 3.). That is, higher self-esteem was predicted at higher levels of

dominance only for males with friends who were higher in dominance. For males with low dominant friends, social dominance was not predictive of self-esteem ( $t_{(170)} = -.834$ ,  $p = .406$ ).

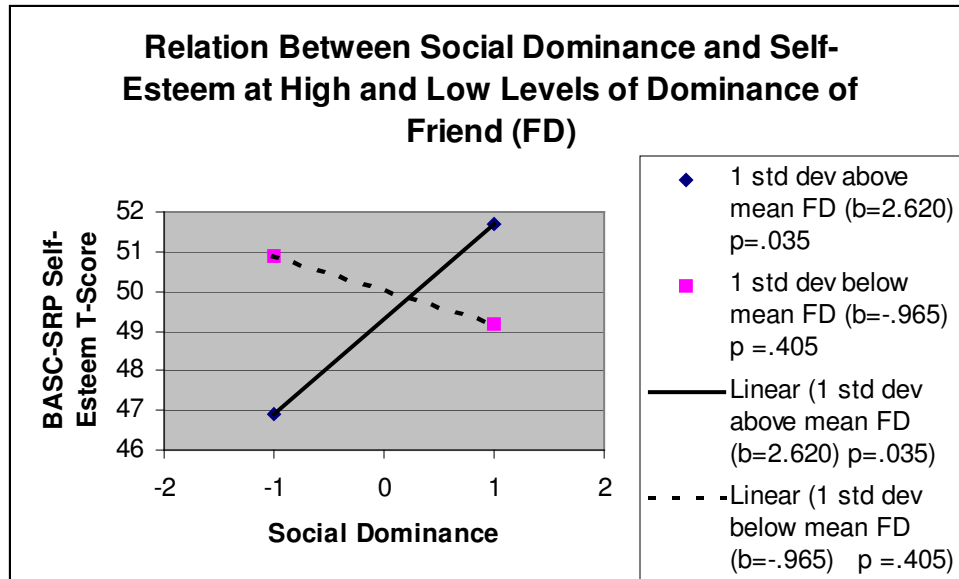


Figure 3.

A significant negative relation was documented between social dominance and locus of control when moderated by friend dominance level ( $t_{(170)} = 2.055$ ,  $p = .041$ ). For males with a reciprocated friend who was rated as high dominant, increases in personal dominance was predictive of greater feelings of control over their lives (internal locus of control indicated by lower T-scores on the BASC-SRP) ( $t_{(170)} = -3.037$ ,  $p = .016$ ) (See Figure 4.). Thus, a more internal locus of control was indicated at higher levels of dominance when a male was engaged in a friendship with a high dominant friend. When looking at friend dominance that was one standard deviation below the mean, findings were nonsignificant ( $t_{(170)} = .795$ ,  $p = .507$ ). That is, a friend's dominance level did not moderate the relation between personal dominance and locus of control for males with low dominant friends.

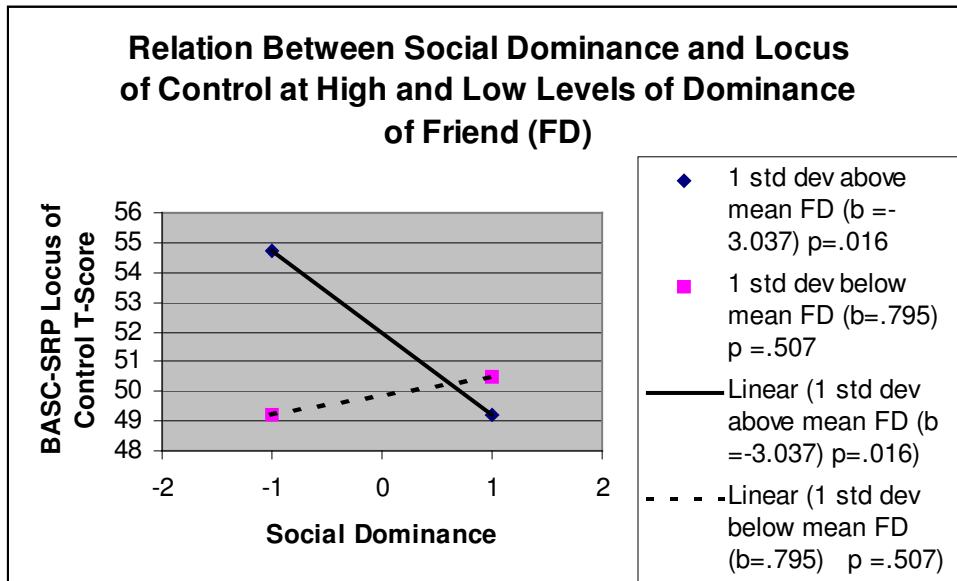


Figure 4.

Although the interaction between personal dominance and friend dominance level for males was significant in the original regression model, post-hoc analyses were not significant between dominance and depression at high ( $t_{(170)} = -1.891$ ,  $p = .060$ ) or low ( $t_{(170)} = 1.226$ ,  $p = .222$ ) levels of the moderator (see Figure 5.), which was inconsistent with expectations.

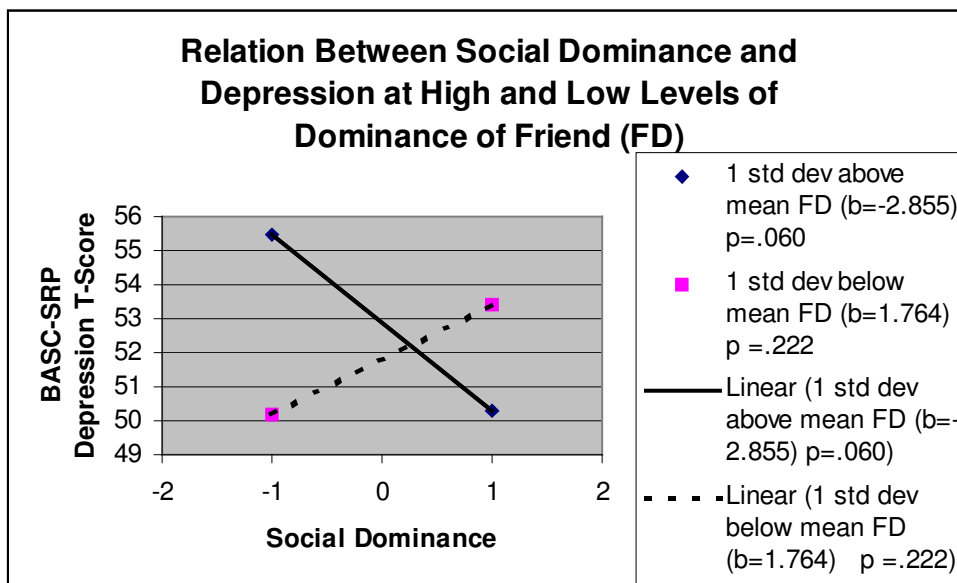


Figure 5.

## Peer-Rated Adjustment

Regression analyses were conducted with peer-rated adjustment variables as criterion variables, separately by gender; results are presented in Table 2. The peer-rated criterion variables used in the section include: Worries/easily scared, afraid/shy, and sad/unhappy. Significant interactions were indicated for males and females; results for males are discussed first.

Males. Negative emotionality significantly moderated the relation between social dominance and all ratings of adjustment for males (Worries/easily scared:  $t_{(211)} = 2.309$ ,  $p = .022$ ; Afraid/shy:  $t_{(211)} = 2.216$ ,  $p = .028$ ; Sad/unhappy:  $t_{(211)} = 2.443$ ,  $p = .015$ ). Post-hoc analyses indicated that for males one standard deviation above the mean in negative emotionality ( $t_{(211)} = -3.019$ ,  $p = .003$ ) as well as those one standard deviation below the mean in negative emotionality ( $t_{(211)} = -5.674$ ,  $p < .001$ ), dominance significantly predicted peer ratings of worries/easily scared (See Figure 6.), which was consistent with expectations.

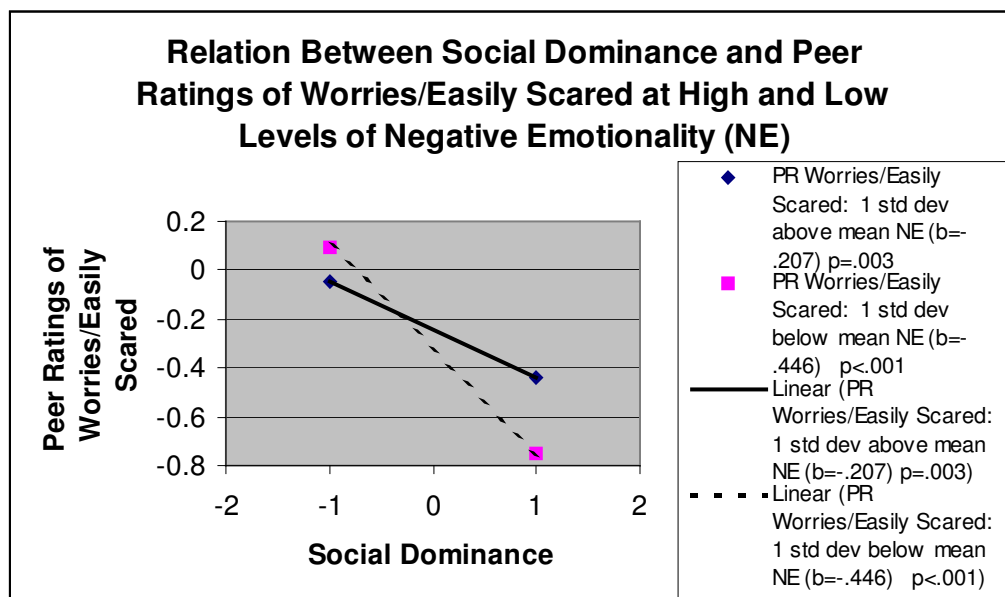


Figure 6.



A similar significant, negative trend was noted for peer-ratings of afraid/shy following post-hoc analyses. That is, males who were one standard deviation above the mean for negative emotionality ( $t_{(214)}=-5.307$ ,  $p<.001$ ) and males one standard deviation below the mean ( $t_{(214)}=-2.739$ ,  $p=.007$ ) were less likely to be rated by peers as afraid/shy as dominance increased (See Figure 7.). Consistent with hypothesis, social dominance was predictive of peer-ratings of worries/easily scared and afraid/shy when children were described as high in negative emotionality as well as low in negative emotionality.

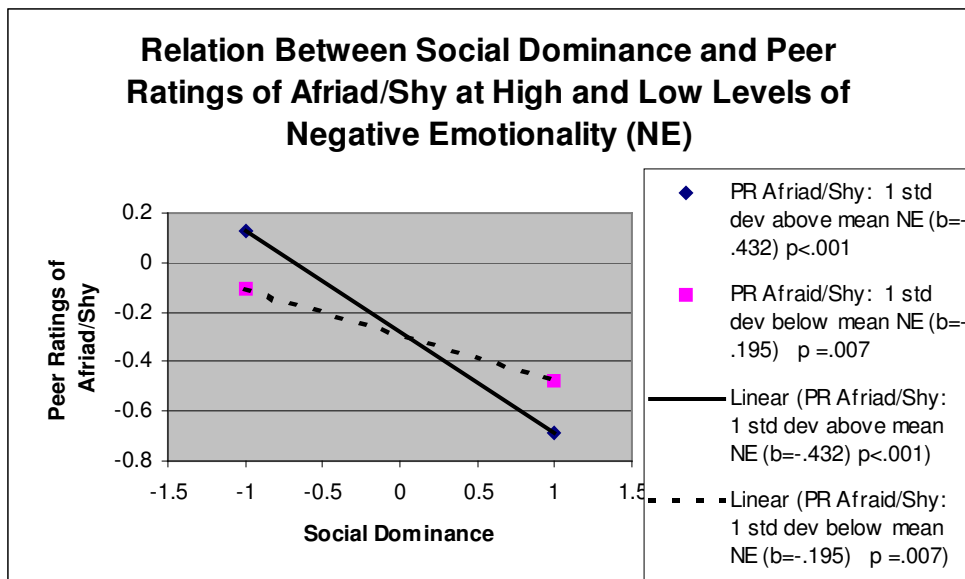


Figure 7.

Alternatively, a significant relationship was documented between dominance and peer-ratings of a child as sad/unhappy only for children one standard deviation below the mean in negative emotionality ( $t_{(211)}=-4.754$ ,  $p<.001$ ) as compared to one standard deviation above mean in negative emotionality ( $t_{(211)}=-1.762$ ,  $p=.079$ ). For children lower in negative affect, as dominance increased, peer ratings of emotional difficulties were more likely. This finding is inconsistent with expectations.

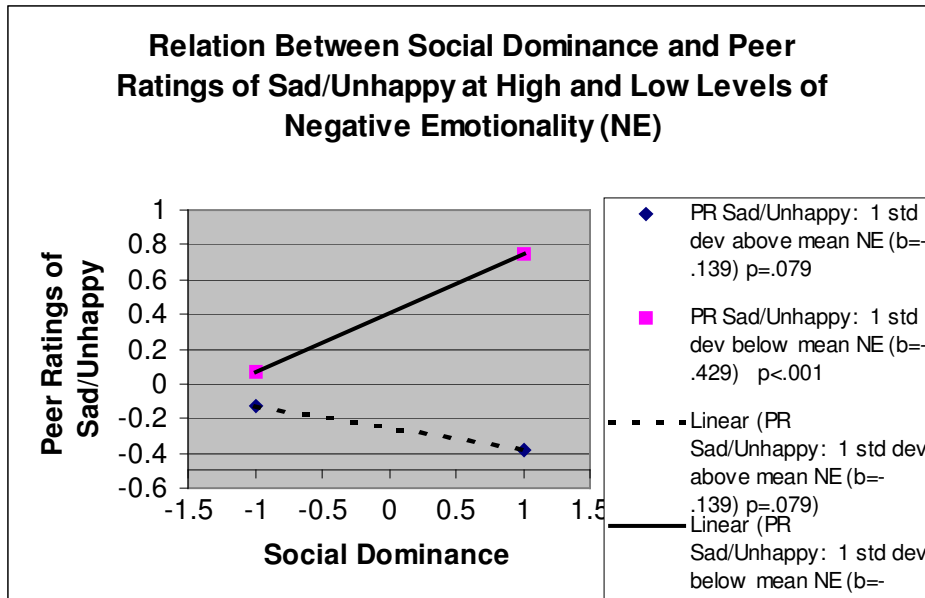


Figure 8.

Sociability significantly moderated the relation between dominance and peer-ratings of afraid/shy ( $t_{(211)} = 2.784$ ,  $p = .006$ ) and sad/unhappy ( $t_{(211)} = 3.581$ ,  $p < .001$ ) for males. Post-hoc analyses indicated that peer-ratings of a child as afraid/shy were less likely at higher levels of dominance when sociability was low ( $t_{(211)} = -5.599$ ,  $p < .001$ ) (See Figure 9.). Consistent with expectations, if a male was rated low in sociability, lower social dominance predicted a greater likelihood that peers would rate the child as afraid/shy. A similar finding did not emerge for males one standard deviation above the mean in sociability ( $t_{(211)} = -.708$ ,  $p = .480$ ).

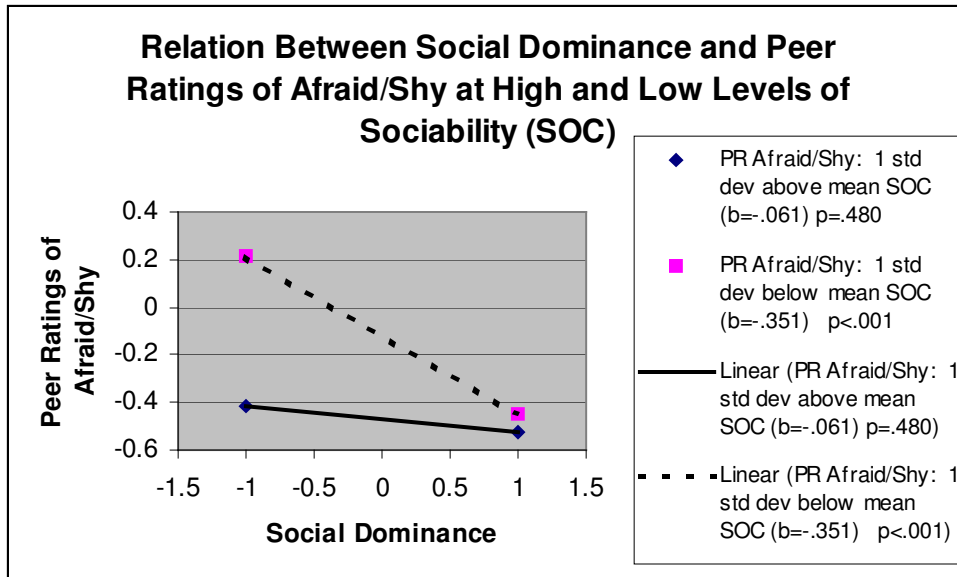


Figure 9.

Likewise, post-hoc analyses indicated that increases in dominance were predictive of fewer peer-ratings of sad/unhappy only for males who were one standard deviation below the mean in sociability ( $t_{(211)} = -4.963$ ,  $p < .001$ ) (See Figure 10.). As predicted for males low in sociability, peer ratings of sad/unhappy decreased as dominance decreased.

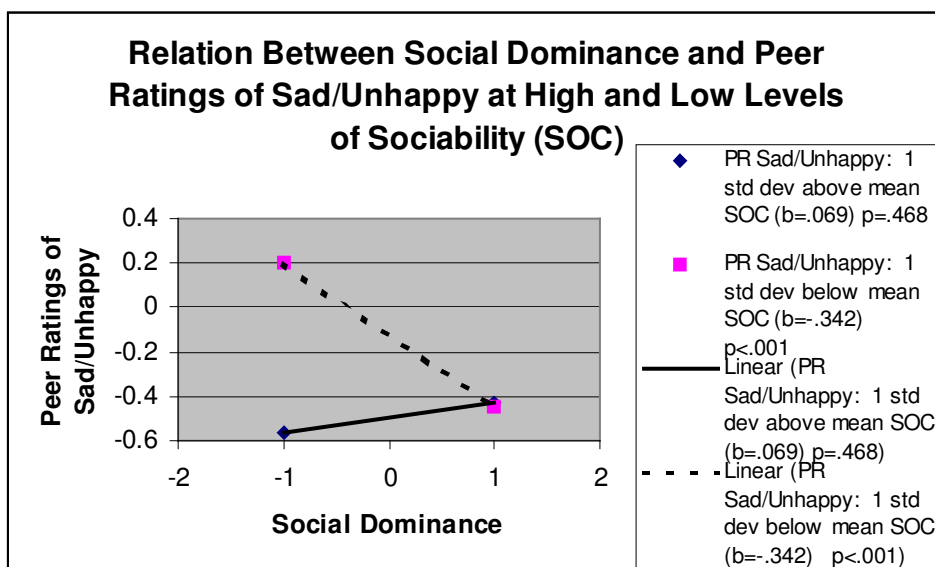


Figure 10.

Friendship quality significantly moderated the relation between dominance and peer ratings of sad/unhappy ( $t_{(215)} = -2.973$ ,  $p = .003$ ). Subsequent post-hoc analyses indicated that this finding held true only for males one standard deviation below the mean in reported friendship quality ( $t_{(215)} = -5.201$ ,  $p < .001$ ) (See Figure 11.). Peer ratings of emotional distress (e.g. appearing sad/unhappy) were higher for males at lower levels of dominance when friendship quality was low.

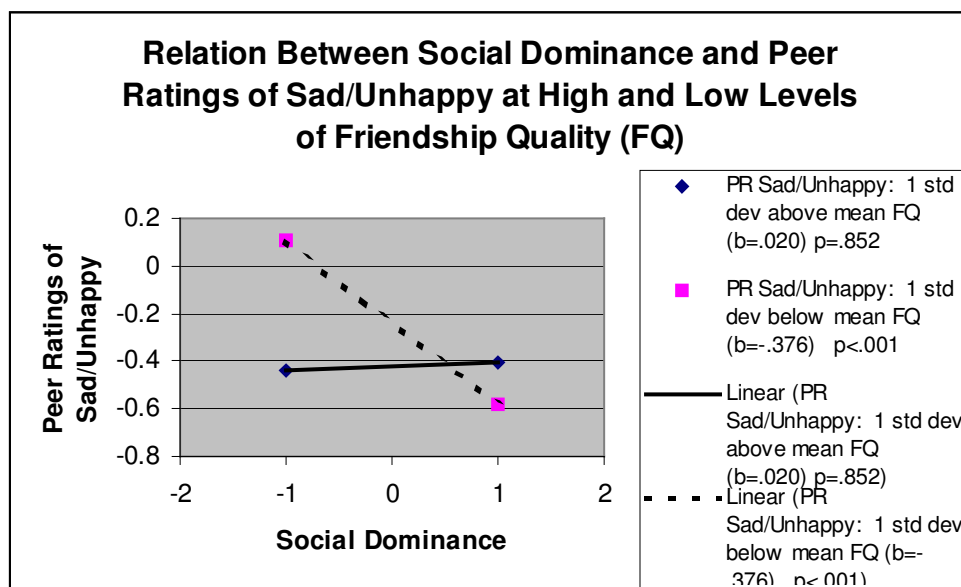


Figure 11.

*Females.* For females, sociability significantly moderated the relation between dominance and peer ratings of worries/easily scared ( $t_{(236)} = 2.105$ ,  $p = .036$ ). Post-hoc analyses revealed that dominance was moderated by sociability only for those females one standard deviation below the mean for sociability ( $t_{(236)} = -5.416$ ,  $p < .001$ ) (See Figure 12.). The relation was negative, indicating that peer ratings of worries/easily scared were higher at lower levels of dominance when sociability was low, which was expected. Results were nonsignificant for females who were one standard deviation above the mean in sociability ( $t_{(236)} = -1.602$ ,  $p = .111$ ).

Therefore, social dominance was not predictive of peer ratings of worries/easily scared when sociability was high.

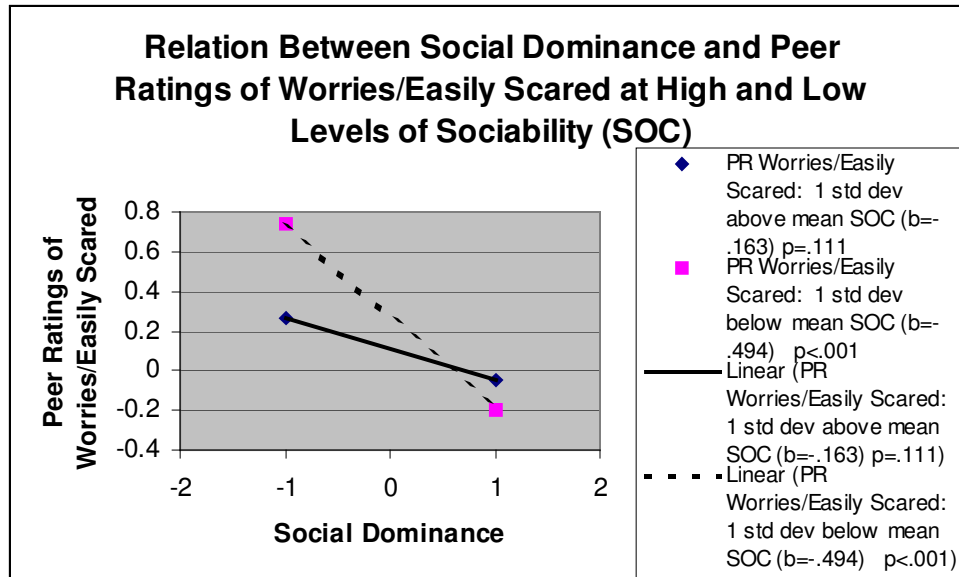


Figure 12.

Friendship quality moderated the relation between dominance and peer ratings of worries/easily scared for females ( $t_{(238)} = -2.973$ ,  $p = .003$ ). Results of post-hoc analyses indicated that the moderator term was significant at higher ( $t_{(238)} = -2.523$ ,  $p = .012$ ) and lower levels ( $t_{(238)} = -4.785$ ,  $p = .001$ ) of the moderator, both of which were in a negative direction (see Figure 13.). Thus, consistent with hypotheses, social dominance was predictive of peer ratings of worries/easily scared for females when friendship quality was considered at high and low levels.

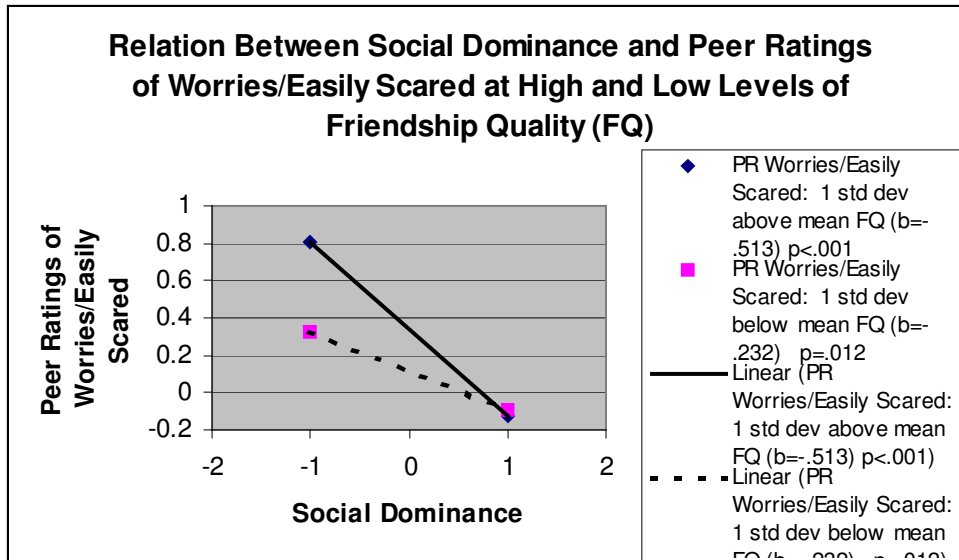


Figure 13.

As anticipated, the dominance level of a female's highest reciprocated friend significantly moderated the relation between dominance and all peer ratings: Worries/easily scared ( $t_{(200)} = 2.629$ ,  $p = .009$ ), afraid/shy ( $t_{(200)} = 2.534$ ,  $p = .012$ ), sad/unhappy ( $t_{(200)} = 2.469$ ,  $p = .014$ ). Subsequent analyses indicated a significant negative relation between dominance and peer ratings of a female student as worrisome or easily scared only for females with a friend whose dominance level was at least one standard deviation below the mean ( $t_{(200)} = -3.737$ ,  $p < .001$ ) (see Figure 14.). That is, peer ratings of worries/easily scared were more likely at lower levels of dominance when friend dominance was low. This was not true for females with high dominant friends ( $t_{(200)} = .509$ ,  $p = .611$ ).

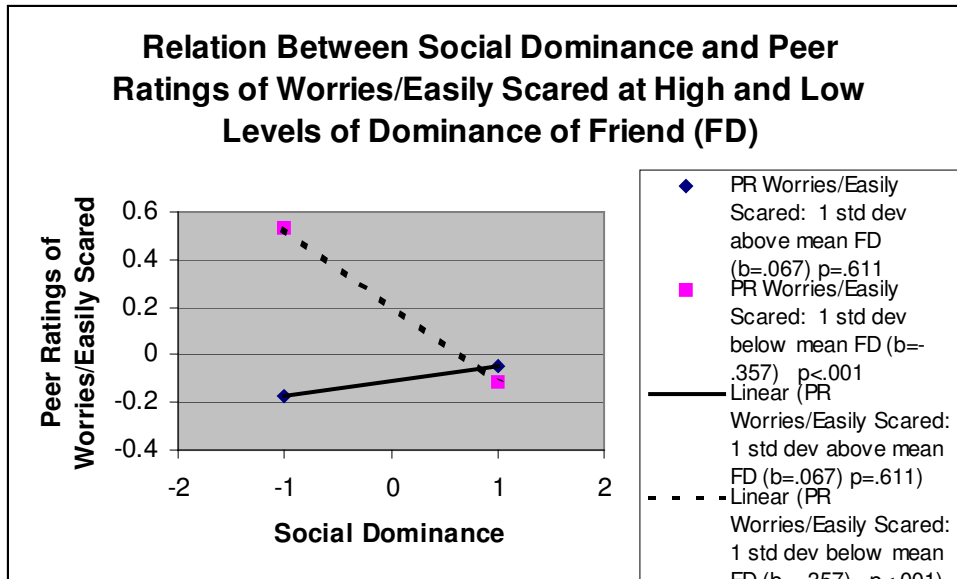


Figure 14.

Post-hoc analyses revealed a significant relation between dominance and peer ratings of afraid/shy at high ( $t_{(200)}=-2.170$ ,  $p=.031$ ) and low levels ( $t_{(200)}=-7.262$ ,  $p<.001$ ) of the moderator variable, both of which were in a negative direction (See Figure 15.). The findings suggest that social dominance was predictive of peer ratings of afraid/shy when friend dominance was considered; as dominance increases, peer ratings were less likely.

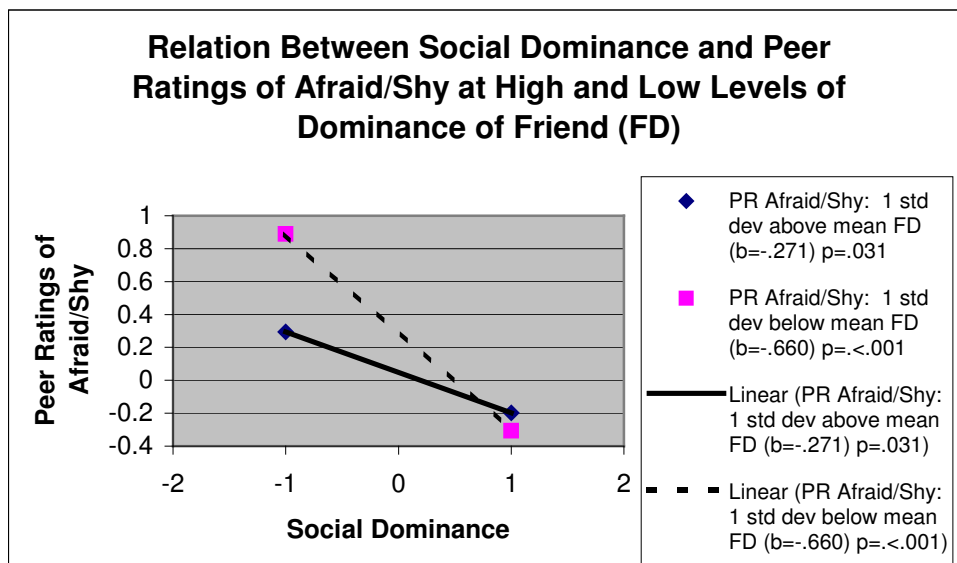


Figure 15.

Similarly, social dominance significantly predicted peer ratings of sad/unhappy when high ( $t_{(200)}=-2.094$ ;  $p=.038$ ) and low levels ( $t_{(200)}=-7.046$ ;  $p<.001$ ) of friend dominance was considered (See Figure 16.). As dominance increased for females, peer ratings of sad/unhappy were less likely when considering dominance level of friends.

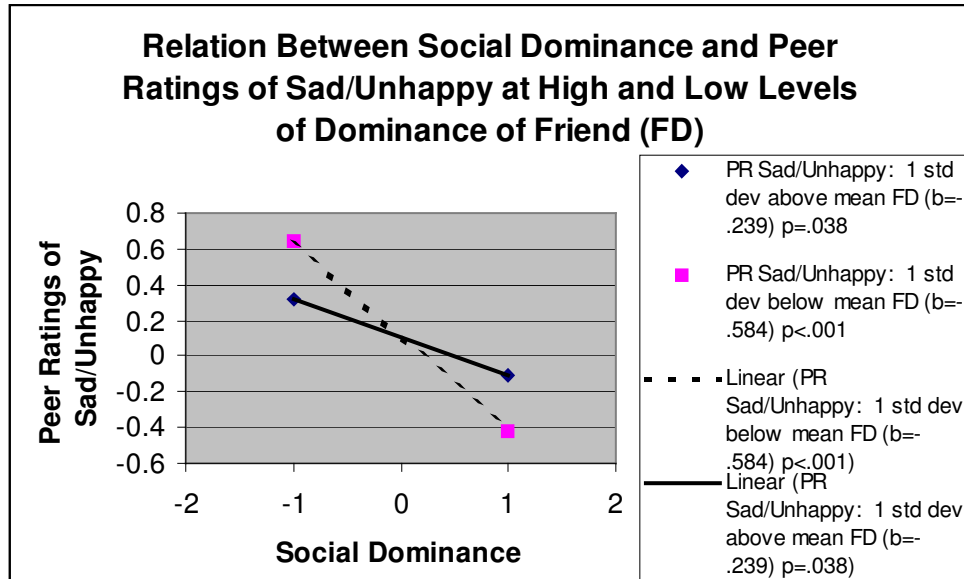


Figure 16.



**Table 1: Multiple Regression Analyses: Interactions Between Social Dominance and Moderator Variables as Predictors of Self-Reported Emotional Adjustment, Conducted Separately By Gender**

| Moderator and Criterion           | MALE           |                    |        |       | FEMALE |                    |        |       |
|-----------------------------------|----------------|--------------------|--------|-------|--------|--------------------|--------|-------|
|                                   | t-STAT         | Adj R <sup>2</sup> | beta   | β     | t-STAT | Adj R <sup>2</sup> | beta   | β     |
| <b>Negative Emotionality</b>      |                |                    |        |       |        |                    |        |       |
| 1. Depression                     | 0.057          | .019               | 0.053  | .004  | -0.568 | .050               | -.519  | -.038 |
| 2. Self Esteem                    | -0.029         | -.001              | -0.022 | -.002 | 1.075  | .032               | .969   | .071  |
| 3. Interpersonal Relations        | 0.155          | .055               | 0.144  | .011  | 1.582  | .096               | 1.539  | .102  |
| 4. Locus of Control               | -0.268         | .009               | -0.216 | -.019 | -1.034 | .060               | .845   | -.068 |
| 5. Social Stress                  | 0.701          | .033               | 0.616  | .049  | -1.180 | .036               | -.992  | -.078 |
| <b>Positive Affect</b>            |                |                    |        |       |        |                    |        |       |
| 1. Depression                     | -0.919         | .051               | -0.938 | -.068 | 0.139  | .092               | .124   | .009  |
| 2. Self Esteem                    | 1.587          | .020               | 1.283  | .116  | -0.914 | .044               | -.824  | -.060 |
| 3. Interpersonal Relations        | 1.277          | .055               | 1.309  | .095  | -1.365 | .070               | -1.361 | -.088 |
| 4. Locus of Control               | -0.933         | .040               | -0.823 | -.070 | -0.480 | -.031              | -.388  | -.031 |
| 5. Social Stress                  | <b>2.322*</b>  | .028               | -2.262 | -.175 | 0.070  | .039               | -.059  | .005  |
| <b>Sociability</b>                |                |                    |        |       |        |                    |        |       |
| 1. Depression                     | -0.526         | .055               | -0.824 | -.037 | -0.611 | .132               | -.895  | -.038 |
| 2. Self Esteem                    | 0.903          | .022               | 1.164  | .066  | -0.127 | .062               | -.190  | -.008 |
| 3. Interpersonal Relations        | -0.149         | .081               | -0.232 | -.149 | -0.127 | .062               | -.190  | -.008 |
| 4. Locus of Control               | -0.804         | .028               | -1.102 | -.058 | -1.330 | .113               | -1.78  | -.083 |
| 5. Social Stress                  | -0.689         | .016               | -1.037 | -.050 | -0.197 | .060               | -.276  | -.013 |
| <b>Friendship Quality</b>         |                |                    |        |       |        |                    |        |       |
| 1. Depression                     | 1.088          | .019               | 1.001  | .919  | 0.248  | .037               | .204   | .016  |
| 2. Self Esteem                    | <b>-2.744*</b> | .045               | -1.997 | -.203 | -0.690 | .011               | -.560  | -.046 |
| 3. Interpersonal Relations        | -1.019         | .045               | -0.940 | -.075 | 0.204  | .051               | .181   | .013  |
| 4. Locus of Control               | 0.543          | -.005              | 0.041  | .427  | 0.173  | .041               | .128   | .011  |
| 5. Social Stress                  | 1.529          | .013               | 1.346  | .115  | -0.160 | .022               | -.121  | -.011 |
| <b>Parent-Child Relationships</b> |                |                    |        |       |        |                    |        |       |
| 1. Depression                     | 0.381          | .241               | 0.023  | .024  | -0.601 | .376               | -.031  | -.031 |
| 2. Self Esteem                    | -1.673         | .261               | -0.081 | -.106 | -0.704 | .222               | -.039  | -.041 |
| 3. Interpersonal Relations        | -1.071         | .028               | -0.068 | .070  | -0.773 | .153               | -.051  | -.047 |
| 4. Locus of Control               | 0.193          | .202               | 0.010  | .013  | -0.864 | .316               | -.042  | -.047 |
| 5. Social Stress                  | 0.640          | .129               | 0.040  | .044  | 0.528  | .179               | .029   | .031  |
| <b>Dominance Level of Friend</b>  |                |                    |        |       |        |                    |        |       |
| 1. Depression                     | <b>-2.058*</b> | .008               | -2.621 | -.161 | 0.936  | -.011              | 1.032  | .071  |
| 2. Self Esteem                    | <b>1.980*</b>  | .010               | 2.035  | .154  | -0.919 | -.004              | -1.028 | -.069 |
| 3. Interpersonal Relations        | 0.316          | .005               | 0.411  | .025  | -0.761 | .002               | -0.879 | -.057 |
| 4. Locus of Control               | <b>-2.055*</b> | .021               | -2.174 | -.159 | 0.075  | .001               | 0.078  | .006  |
| 5. Social Stress                  | -1.641         | .013               | -1.974 | -.127 | 1.111  | .004               | 1.153  | .084  |

Note: \*Denotes significance at  $p \leq .05$ .

**Table 2: Multiple Regression Analysis Results for Interactions Between Low Social Dominance and the Moderator Variables as Predictors of Peer Perceived Emotional Adjustment Separated by Gender**

| Moderator and Criterion                             | MALE           |                    |       |       | FEMALE        |         |       |       |
|---|----------------|--------------------|-------|-------|---------------|---------|-------|-------|
|   | t-STAT         | Adj R <sup>2</sup> | b     | β     | t-STAT        | Adj. R2 | b     | β     |
| <b>Negative Emotionality</b>                        |                |                    |       |       |               |         |       |       |
| 1. Worries/Easily Scared                            | <b>2.309*</b>  | .151               | .139  | .148  | 0.121         | .106    | .010  | .008  |
| 2. Afraid/Shy                                       | <b>2.216*</b>  | .138               | .138  | .143  | 1.253         | .286    | .091  | .070  |
| 3. Sad/Unhappy                                      | <b>2.443*</b>  | .096               | .169  | .161  | 0.460         | .233    | .033  | .027  |
| <b>Positive Affect</b>                              |                |                    |       |       |               |         |       |       |
| 1. Worries/Easily Scared                            | -1.854         | .140               | -.121 | -.126 | 0.202         | .102    | .017  | .013  |
| 2. Afraid/Shy                                       | 0.893          | .142               | .060  | .060  | 0.589         | .277    | .043  | .033  |
| 3. Sad/Unhappy                                      | 1.401          | .112               | .103  | .097  | 0.306         | .227    | .022  | .018  |
| <b>Sociability</b>                                  |                |                    |       |       |               |         |       |       |
| 1. Worries/Easily Scared                            | 0.979          | .139               | .069  | .067  | <b>2.559*</b> | .133    | .219  | .157  |
| 2. Afraid/Shy                                       | <b>2.784*</b>  | .214               | .192  | .182  | 1.916         | .300    | .144  | .105  |
| 3. Sad/Unhappy                                      | <b>3.581*</b>  | .185               | .272  | .239  | 2.105         | .256    | .157  | .119  |
| <b>Friendship Quality</b>                           |                |                    |       |       |               |         |       |       |
| 1. Worries/Easily Scared                            | -0.572         | .137               | -.035 | -.039 | <b>1.951*</b> | .124    | -.139 | -.121 |
| 2. Afraid/Shy                                       | -1.157         | .121               | -.075 | -.080 | -0.296        | .261    | -.019 | -.017 |
| 3. Sad/Unhappy                                      | <b>-2.973*</b> | .117               | -.196 | -.205 | -0.946        | .248    | -.059 | -.054 |
| <b>Parent-Child Relationships</b>                   |                |                    |       |       |               |         |       |       |
| 1. Worries/Easily Scared                            | 1.533          | .140               | .007  | .104  | 1.763         | .098    | .010  | .109  |
| 2. Afraid/Shy                                       | -0.313         | .122               | -.002 | -.021 | 1.178         | .249    | .006  | .067  |
| 3. Sad/Unhappy                                      | -0.588         | .085               | -.003 | -.041 | 1.091         | .239    | .005  | .062  |
| <b>Dominance Level of Friend</b>                    |                |                    |       |       |               |         |       |       |
| 1. Worries/Easily Scared                            | 1.502          | .164               | .120  | .105  | <b>2.629*</b> | .108    | .240  | .186  |
| 2. Afraid/Shy                                       | 1.124          | .070               | .087  | .083  | <b>2.534*</b> | .278    | .221  | .163  |
| 3. Sad/Unhappy                                      | 1.088          | .046               | .091  | .082  | <b>2.469*</b> | .226    | .196  | .163  |
| <i>Note: * denotes significance at p =&lt; .05.</i> |                |                    |       |       |               |         |       |       |

## **CHAPTER 5: DISCUSSION**

Theoretically, low social dominance during childhood, as measured by limited access to and receiving of social resources within the peer group (e.g., attention, visibility), should be associated with emotional difficulties, as these children should not be getting their needs met (Hawley, 1999; Lease et al., 2002). For example, fewer social resources indicated by less attention from peers, fewer friendship bids, and lower visibility among peers, all of which are associated with low social dominance in the peer group, might lead to feelings of low self worth, loneliness, or the development of symptoms related to mood disorders. However, a preliminary study found a modest relation, at best, between social dominance and emotional adjustment for children in middle childhood (Dix, 2004).

Considering the incongruence of results of the preliminary study (i.e. Dix, 2004) with theory (e.g., see Hawley, 1999), the present study sought to explain the relative lack of significant associations found between peer-rated dominance and adjustment outcomes. Specifically, the current study sought to determine whether temperament, friendship, and parenting factors would moderate the strength of the relation between social dominance and emotional adjustment for children in middle childhood. The specific factors examined included temperamental characteristics (e.g. negative emotionality, positive affect, inhibition), friendship quality, dominance level of a child's friend, and parent-child relationships as potential moderators of the relation between social dominance and emotional adjustment.

Initial multiple regression analyses revealed no significant moderating effects between social dominance and self-reported adjustment for females. This is in contrast to expectations and literature suggesting that females are more likely to express sadness, and potentially other

distressing emotions, as compared to males (Fuchs & Thelen, 1988). Research has indicated that parents are more likely to discuss emotional states with daughters versus sons and to use more emotion words with daughters versus sons, which might provide females greater breadth and depth in regard to emotional vocabulary and subsequent expression (Fivush, 1989; Fivush, Brotman, Buckner, & Goodman, 2000; Dunn, Bretherton, & Munn, 1987). There are a few possible reasons why the findings were nonsignificant. First, the measure used to tap emotional distress in the current study had an academic, as opposed to a social-emotional, focus. Second, low social dominance in the peer group might not be as emotionally taxing for females as compared to males. Further, females tend to have smaller friendship groups compared to males. It might be that assuming a low dominant role in a small group is not as distressing as assuming a similar role in a large group.

Results of the regression analyses indicated that positive emotionality served to significantly moderate the relation between dominance and self-rated social stress, in particular for males with higher rates of positive emotionality. Positive emotionality has been described as including such behavioral and personality characteristics as warmth, extroversion, and the experience, and perhaps expression, of generally positive emotions (Costa & McCrae, 1992). It might be that males with higher levels of positive affect do not perceive the negative effects of lower dominance rankings in the peer group or do not associate dominance ranking with social stress. Furthermore, males with high levels of positive emotionality might see the world in a generally better light, such as through the proverbial “rose-colored glasses”, and might not experience emotional discomfort as the result of low social dominance. An alternative hypothesis is that characteristics associated with positive affect (i.e., positive responses from peers, attention, interaction with others) might allow a child access to social resources regardless

of the child's dominance level or dominance attempts. Thus, a child might be lower in dominance but possess characteristics that draw attention and interaction from peers (e.g. higher rates of laughter, generally positive attitude); dominance is not the only route to social attention.

Researchers have described negative emotionality as a tendency to experience higher rates of negative emotion as well as to manifest this emotional state through behavior that is observable to others (e.g. crying, hostility, engagement in antagonistic relationships) (Nelson et al., 1999; Shiner, 1998). Considering the externalizing nature of this temperament characteristic, it is not surprising that negative emotionality significantly moderated the relation between dominance and peer-rated emotional functioning (e.g., worries/easily scared), as opposed to self-rated emotional adjustment. In fact, when negative emotionality was implemented as a moderator, an increase in social dominance was related to fewer peer ratings of "worries/scared" and "afraid/shy" at high and low levels of negative emotionality. It could be that the efforts that are associated with dominance efforts are inconsistent with peer ratings of a child as worrisome, fearful, or shy. That is, a child who is putting forth effort to gain dominance, regardless of the method, is unlikely to be seen as worried or shy, as he is behaving in a way that is inconsistent with those attributes.

Sociability can be considered a lack of reticence when faced with novelty (e.g. Martin et al., 2004), essentially the opposite of inhibition. Research has documented links between level of sociability (e.g. greater inhibition) and the development of internalizing problems such as anxiety and depression (Schwartz, Snidman, & Kagen, 1999; Caspi, 2000). Teacher-rated sociability significantly moderated the relation between dominance and peer ratings of a child as afraid/shy as well as sad/unhappy for males and peer ratings of a child as worrisome/fearful for females. Subsequent analyses indicated that dominance predicted peer-ratings of adjustment

only at low levels of sociability. Subsequent analyses indicated that dominance predicted peer-ratings of adjustment only at low levels of sociability. For males low in sociability, dominance was negatively related to peer ratings of emotional distress (i.e., fear and unhappiness). Thus, for low sociable males, as dominance ratings increased, peer ratings of distress were less likely. Similarly, for females low in sociability, dominance was significantly and negatively related to peer ratings of worries/easily scared; as dominance increased, ratings of the child as worrisome or fearful were less likely. The finding is logical when considering the defining features of sociability (e.g., extraverted behaviors), which are in stark contrast to behaviors indicative of shyness, fearfulness, or worry. Thus, as dominance increases, or the child makes dominance efforts in the peer group, he or she would be less likely to be rated as worries/easily scared or afraid/shy as it is inconsistent with that type of rating.

For children higher in sociability, dominance was not significantly related to peer-rated adjustment, which might suggest that sociable children, regardless of their dominance level, tend to be viewed as emotionally healthy by their peers for reasons similar to those identified for males with higher rates of positive emotionality – features of sociability might attract peers, allowing resource needs to be met regardless of dominance ranking.

Research has indicated that the quality of a child's friendships is related to indices of adjustment. For example, children engaged in high quality friendships have been shown to experience fewer symptoms of emotional maladjustment (e.g. depressive features, loneliness, lower self-esteem, poor social adjustment) as compared to children engaged in lower quality friendships (Windle, 1994; Hartup & Stevens, 1999; Parker & Asher, 1993). Consistent with that line of research, friendship quality significantly moderated the relation between dominance and self-esteem as well as peer ratings of sadness or unhappiness for males in the current study. It

appears that the moderating effect, however, emerges only for males with low quality friendships. That is, for males with friendships that were significantly lower in quality than their peers, dominance was negatively related to self-reported self-esteem as well as to peer ratings of emotional maladjustment (e.g. appearing sad/unhappy). As a male's dominance in the peer group increased, self-rated self-esteem increased and he was less likely to be rated as sad/unhappy. It might be that a child engaged in a low quality friendship who is simultaneously low in dominance could be having a difficult time have social needs met. That is, the child is not afforded the emotional support associated with a high quality friendship nor is he able to gain resources through dominance attempts. This failure to meet needs might be perceived by others in the peer group as sadness or unhappiness. However, as a child make gains in dominance, even if he is engaged in a low quality friendship, he is more likely to have social needs met and, as a result, demonstrate less emotional distress to be perceived by peers. Considering the nonsignificant relation between dominance and self-esteem at higher levels of friendship quality, one might surmise that any negative effects for a child of lower dominance ratings in the peer group could be off-set, at least in part, by fulfillment from engagement in a higher quality friendship.

Estimates of friendship quality significantly moderated the relation between dominance and peer ratings of anxious behaviors (e.g. worries/easily scared) for females. Unlike the results for males, results were significant at high and low levels of friendship quality. That is, as dominance increased for females, peer ratings of her as "worries/easily scared" were less likely. It might be that the behavioral manifestation of dominance attempts is at odds with peer perceptions of worry and fearfulness in others. Moreover, the quality of a low dominant child's friendship might not be apparent to the peer group. The child's tendency to disengage from

others might elicit peer perceptions of the child as worrisome or fearful. In addition, a low dominant child with a low quality friendship might not gain resources through social dominance or by way of a positive friendship. Thus, this type of child is not having her needs met, which might manifest itself in the peer group as anxious-type behaviors. As dominance increases, she might be less likely to be rated as “worries/easily scared” due to peer recognition of dominance attempts (e.g. social interactions, bids for attention or friendship), which might be inconsistent with peer ratings of a child as worrisome or fearful. Alternatively, as a child gains dominance, she is likely have more of her needs met, which might offset the manifestation of behaviors that peers could perceive as anxious.

Dominance within the peer group affords social resources for those who are capable and willing to pursue them (Hawley, 1999; Hawley et al., 2002). This study considered the dominance level of a child’s friend as a potential moderator between dominance and emotional adjustment in light of research that has speculated that children might achieve certain goals or status by way of who they are friends with rather than their own characteristics (e.g. Adler & Adler, 1998). Results indicated that the dominance level of a child’s friend significantly moderated the relation between a child’s personal levels of dominance and self-reported self-esteem and self-reported locus of control for males. Significant results remained, subsequent to post-hoc analyses, only for males with friends who were higher in dominance than many of their peers (i.e., one standard deviation above the mean in dominance). That is, a child’s social dominance score was significantly predictive of scores for self-rated self-esteem and locus of control for males with high dominant friends. Thus, increases in social dominance for males who have high dominant friend predicts increases in self-esteem and engenders a more internal locus of control. In contrast, social dominance does not significantly predict emotional



adjustment for males with low dominant friends. It could be that males lower in self-esteem recognize that they are relying on others (e.g. more dominant friends) to have social and emotional needs met. This realization might be inconsistent feelings of self-reliance, which could create a feeling of low self-esteem and lack of control over one's life. These children might recognize and perhaps resent that they have not met their needs on their own. As males with high dominant friends gain dominance of their own, they might recognize their abilities to gain resources through their own efforts, which could lead to greater self-esteem and feelings of control. This finding is interesting as it is in opposition to what was expected. It was posited that males lower in dominance but having a high dominant friend would have higher self-esteem and greater feelings of control, as they were having social reward needs met through the dominance efforts of their friends. It appears that the social rewards received through this manner might not offset the personal emotional costs of feeling socially dependent on others.

The degree to which a child's friend was rated as dominant by peers significantly moderated the relation between dominance and peer-reported emotional maladjustment for females. Social dominance significantly and negatively predicted peer perceptions of the child as worried/easily scared for females only if the child was friends with a peer who was low dominant (e.g. one standard deviation below the mean). That is, as dominance increased for females with a low dominant friend, peer ratings of them as worried/easily scared decreased. For females who were low in dominance and engaged in a friendship with a low dominant peer, peer ratings of her as worried/easily scared were more likely, which is logical considering the nature of low dominant children - they do not seek social resources from the peer group (e.g. attention, visibility) (Hawley, 1999; Hawley 2002). If two low dominant females are engaged in a friendship, it is unlikely that the dyad will be seen as playing a large role in the peer group and

might be perceived as fearful of joining group activities. They likely spend their free time together, participating in activities apart from others or take a more follower-type role in classroom activities. However, as the female gains dominance, she is less likely to be rated worried/easily scared. Interestingly, friend dominance did not moderate the relation between social dominance and *self*-reported emotional adjustment. That is, social dominance was not predictive of self-rated emotional adjustment when friend dominance was considered. Perhaps, the females participating in low dominant friendship dyads are having their social needs fulfilled through that particular friendship rather than seeing peer-group affiliation as a high commodity.

The relations between dominance and additional peer ratings of emotional adjustment (e.g. ratings of afraid/shy and sad/unhappy) were significantly moderated by the dominance level of the child's friend at high *and* low levels of the moderator. That is, social dominance, when considered in conjunction with friend dominance level, significantly predicted peer-rated indices of emotional adjustment across levels of the moderator. For both groups (e.g. those with high dominant friends as well as low dominant friends) increases in social dominance were predictive of fewer peer ratings of emotional distress. It might be that females do not receive the social resources that they need simply by being friends with a dominant peer. Thus, personal social dominance is needed to gain their desired level of resources.

The dominance level of a female's friend played a significant role in the relation between social dominance and peer-rated emotional adjustment. When a low dominant female had a low dominant friend, peer ratings of the child as "worries/easily scared" were more likely. As dominance increased for females with a low dominant friend, peer ratings of them as "worried/easily scared" decreased. Friend dominance did not moderate the relation between social dominance and peer-rated emotional adjustment when friend dominance was high.

The of emotional distress (e.g. perceptions of worry or fear in others) with low dominance by peers is logical when considering the nature of low dominant children - they do not seek social resources from the peer group (e.g. attention, visibility) (Hawley, 1999; Hawley 2002). If two low dominant females are engaged in a friendship, it is unlikely that the dyad will be seen as playing a large role in the peer group and might be perceived as fearful of joining group activities. They likely spend their free time together, participating in activities apart from others or take a more follower-type role in classroom activities. However, as a female gains dominance, she is less likely to be rated as worried/easily scared. As suggested with males, this trend might suggest that dominance attempts are incongruous with a description of a child as worrisome or fearful.

Interestingly, friend dominance did not moderate the relation between social dominance and *self*-reported emotional adjustment. That is, social dominance was not predictive of self-rated emotional adjustment when friend dominance was considered. Perhaps, the females participating in low dominant friendship dyads are having their social needs fulfilled through that particular friendship and are satisfied. This satisfaction, however, might not be apparent to the others in the peer group, which could explain the differential results between self- and peer-report.

The relations between dominance and additional peer ratings of emotional adjustment (e.g. ratings of afraid/shy and sad/unhappy) were significantly moderated by the dominance level of the child's friend at high *and* low levels of the moderator. That is, social dominance, when considered in conjunction with friend dominance level, significantly predicted peer-rated indices of emotional adjustment across levels of the moderator. For both groups (e.g. those with high dominant friends as well as low dominant friends) increases in social dominance were predictive

of fewer peer ratings of emotional distress. Consistent with the reasoning presented earlier, if two low dominant females are engaged in a friendship, their tendency to remain on the periphery of the peer group could be interpreted by peers as shyness, fearfulness, or sadness. Alternatively, when a low dominant female has a high dominant friend, girls within the peer group could be making social comparisons when selecting children that fit the specific behavioral descriptions. That is, when asked to determine who fit the criteria of “afraid/shy” or “sad/unhappy,” girls might select others based partly on their presentation when compared to their friends. For example, a low dominant child might seem shy or sad when compared to her more dominant friend.

Although parent-child relations did not play a significant role in moderating the potential negative effects of low dominance for children in middle childhood, it might be meaningful nonetheless. It is generally believed that as children enter adolescence, parent relationships become less influential while peer relationships gain significance in children’s lives (Dishion, Patterson, & Griesler, 1994). It might be that the significance of parent-child relationships begins to dissipate prior to adolescence, during middle childhood. This could explain why parent-child relationships did not play a role in the relation between dominance and emotional adjustment, which begs the question: Should parent-child relationships continue to be studied in the context of school-based studies?

Overall, the results of the study provided general support to the theory that higher social dominance is related to better emotional adjustment (see Hawley, 1999 & Hawley, 2002). The majority of significant findings indicated a negative relation between social dominance and estimates of emotional distress when specific moderators were employed. That is, as dominance

increases when additional variables such as negative emotionality, sociability, and friendship quality are considered, self-rated and peer rated adjustment appears to be more positive.

Although rich in theory, social dominance literature yields relatively few empirical studies highlighting the relation between dominance and emotional adjustment for children in middle childhood. This study sought to expand the current knowledge base for this area of study. This study sought to serve as a preliminary step to better understand the relation between dominance and adjustment for children in middle childhood. Considered holistically, the study highlighted the potential use of temperament and friendship variables, in conjunction with social dominance, to predict emotional adjustment for some children. Teachers and other professionals who work with children might benefit from an awareness of the child's standing in the dominance hierarchy in the classroom, temperament characteristics, and friendship features, as they might have implications for children's emotional adjustment. This could be useful for school screenings to determine who might be at risk for emotional difficulties or who would benefit from skill development groups. Specifically, those children who are low in dominance who also have low quality friendships or are low in sociability might benefit from assertiveness training or discreet social skills training (e.g. how to join in a group, how to initiate a conversation, how to end a conversation).

Clear limitations of the current study exist and further exploration is needed in several areas to gain a clearer understanding of the role of social dominance and emotional adjustment. It is important to note limitations of the current study and to highlight areas in need of additional research. First, the study was school-based and used only information gained in the school setting. Therefore, the study focused only on school-based friendships. Participants might have

few friendships at school but meaningful friendships outside of the school setting that might serve to meet the emotional needs of children. This area is ripe for exploration.

In addition, the study focused only on emotional indicators of adjustment. Research has shown that children who experience emotional problems, including mood disorders, might present these problems in a manner that is inconsistent with personal ratings of sadness or unhappiness, for example. That is, children who experience depressive disorders might present as irritable, argumentative, or engage in general conduct-related misbehaviors. As a result, other important indicators of emotional maladjustment might have been overlooked. Future studies might seek to employ behavioral measures of emotional adjustment to ensure that the construct is more aptly covered.

In general, children described as low in sociability and low in dominance were considered by peers as experiencing emotional distress. It would be interesting to determine whether the children rated as worries/easily scared or afraid/shy are those children who truly wish to join the peer group but are hesitant or children who have fewer social needs.

The use of the Behavior Assessment System for Children-Self Report of Personality might prove to be an inappropriate assessment tool to estimate outcomes associated with a construct more social than academic in nature. A measure designed to assess emotional functioning without the academic loadings of the BASC might be more appropriate. Finally, the generalizability of the study is limited as the participants were members of rural, northeast Georgia schools. A larger sample including a greater difference in ethnicity as well as school setting (e.g. urban versus rural) would add much to this study.

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