

ASSOCIATION BETWEEN TEACHER LIKING AND STUDENT CHARACTERISTICS,  
AND THE INFLUENCE OF JOB SATISFACTION AND PEER SOCIAL PREFERENCE

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## ABSTRACT

MEAGAN KNOWLES: Association between Teacher Liking and Student Characteristics,  
and the Influence of Job Satisfaction and Peer Social Preference  
(Under the direction of Dr. Barbara H. Wasik)

This study assessed the relationship between teaching liking and behavioral characteristics of elementary age students. The six behavioral characteristics investigated were direct aggression, indirect aggression, immaturity, victimization, shy/withdrawn, and prosocial. Teacher-report instruments were used to assess teacher liking, levels of student characteristics, and job satisfaction. Social preference was measured using peer ratings. Data were collected in the fall of the study year from 104 teachers and 1,987 students in kindergarten through fifth grade. Hierarchical Linear Modeling was used to assess the associations between teacher liking and student characteristics, and to determine the moderating influence of teacher job satisfaction and peer social preference. Teacher liking was found to be negatively related to directly aggressive, indirectly aggressive, immature, victimized, and shy/withdrawn student behaviors, and positively related to prosocial behavior. Peer social preference was found to moderate the teacher liking association with prosocial behavior and the teacher liking association with indirect aggression. Job satisfaction did not moderate any of the relationships.

To my husband, Tyler, for his unconditional love,  
endless support, and unrelenting patience.

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## LIST OF ABBREVIATIONS

ANOVA	Analysis of Variance
CD	Conduct Disorder
CFI	Comparative Fit Index
HLM	Hierarchical Linear Modeling
ICC	Intra-class correlation
LL	Liked least
LM	Liked most
NIMH	National Institute of Mental Health
ODD	Oppositional Defiant Disorder
RMSEA	Root Mean Square Error of Approximation
TLI	Tucker-Lewis Index

## CHAPTER I

### INTRODUCTION

Student school adjustment has gathered substantial attention over the past two decades, with many studies focusing on the classroom environment in terms of interpersonal peer relationships and peer social preference (Birch & Ladd, 1998). Far less is known about teacher variables within the classroom environment. One teacher variable that has received attention is that of teacher liking. For example, teacher liking for students has been linked to specific child characteristics, as well as to children's socio-emotional and school adjustment (Davis & Lease, 2007; Mercer & DeRosier, 2008). To understand the advantages and consequences of teacher liking for certain students, also known as teacher preference, information on the extent of variation in teacher liking for students with differing characteristics, as well as determinants which might moderate these preferences, needs to be obtained.

The aim of this study is to extend the research on teacher liking by examining the relation between teacher liking and student characteristics that have received little empirical investigation. A second aim of this study is to examine moderating factors that may contribute to the student characteristic – teacher liking relationship. Student behaviors have been found to affect peer social preference (e.g., Lee, 2009; Moore, Shoulberg, & Murray-Close, 2012; Pope, Bierman, & Mumma, 1991), and peer social preference, in turn, has been found to influence teacher liking of students (Mercer & DeRosier, 2008; Moore et al., 2012). Student behaviors have also been found to influence teacher job satisfaction (Friedman,

1995; Landers, Alter, & Servilio, 2008), though only one study has investigated the relationship between these two variables and teacher liking. Due to the paucity in the literature, this study aims to examine the moderating role of peer social preference and teacher job satisfaction in the student characteristic – teaching liking relationship.

## CHAPTER II

### LITERATURE REVIEW

#### **Teacher Liking**

Teacher liking has been defined as the degree of fondness a teacher ascribes to a particular student (Chang, 2004; Mercer & DeRosier, 2008; Taylor, 1989; Taylor & Trickett, 1989; Wentzel & Asher, 1995). Definitions and measures of teacher liking (also termed teacher preference) in the literature have been predominantly consistent with most researchers using ease of likeness to determine levels of teacher liking (e.g., Chang et al., 2004; Chang et al., 2007; Mercer & DeRosier, 2008). Existing research suggests teachers have varying levels of liking towards different students in their classroom, with some students being more liked than others (Birch & Ladd, 1998; Chang et al., 2004; Chang et al., 2007; Mercer & DeRosier, 2008; Moore et al., 2012). Several influences are believed to affect teacher liking of students including beliefs, expectations, and attitudes towards students (Kircaali-Iftar, 1992; Kornblau & Koegh, 1980). In this sense, teacher liking of students is more of an ongoing trait specific to each teacher, rather than a changing state of feelings. These influences in turn may create internal representations of students, to which teachers respond behaviorally (Spilt, Koomen, & Thijs, 2011).

Primary school teachers spend an average of six hours per day with students. This time is a significant amount and provides plenty of opportunity for teachers to demonstrate their liking or disliking of students (Hughes, Cavell, & Jackson, 1999). Some teachers try to conceal their preferences of students in an attempt to treat all students equally. They believe



they can mask both negative and positive feelings with neutral mannered communication (Babad, 1993).

Several studies have focused on understanding student's abilities to detect and understand teacher liking, demonstrating students' ability to interpret these behaviors and attitudes (see Babad, 1993 for review). Some have demonstrated that "leakage" of verbal and nonverbal cues permits children to perceive teacher liking (Babad, 1993). For example, Babad, Bernieri, and Rosenthal (1991) demonstrated that students, even as young as fourth grade, could detect teachers' liking. The children watched brief ten second videos of unfamiliar teachers interacting with students. The children reported observing nonverbal differences in teachers' interactions with students they had high expectations for, in contrast to students for which they had low expectations. Stuhlman and Pianta (2002) found that kindergarten and first grade teachers' narratives of their students were significantly correlated with observed interactions with these same students. More specifically, teachers who expressed more negative feelings towards students during the interviews were also observed expressing more negative affect towards these students in the classroom. In addition, Stuhlman and Pianta (2002) found that teachers expressing more negative affect towards students were engaged a greater amount of the time with these students. This finding indicates that students whose characteristics are less desirable by teachers may be receiving more attention due to the increase in time the teacher spends managing the student's behavior. Therefore, students with less desirable characteristics may have more occasions to interpret teachers' liking towards them. We could reasonably suspect that students with undesirable qualities may have more accurate depictions of teacher liking because they have more opportunities to gather such information.

**Effects of teacher liking on student outcomes.** As mentioned earlier, there is evidence students can perceive teacher liking. Mercer and DeRosier (2010) studied the extent to which teacher preference predicted change in children's perceptions of their teacher's liking of them over time. The researchers found teacher preference predicted student's perceptions of the teacher's preference and subsequent change in levels of support and conflict. For example, the study found that higher teacher preference at Time 1 predicted higher perceptions of teacher preference and higher student ratings of support at Time 2. Lower teacher preference rating predicted lower perceptions of teacher preference and higher student ratings of conflict at Time 2. This finding gives more evidence to the fact that teacher preferences are evident to students who become aware of their teacher's liking of them over time.

Students' perceptions of discrepant teacher liking and behavior have been shown to affect student outcomes including perceptions of the teacher-student relationship, motivation, social behaviors, and academic performance (Babad, 1993; Davis & Lease, 2007). Davis and Lease (2007) conducted a study with 11-13 year old school children. They found associations between teacher likability ratings and aspects of the teacher-student relationship. The students rated as least liked by teachers had poorer quality relationships with teachers overall ( $F(10,544) = 2.04, p < .05, N2 = .04$ ; Davis & Lease, 2007). The students rated as least liked also had significantly lower academic achievement ( $F(10,780) = 6.27, p < .001, N2 = .07$ ), and obtained the lowest grades consistently in mathematics, English, reading, science, and social studies (Davis & Lease, 2007). In addition, least liked students had significantly more absences than students who were rated as being average liked or most liked by teachers, as well as lower motivation for school. Overall, Davis and Lease (2007)

found that lower teacher liking negatively influenced the teacher-student relationship quality, as well as school adjustment.

Mercer and DeRosier (2008) found similar results regarding grades. Children with lower levels of teacher preference had declining grades from the beginning of third grade to the end of fourth grade. Teacher ratings of how much they liked students were also found to be associated with student ratings of loneliness. Students with lower levels of teacher liking had significantly higher levels of self-reported loneliness ( $r = -0.19, p < .001$ ) at the beginning of the study. Changes in self-reported loneliness were predicted by change in teacher preference over the two year study period, ( $\beta = -.35, p < .001$ ) (Mercer & DeRosier, 2008). Teacher preference was not found to be associated with depression or social anxiety. Findings from Davis and Lease (2007) and Mercer and DeRosier (2008) provide evidence for the importance of positive teacher liking and the need to understand the relationships between teacher liking and student variables.

Not only have effects of teacher liking been documented for students, effects on teacher behaviors have been acknowledged as well. Mottet, Beebe, Raffeld, and Paulsel (2004) found teacher liking of students affected teachers' willingness to comply with student requests. They found 40% of the variance in teachers' willingness to comply with certain student desires was accounted for by the teachers' liking of students,  $F(1,109) = 71.37, p < .001, R^2 = .40$ . Higher student liking indicated greater inclination to raise grades, tutor, extend due dates, overlook errors, provide extra assistance, change course requirements, offer extra credit, and let students end class early. McAuliffe, Hubbard, and Romano (2009) also found varying teacher behavior towards students based on teacher liking. McAuliffe and colleagues (2009) defined teacher behaviors in the following way:

"Positive behavior was defined as any verbalization that praised a student. Corrective behavior was defined as any verbalization to correct or redirect a student's behavior that did not come across as excessively negative. Negative behavior was defined as any verbalization that came across as angry, derogatory, sarcastic, or condescending, based on words, intonation, facial expressions, or gestures" (p. 668).

The researchers found a negative association between teacher preference and corrective/negative teacher behavior ( $r = -0.53$ ). As teacher liking of students increased, the likelihood of the student receiving negative or corrective teacher feedback decreased. By contrast, no relationship was found between teacher preference and positive teacher behaviors ( $r = -0.01$ ; McAuliffe et al., 2009). As the literature demonstrates, teacher liking influences teacher behavior such that they have more negative attitudes and less flexibility with students who are less liked.

Prior research on instructional environments has shown that teachers' liking of students is associated with the attitudes teachers form toward specific children's behaviors (Brophy & Evertson, 1981). Mottet et al. (2004) found nonverbal behaviors (e.g., facial expression) to have the most significant impact on teacher liking, accounting for 66% of the variance in teachers' liking of students. In Mottet et al.'s (2004) study, students who demonstrated upright posture, positive facial expressions, eye contact, and visible evidence that they were taking notes, were rated as being more liked by teachers. Given the literature on teacher liking effects on student outcomes and considering teachers' liking varies according to student behaviors, it is important to understand the level of teacher liking of students embodying differing characteristics.

## **Student Characteristics**

Teachers have described certain student characteristics to be particularly desirable. Many studies focusing on student characteristics focus on two general types: internalizing and externalizing (Wyrick, 2011). These broad categories only encompass certain behavioral characteristics, and do not include learning characteristics often found to be associated with teacher liking. The desirable learning behaviors associated with teacher liking and reported to be most important to teachers are typically behaviors that foster the learning process (Hynson, 1976). An earlier study conducted by Hynson (1976) asked teachers to pick their three least preferred and three most preferred desirable characteristics based on liking and disliking of children. Listed in rank order, the teachers found the following characteristics as important and most desirable: obedient, honest, good sense and sound judgment, responsible, considerate of others, self-control, interested (in how and why things happen), and amicable. The teachers rated manners, cleanliness, and role (acts like own gender) as least desirable and therefore, unimportant. Interestingly, teachers did not rank attempts to succeed or studiousness as desirable behaviors. The findings suggest behaviors that do not disrupt the learning process or impede on the teachers' ability to do their job are more important than behaviors that increase academic competence. Given that direct aggression, indirect aggression, and immaturity are behaviors that may disrupt the learning process, these behaviors were chosen to be investigated in the current study. The current study also chose those specific behaviors due to the literature on negative teacher interactions with and narratives of students with undesirable, problematic characteristics (Stuhlman & Pianta, 2002). The current researcher also chose to examine shy/withdrawn and victimized students considering these types of characteristics are not necessarily problematic, but are often not

considered desirable by teachers. These students also often report feelings of loneliness, which has been found to be linked to teacher liking (Mercer & DeRosier, 2008). Lastly, prosocial behavior was chosen to be investigated considering the desirability of this student characteristic by teachers (Hynson, 1976), providing a contrast to the aforementioned behaviors.

**Aggression: Direct and Indirect.** The social sciences define aggression as a purposeful behavior intended to inflict harm on someone attempting to avoid harm (Bushman & Thomaes, 2007). Early studies of aggression predominantly focused on overt aggression (Lee, 2009). Direct aggression was later categorized into two distinct forms, physical and verbal. Overt physical aggression includes hitting, kicking, fighting, or use of the body to impose fear and intimidation. Overt verbal aggression includes any kind of verbal abuse such as teasing, threatening, blaspheming, name-calling, and insulting (Lee, 2009). In the past decade, researchers have begun to highlight the importance of differentiating the aggression construct even further to include relational aggression (Crick & Grotpeter, 1996). Whereas overt aggression causes harm through physical or verbal means, relational aggression causes harm through means of social manipulation (Crick & Grotpeter, 1996; Moore et al., 2012). Gossiping, spreading rumors, public humiliation, and social exclusions are all forms of relational aggression through which social status and relationships are manipulated (Lee, 2009; Young, Nelson, Hottle, Warburton, & Young., 2011). Researchers classify overt physical and verbal aggression as “direct aggression” and covert relational aggression as “indirect aggression” (Vaillancourt & Hymel, 2006).

***Teacher liking.*** The literature indicates teachers tend to rate students who are aggressive and disruptive less favorably (Babad, 1993; Birch & Ladd, 1998; Mercer &

DeRosier, 2008; Stuhlman & Pianta, 2002; Wentzel & Asher, 1995). They report greater conflicting relationships, greater negative descriptions of students, and lower ratings of teacher preference. Moore et al. (2012) found teacher preference to be negatively associated with physical aggression ( $r = -0.43$ ,  $p < .001$ ) at a higher level than the negative association with relational aggression ( $r = -0.23$ ,  $p < .01$ ). Moore and colleagues also found that teachers preferred females over males ( $r = 0.36$ ,  $p < .001$ ). Therefore, it is reasonable to assume that teachers would more highly prefer indirect aggressive females over directly aggressive males.

**Immaturity.** Sparse research exists regarding immature characteristics of students in comparison to aggression and other less desirable characteristics. Of the available research, definitions of immaturity were inconsistent, though they overlapped in descriptions of behavioral characteristics. Pope et al. (1991) reported immature students to be more dependent, inflexible, highly distractible, and seeking more attention. Kipnis (1968) reported the most predominant behaviors associated with social immaturity to be “impulsivity, a lack of acceptance of conventional norms, and an exploitive mode of interpersonal relations” (p. 71). In an earlier study, Kipnis also found socially immature individuals had fewer reactions to situations that were embarrassing, shameful, or anxiety provoking (Kipnis, 1968). They were also less accepting of socially conventional principles regarding rules and expectations. Brophy and McCaslin (1992) describe immature students as having difficulty adjusting to the role of a student. They are overly reliant on teachers and other students due to a lack of ability to work independently and difficulty caring for themselves. Brophy and McCaslin (1992) also describe immature students as acting younger than their age, with poorer emotional stability, social skills, self-control, and responsibility. Herr, Long, and Warner

(1972) requested teachers to write behavioral descriptions of mature and immature student qualities. The immature students were less likely to be described by teachers as cooperative, persistent on tasks, responsible, self-reliant, or flexible. Overall, most descriptions of immature students noted a lack of acceptance of rules and expectations, inhibition, and responsibility, and a greater dependence on teachers and peers.

***Teacher liking.*** As with aggressive behaviors, more visibly disruptive characteristics are likely to elicit lower teacher liking. Algozzine (1977) found four types of problem behaviors that were found to be disturbing to teachers, with social immaturity being one of those. Socially immature students in Algozzine's (1977) study were described as anxious, defiant, aggressive, disobedient, and withdrawn. Algozzine and Curran (1979) as well as Algozzine, Ysseldyke, Chistenson, and Thurlow (1983) found teachers were more tolerant of socially immature students than defiant students who were seen as more disruptive. Cunningham and Sugawara (1998) also found teachers in their study were more tolerant of immature students. They concluded teachers of socially immature students were more likely to choose helping strategies (e.g., rewards and punishments) to deal with problem behaviors, rather than the restrictive strategies they often chose with more disruptive students (e.g., aggressive, defiant). Teachers in a study conducted by Brophy and McCaslin (1992) also frequently reported providing helping strategies for immature students compared to aggressive, hyperactive, or rejected students. These helping strategies included increased instruction (e.g., providing positive expectations), training, and modeling. Though most mentioned strategies were considered helpful, teachers also often mentioned extinguishing immature behaviors by ignoring students and reported helping immature students only when they did not have to spend a lot of time away from their instructional role (Brophy &



McCaslin, 1992). In addition, most narratives of immature students in this study were more punitive and controlling, and less sympathetic than narratives of rejected or shy/withdrawn students (Brophy & McCaslin, 1992). Lastly, teachers indicated more feelings of defeat and lower expectations when it came to helping immature students.

As indicated by the literature, immature student characteristics are seen as undesirable to teachers, as well as more salient in the classroom. These findings give evidence that teachers are less likely to like socially immature students. Though there is evidence in the literature that teachers are more tolerant of immature behaviors (Cunningham & Sugawara, 1998), it is expected immature students are more preferred over aggressive students (Algozzine & Curran, 1979; Algozzine et al., 1983), yet less preferred than students with more desirable characteristics.

**Victimization.** Peer victimization is defined as abuse of victims by perpetrators intending to cause harm by physical, verbal, or psychological means (Olweus, 1993). It extends beyond a simple conflict between peers to include an inequality of power in which the perpetrator is in higher social standing than the victim (Graham & Bellmore, 2007). Victimization tends to come in the same forms of aggression, including physical, verbal, and psychological (Crick & Grotpeter, 1996; Graham & Bellmore, 2007; Wolke, Woods, Stanford, & Schulz, 2001). Physical victimization is the infliction of harm by any physical means (e.g., hitting, kicking, pushing). Verbal victimization comes in the form of any verbal communication such as name calling, teasing, and racial slurs, however, this victimization can also include written text (e.g., internet posts, texts, emails). Psychological victimization often comes in the form of relational aggression. This type of victimization harms the mental and emotional well-being of the victim (Yoon & Lawrence, 2013) and includes behaviors

such as social exclusion, malicious gossiping, and public humiliation. Graham and Bellmore (2007) determined distinguished differences in victimizations can more easily be understood by different types of victimization rather than different subgroups (e.g., bully-victims, victims only).

***Teacher liking.*** Few studies have investigated relationships between peer victimization and teacher liking. Of those few studies, inconsistent results are reported (Mercer & DeRosier, 2008). Part of the inconsistencies have to do with the fact that peer victimization and peer rejection are often used interchangeably in the literature. Though these constructs are not exactly the same, peer rejection is reported to be interrelated with victimization (Buhs, Ladd, & Herald, 2006). Mercer and DeRosier (2008) found peer rejection and teacher preference to be associated over time, with teachers being less likely to prefer students who are rejected by peers. Furthermore, the two variables had a reciprocal influence indicating bidirectional effects. Inconsistent with these findings, Taylor (1989) found peer rejection did not predict teacher liking. Further investigations are needed to understand the association between teacher liking and characteristics consistent with definitions of victimization.

***Shy/Withdrawn.*** Rubin, Coplan, and Bowker (2009) describe socially withdrawn children to be students who actively refrain from situations involving social interactions. Withdrawn behaviors involve constructs such as behavioral inhibition, shyness, and social reticence. Social withdrawal has also been associated with peer neglect, rejection, and isolation. Active isolation of peers is instrumented through peer's rejection causing isolation in social contexts. Active isolation is in contrast to social withdrawal, which is instrumented by the individual, isolating himself or herself in the presence of peers and teachers (Rubin et

al., 2009). As socially withdrawn students may become increasingly excluded by peers, it becomes increasingly difficult to distinguish these two student characteristics.

**Teacher liking.** Researchers have found some withdrawn children go unnoticed by their teachers, which in turn exacerbates shy and withdrawn behaviors (Rubin et al., 2009). Other findings suggest some withdrawn students necessitate more of their teacher's attention (Coplan & Prakash, 2003). There are also reports that withdrawn students do not have well developed student-teacher relationships, and are more dependent on teachers in early elementary school (Rubin et al., 2009; Ladd & Burgess, 1999). Arbeau and Coplan (2007) looked at teachers' expectations and reactions to differing student types using hypothetical narratives. Teachers rated their tolerance of shy and unsociable children to be greater than aggressive students, but less than prosocial students. Teacher responses to unsociable children have also found to vary by gender, with teachers being more responsive to boys (Arbeau & Coplan, 2007). Chang et al. (2007) found weak negative associations between teacher preference and socially withdrawn first through third graders ( $r = -0.209$ ), and an even smaller association for fourth and fifth grade students ( $r = -0.063$ ). Considering the literature on teacher's tolerance levels of these students, the student's dependency on their teachers, and their lack of sound relationships with their teachers, it is expected higher levels of shy-withdrawn behaviors would be associated with lower levels of teacher liking.

**Prosocial.** The social sciences have given antisocial constructs, such as aggression, far greater attention than positive constructs such as prosocial behaviors (Hastings, Utendale, & Sullivan, 2007). Prosocial behavior is defined as "proactive or reactive responses to the needs of others that serve to promote the well-being of others" (Hastings et al., 2007, p.639) within differing contexts and motives (Carlo & Randall, 2002). This definition is not strictly

limited to behaviors, but a range of affective responses as well (Radke-Yarrow, Zahn-Waxler, & Chapman, 1983). Prosocial affective elements include caring, empathy, sympathy, compassion, and concern for others, whereas prosocial behavioral elements include comforting, helping, sharing, cooperating, being responsible, volunteering, being agreeable, having a sound locus of control, good moral development, and altruistic behaviors (Carlo & Randall, 2002; Hastings et al., 2007; Procházka & Vaculík, 2011). Behavioral elements classified as socially competent, such as leadership qualities, are also often included in definitions of student prosocial behavior (Chang et al., 2007).

***Teacher liking.*** Along with the aforementioned socio-emotional outcomes, prosocial children also have a greater emotional capability. This skill allows them to better understand the emotional states of others, and to some degree, experience a mutual affective sensation (Hastings et al., 2007). This evidence suggests prosocial students may have a better understanding of teacher's emotional responses to them, making teacher liking more overt. Considering part of prosocial behaviors are affective, however, they are less obvious and not likely to be easily detected by teachers. Therefore, teachers are less likely to react to prosocial behaviors. This inference of the literature is consistent with Hastings et al. (2007) who stated prosocial behaviors are often overlooked (e.g., less responded to by teachers), especially when teachers expect the behavior from the student. Prosocial behaviors must be apparent to teachers to some extent considering teachers have been found to prefer students who exhibit these behaviors (Wentzel & Asher, 1995). Chang et al. (2007) found teachers liking was positively associated with prosocial behaviors for first through third graders ( $r = 0.29$ ) and fourth and fifth graders ( $r = 0.33$ ). Moore et al. (2012) also found a similar association for fourth and fifth grades ( $r = 0.41$ ). Gorman, Kim, and Schimmelbusch (2002)

found significantly higher associations between teacher liking and students' prosocial behavior ( $r = 0.65$ ). Though the research consistently demonstrates positive associations between student prosocial characteristics and teacher liking, the magnitude of the association remains unclear.

### **Composition of Teacher Liking and Student Characteristics**

As demonstrated by the literature, there is inconsistent evidence of teacher liking of varying types of students. Much research has been conducted on teacher preferences to prosocial and aggressive students, with less literature differentiating between direct and indirect aggressive students. Little is known about the association between teacher liking and less studied characteristics of children such as immaturity, victimization, and social withdrawal. Also given the low correlations found between teacher preference and student behaviors investigated (e.g., prosocial  $r = 0.306$ ; aggression  $r = -0.272$ ; social withdrawal  $r = -0.140$ ; Chang, 2004), there is evidence teacher liking is not solely dependent on students' behavioral levels. Therefore it is important to investigate other factors that might contribute to teachers' liking of children within the context of the school environment.

### **Peer Social Preference**

Peer social preference has been defined as the liking and/or disliking of a student by his or her peers (Coie, Dodge, & Coppotelli, 1982). In the literature, social preference is often confused with or interchangeably cited as sociometric status (e.g., Miller-Johnson, Coie, Maumary-Gremaud, & Bierman, 2002; Pope et al., 1991). Though peer social preference is considered a reliable and valid indicator of sociometric status (Cillessen & Mayeux, 2004), it measures levels of liking, not levels of rejection, neglect, or popularity. It is, however, often used in combination with sociometric status to predict adjustment

outcomes. When citing developmental outcomes related to peer social preference, many researchers cite these outcomes in combination with “popularity” (e.g., Estell et al., 2008), “peer rejection” (e.g., Leflot, van Lier, Verschueren, Onghena, & Colpin, 2011), and “peer acceptance” (e.g., Risi, Gerhardstein, & Kistner, 2003), all of which are considered classifications of sociometric status. The interchange of concepts makes it difficult to understand direct effects of peer social preference alone. For purposes of this paper, the author used studies that reported the likeability levels of the students in differing sociometric status groups to determine outcomes. Likeability levels were determined by nomination procedures in which children were asked to nominate the children most liked and least liked in their class. Some studies allowed for unlimited nominations (e.g., Miller-Johnson et al., 2002) as suggested by Terry and Coie (1991), whereas others allowed for only three nominations (e.g., Ollendick, Weist, Borden, & Greene, 1992; Risi et al., 2003) as suggested by Asher and Dodge (1986). Difference scores between most liked and least liked scores were used to determine social preference.

Peer social preference has been found to have both positive and negative consequences on social, behavioral, emotional, and academic adjustment. Ollendick et al. (1992) found children perceived as less likable by peers were more rejected and neglected. The researchers also found less liked students were more socially withdrawn. In terms of behavior, children in less liked groups were rated by teachers as having greater conduct problems, aggression, uncontrollable movement, and attention problems (Ollendick et al., 1992). Less liked students also committed more delinquent offenses than more liked children. Miller-Johnson et al. (2002) also found social preference to significantly predict parent-reported Oppositional Defiant Disorder (ODD) and Conduct Disorder (CD) diagnoses,

and self-reports of conduct problems. The odds of a student being diagnosed with ODD or CD decreased by 65% as social preference scores increased by one standard deviation. This result indicated a significant relationship between social preference and psychological development (Miller-Johnson et al., 2002).

Consequences of peer social preference on emotional adjustment have been found by Lansford et al. (2007). Lansford and colleagues investigated the association between emotional concerns and social preference in elementary through high school age students. Average social preference scores from kindergarten through third grade were significantly associated with teacher and mother reports of depressive symptoms in fourth grade [ $r = -0.21$  (teacher),  $r = -0.16$  (mother),  $p < .01$ ]; seventh grade [ $r = -0.35$ ,  $p < .001$  (teacher),  $r = -0.16$ ,  $p < .01$  (mother)]; and twelfth grade [ $r = -0.20$ ,  $p < .001$  (mother)] (Lansford et al., 2007). Findings indicated students who received lower social preference scores were rated by teachers and their mothers to have significantly higher levels of depressive symptoms. Academically, less liked students have been found to have significantly lower grades and a greater likelihood of dropping out of school (Ollendick et al., 1992). Risi et al. (2003) found less liked children to have poorer academic outcomes in terms of graduation rates. Overall, the literature demonstrates students who are less socially preferred by their peers have poorer outcomes in terms of social, behavioral, emotional, or academic trajectories.

**Effects of student characteristics.** There have been many investigations regarding the association between students' aggressive behaviors and social preference, though the literature has been somewhat inconsistent. Many researchers report the negative effects of difficult temperament on peer social preference (Berden, Keane, & Calkins, 2008). Sturaro, van Lier, Cuijpers, and Koot (2011) found students with externalizing behaviors had

consistently lower social preference scores the following school year from kindergarten to third grade. Lee (2009) also found negative associations between aggression and social preference for boys, in which boys with higher nominations as a bully were also rated as less liked by peers. Girls, on the other hand, were found to be rated more highly by peers in terms of social preference when also rated as being more aggressive. Indirect (relational) aggression was, however, much more likely to predict negative associations than verbal or physical aggression (Lee, 2009). The last reported finding by Lee (2009) is inconsistent with findings by Moore et al. (2012) who found indirect aggression to be positively associated with peer liking at a significant level ( $r = 0.19, p < .01$ ), and positively associated with peer disliking at an even more significant level ( $r = 0.45, p < .001$ ). Miller-Johnson et al. (2002) found aggressive behaviors in students did not predict peer social preference ( $\beta = -0.04$ ;  $SE = 0.06$ ). In conclusion, the findings do not indicate uniform associations between these aggressive behavioral characteristic and peer liking (Moore et al., 2012).

Interestingly, some researchers have reported immature behaviors predict low social preference more so than aggression. Pope et al. (1991) found the relationship between immature/inattentive behaviors and peer liking was  $r = -0.62$  for students in third and fourth grade, and  $r = -0.52$  for students in fifth and sixth grade. These correlations were more significantly related to peer social preference than associations with aggression in grades three and four ( $r = -0.37$ ), and grades five and six ( $r = -0.16$ ; Pope et al., 1991). Students with shy/withdrawn behaviors have consistently been found to be less liked by peers, with greater rates of neglect than direct rejection (Coplan, Prakash, O'Neil, & Armer, 2004; Rubin et al., 2009).



As with aggression, the literature on victimized students also represents gender differences. Heilbron and Prinstein (2010) found social preference of victimized students was higher for girls than for boys, indicating victimized boys are less liked by their peers than victimized girls. Overall, both victimized boys and girls are more often disliked than liked by their peers (Juvonen & Graham, 2001). On the other hand, children who demonstrate prosocial behaviors are generally liked by their peers (Zimmer-Gembeck, Geiger, & Crick, 2005).

**Correspondence with Teacher Liking.** Empirical research on social preference and teacher liking has predominantly been conducted independent of one another. Consequently, there is little empirical evidence of the association between peer social preference and teacher liking (Mercer & DeRosier, 2008). Yet, research suggests students as young as kindergarten have the ability to make social judgments regarding their peers based on perceptions of teacher liking (Birch & Ladd, 1998). Researchers have found teacher feedback based on teacher liking levels influenced peer preference and perceptions of behavior (White, Sherman, & Jones, 1996; White & Kistner, 1992). These findings indicate teachers may bias peers' evaluations of behavior and acceptance of the target child (Hughes, Cavell, & Willson, 2001). Both Chang et al. (2007) and McAuliffe et al. (2009) found teacher liking of students mediated the relationship between student behaviors and peer acceptance. In other words, peer preference was in response to both the students' behavior and the teachers' preference. Chang et al. (2007) and Moore et al. (2012) found moderating effects of teacher preference on the association between peer acceptance and student behavior. The moderating effect suggests difference in peer liking of students with varying characteristics is accounted for by teacher preference levels, such that the relationship

between student behavior and peer social preference differs as a function of teacher preference. More specifically, Moore et al. (2012) found teacher preference levels to be associated with ratings of peer disliking more so than ratings of peer liking.

Teachers' interactions with their students play a prominent role in how peers interpret and respond to behavior such that it is consistent with their teachers' liking or disliking of the student (Chang, 2004). These teacher preferences are adopted by students and used to determine peer preference and decisions to form relationships with peers (Chang et al., 2007; Hughes et al., 2001). Some researchers have even documented evidence that peer social status is based more on teacher liking, than peer liking (Chang, 2003; White & Kristner, 1992; White et al., 1996). Mercer and DeRosier (2008) found a reciprocal relationship between teacher preference and low peer social preference over the mid-elementary school years, suggesting peer preference also has an effect on teacher preference.

Less is known about the direction of the effect from peer social preference to teacher liking. Mixed results have emerged from the investigations conducted. Taylor and Trickett (1989) found peer disliking ratings of kindergarten and first grade students did not contribute to predictions of their teacher's liking of them in second or third grade. As mentioned earlier, Mercer and DeRosier (2008) found a reciprocal relationship with paths from prior low peer social preference to subsequent teacher preference being stronger and more consistent than paths from teacher preference to subsequent low peer social preference. The gap in the literature regarding high peer social preference and these inconsistent findings warrant further investigation. Also, Mercer and DeRosier (2008) focused on student behavior in terms of aggression. Less is known about these associations in regards to other student

behaviors necessitating even further examination to understand the moderating effect of student preference at all levels on teacher liking of differing types of students.

### **Job Satisfaction**

As demonstrated by the literature on teacher liking and peer social preference, student behaviors have also been shown to influence teacher job satisfaction. Considering the literature on student behaviors, which indicated disruptive behaviors impede teachers' ability to conduct their job, it is likely these same disruptive behaviors influence teacher job satisfaction. As with peer social preference, the researcher of this study is interested in the moderating role of job satisfaction on the student characteristic – teacher liking relationship.

Job satisfaction has been defined as an attitude or affective reaction towards “psychological objects” in the working environment including the institution, job, fellow workers, or other individuals that are an integral part in the environment (Turner, 2007; Carroll, 1973). Herzberg (1987) describes job satisfaction in terms of intrinsic and extrinsic factors. The intrinsic factors include achievement, recognition, responsibility, freedom, and opportunities; whereas extrinsic factors include administration, working conditions, salary, status, and interpersonal relationships. For teacher job satisfaction, this includes interpersonal relationships with both colleagues and students. In terms of working conditions, Anthony, Kritsonis, and Herrington (2007) describe environments that foster job satisfaction to be those that are conducive for allowing optimal performance. For teachers, optimal performance would involve a classroom environment that did not interrupt the teaching or learning process. Teachers whose students exhibit behaviors that disrupt their opportunity to teach to the best of their ability would likely have decreased job satisfaction.

**Effects of Student Characteristics.** Many variables have been studied to determine effects on teacher job satisfaction including factors at the organizational level, teacher level, and student level. Much research has looked at attendance, educational level, teacher turnover rates, years of teaching experience, licensure status, facility equipment, school size, achievement levels, minority status, socioeconomic composition, and administrative support (Turner, 2007). A recent study conducted with North Carolina teachers indicated of the three variables teachers were the least satisfied with, one of those was time allowed for instructional planning (North Carolina Teacher Working Conditions Initiative, 2008). Ingersoll (2003) found similar results with teachers who had left the teaching profession due to low job satisfaction. In that study, teachers reported being dissatisfied with several factors including inadequate instructional planning time, student discipline problems, and interruptions in classroom teaching time. Besides affecting instructional time, student behaviors can also cause stress and frustration, as well as feelings of ineffectiveness (Friedman, 1995), leading to lower job satisfaction and teacher burnout.

Huysman (2008) found most of the teacher participants identified interactions with their students as a factor that gave them the most enjoyment with their job. Rural teachers in the study were most dissatisfied with the lack of recognition and lack of respect. Friedman (1995) also found student disrespect to affect female teachers' job satisfaction; however, the greatest behavioral effect on male job satisfaction was inattentiveness, suggesting possible gender difference. With both male and female teachers, Friedman (1995) found student behaviors to account for 22% of teacher burnout, indicating a significant impact of student behavior on teacher job satisfaction. Landers et al. (2008) also found student behaviors of disrespect to affect teacher job satisfaction at statistically significant levels across

elementary, middle, and high school. Teachers in the Landers et al. (2008) study were allowed to write in student behaviors that affected their job satisfaction the most. Student behaviors indicated by more than 100 of the 540 kindergarten through twelfth grade teacher participants were collated to determine behaviors that affect job satisfaction the most (Landers et al., 2008). These behaviors included disrespect (language, rudeness, mouthiness, disrespect of property, disrespect to authority, and talking back), noncompliance, aggression, effort (laziness, lack of effort, lack of motivation, lack of work ethic, low academic standards, underachievement), and general disruption (acts out, talks out, dramatic, yells, socializes in class) (Landers et al., 2008). As with Friedman (1995), Landers and colleagues (2008) found student disrespect, inattentiveness, and sociability in class to affect job satisfaction. Ample evidence supports the idea that student behavior is associated with job satisfaction. Less is known about under-studied student behaviors' impact on job satisfaction, and even less is known about the association between job satisfaction and teacher liking.

**Correspondence with Teacher Liking.** Only one study was found that examined the association between teacher liking of students and aspects of teacher job satisfaction. Kok (2012) investigated relationships between teacher preference of students and attitudes towards the teaching profession. The researcher found that teacher preference of student behaviors was a significant predictor of factors related to attitudes towards the teaching profession. The opposing directional effect has not been investigated. Therefore, the question remains whether teacher job satisfaction is a significant predictor of teacher liking of students with varying behavioral characteristics. Further research is warranted to answer this question.

## **Composition**

Current literature demonstrates teachers' liking of students varies from student to student (Birch & Ladd, 1998; Chang, 2004; Mercer & DeRosier, 2008). It is important to understand the variance in teacher liking of differing types of students considering teacher liking has been found to have profound effects on students. Higher teacher liking is associated with better teacher-student relationship quality, higher academic achievement, higher school motivation, and lower feelings of loneliness (Davis & Lease, 2007; Mercer & DeRosier, 2008). Researchers also found teacher preferences to affect their behavior and treatment of their students (Mottet et al., 2004; McAuliffe et al., 2009). Factors affecting teacher preference have been cited as teacher beliefs, expectations, and attitudes (Kircaali-Iftar, 1992), as well as student behavior. A significant amount of variance in teachers' liking of students was found to be accounted for by student behaviors (Mottet et al., 2004). Given the empirical evidence of teacher liking effects on student outcomes, and considering the variance in teachers' liking to differing students, it is important to understand the level of teacher liking of students with differing characteristics. The characteristics investigated in this study include: direct aggressive, indirect aggressive, immaturity, victimization, shy/withdrawn, and prosocial.

The literature demonstrates teachers' liking of the proposed behavioral characteristics vary. Students demonstrating direct aggressive behaviors are found to be least liked by teachers, with relationally aggressive students being more likely to be liked or disliked depending on gender. Immature students are more desired by teachers than aggressive students, though less liked than students with more desirable behaviors. Less is known about the teacher liking of victimized students. One study found teacher liking to be negatively

associated with socially rejected students who are often characterized as victims. Low associations between teacher preferences of shy/withdrawn students have also been found though results are less consistent with this behavioral type. It is expected that higher levels of shy/withdrawn behaviors would be associated with lower levels of teacher liking considering their dependency on their teachers and lack of close relationships. Students demonstrating prosocial behaviors were the only student behavioral type found to have a consistently positive association with teacher liking, however, the magnitude of the association varied significantly in the literature. Given the lack of empirical investigation regarding relationships between teacher liking and victimized, immature, and to some degree, withdrawn student behaviors, further investigation is warranted.

As with teacher liking, peer social preference also affects students' social, behavioral, emotional, and academic adjustment (Lansford et al., 2007; Miller-Johnson et al., 2002; Ollendick et al., 1992; Risi et al., 2003). Though there is little empirical evidence of the association between social preference and teacher preference, Mercer and DeRosier (2008) found a reciprocating relationship between teacher liking and peer liking suggesting a bidirectional effect. Less is known about the direction of the effect from peer social preference to teacher preference. Of the research conducted, mixed results have been found. Whereas Mercer and DeRosier (2008) found a reciprocal relationship, Taylor and Trickett (1989) found no association. These relationships have been primarily studied in terms of aggressive behavior with far less being investigated with the other proposed behaviors. Due to these findings, the proposed research study predicts peer social preference to have a moderating effect on the relationship between student behavior and teacher liking.

Job satisfaction is also predicted to have a moderating effect on teacher liking. Teacher job satisfaction is the level of liking towards the teaching profession. Teachers from a study conducted by Huysman (2008) indicated interactions with students led to greater job satisfaction. Friedman (1995) found student behaviors accounted for the majority of variance in teacher burnout, with disrespect being the most cited behavioral contribution (Friedman, 1995; Landers et al., 2008). Less is known about varying levels of contribution of certain student behaviors to job satisfaction, and far less is known regarding the association between job satisfaction and teacher liking. Kok (2012) is the only investigator to examine the relationship between teacher preference and attitudes towards the teaching profession, finding an association between teacher preference of student behaviors and job satisfaction. Further research is warranted to determine whether there is a directional effect from teacher job satisfaction to teacher liking, and whether the association predicts teacher liking to differing types of students.

### **Rationale for Current Study**

Peer relationship status and peer social preference have been the focal points of student adjustment research for decades (Birch & Ladd, 1998). Far less is known about the effects of teacher liking on student outcomes. It is important to understand the variance in teacher liking to differing types of students before consequences of teacher liking on student adjustment can be truly understood. Research in this area has been conducted on less desirable behaviors such as direct and indirect aggression. Other less desirable behavioral characteristics, including victimization, immaturity, and social withdrawal, have been minimally investigated. Desirable characteristics, such as prosocial behaviors, have been studied in the area of teacher preference, however, these findings are inconsistent. Research



on gender and age differences in regards to the relationship are also unclear. As a result of the paucity in the literature, as well as the inconsistencies demonstrated, this study seeks to examine the magnitude of differences in teacher liking to students with these less studied behavioral characteristics.

There is evidence teacher liking is not entirely dependent on student behavior (Bernard, Zimbardo, & Sarason, 1968; Herr et al., 1972). Therefore, two factors are proposed to play a moderating role in teacher liking of differing types of students. Given the relationship that has been found between teacher liking and peer social preference, it is possible that peer social preference could influence teacher liking.. Only two studies (Mercer & DeRosier, 2008; Taylor & Trickett, 1989) were found to measure the peer social preference – teacher liking association, with findings being inconsistent. Taylor and Trickett (1989) found no association, however, their study investigated predictions of teacher liking based on prior peer-rated social preference. Mercer and DeRosier (2008) did find a directional influence from peer social preference to teacher preference, however the study only investigated one behavioral characteristic. The current study aims to determine the association of social preference and teacher liking based on ratings at one time point and multiple behavioral characteristics.

Similar scarcity was found for empirical evidence regarding the association between teacher liking and job satisfaction. Only one study was found to investigate this association (Kok, 2012). Teacher job satisfaction is predicted to moderate teacher liking of differing types of students considering that directional influence of teacher liking was found to predict attitudes towards the teaching profession. To date, no study has investigated the prior association. Again, the paucity in the literature warrants further empirical investigation to

clarify these relationships. The current study will examine the variance accounted for by these moderating factors within each behavioral type.

### **Research Questions and Hypotheses**

The aim of this study is to investigate the association between teacher liking and student characteristics of elementary age children. There is an investigational interest in the magnitude of variation of teacher liking to students exhibiting behavioral characteristics. In other words, the study is interested in the strength of the relationships between teacher liking and student behavioral characteristics. The magnitude of variation between the associations is also of importance to the investigation. The literature has demonstrated differences in age and gender based on characteristics, as well as teacher liking. To further isolate variation to student characteristics, age and gender will be controlled for in the analyses.

Considering the literature has demonstrated small to moderate associations, teacher liking is most likely not solely based on student behavior. Rather, contextual factors most likely play a role in teacher's preferences of various student characteristics. Teacher job satisfaction and peer social preference are proposed to moderate teacher liking of students who manifest differing characteristics. It is hypothesized that peer social preference will account for more of the variance in teacher liking of different student behaviors than teacher job satisfaction. Based on the reviewed literature, the following research questions and hypotheses are proposed.

1. The first question is designed to examine if teacher ratings of student behavioral characteristics influence teaching liking of students. Student characteristics are subsumed under six categories including direct aggression, indirect aggression, immaturity, shy/withdrawn, victimization, and prosocial.

Hypothesis 1: There are significant associations between student behavioral characteristics and teacher liking, such that less desirable characteristics will be negatively associated with teacher liking and more desirable characteristics will be positively associated with teacher liking.

1.a. Direct aggression is negatively associated with teacher liking.

1.b. Indirect aggression is negatively associated with teacher liking.

1.c. Immaturity is negatively associated with teacher liking.

1.d. Prosocial behavior is positively associated with teacher liking.

1.e. Victimization is negatively associated with teacher liking.

1.f. Shy/withdrawn is negatively associated with teacher liking.

1.g. The magnitude of the associations between behavioral characteristics and teacher liking will vary in the following order of strongest to weakest association: direct aggression, indirect aggression, immaturity, prosocial, victimization, and shy/withdrawn.

2. The second question is designed to examine whether teacher job satisfaction is related to teacher liking of students.

Hypothesis 2: Teacher job satisfaction is positively and significantly associated with teacher liking.

3. The third question is designed to examine whether peer rated social preference is related to teacher liking of students.

Hypothesis 3: Peer social preference is positively and significantly associated with teacher liking. Peer social preference is more strongly associated with teacher liking than job satisfaction.

4. The fourth question is designed to examine whether teacher job satisfaction moderates the relationship between teacher liking of students and behavioral characteristics.

Hypothesis 4a: Teacher job satisfaction will predict variation in teacher liking of students with varying behavioral characteristics.

Hypothesis 4b: The moderating influence will weaken the relationship for teachers with higher job satisfaction.

5. The fifth question is designed to examine whether peer social preference moderates the relationship between teacher liking of students and behavioral characteristics.

Hypothesis 5a: Peer social preference will predict variation in teacher liking of students with varying behavioral characteristics.

Hypothesis 5b: The moderating influence will weaken the relationship for student with less desirable behavioral characteristics and high peer social preference, and strengthen the relationship for prosocial students with high peer social preference.

Hypothesis 5c: Peer social preference will predict a greater amount of variance in teacher liking than job satisfaction.

## CHAPTER III

### METHOD

#### Participants

Participants were recruited as part of a study conducted by 3-C Institute for Social Development in Cary, NC, with funding from the National Institute of Mental Health (Grant #: NIMH 2R44MH70171-02). 3-C Institute for Social Development is a research institute that designs evidence-based interventions to address social, emotional, and mental health needs through innovative technology. The intent of the study was to develop and evaluate the effectiveness of storytelling intervention designed to increase character education and life skills. The LifeStories for Kids curriculum was taught by kindergarten through fifth grade teachers ( $n = 104$ ) in four public elementary schools in one central North Carolina school district. Parent consent to participate in the study was obtained for 89.4% ( $n = 1,989$ ) of the total students ( $n = 2,225$ ) who were taught the curriculum. All students participated in the character building curriculum, however, data were only collected for students with parental consent. Of the students who received parental consent, 50% were male and 50% were female. Archival school records were used to determine the racial distribution of the participating students. The race/ethnic composite of the total sample was 44.7% White, 29.3% Black, 6.6% Asian, 0.3% American Indian, 14.1% Hispanic/Latino, and 4.8% multiracial. Compared to the United States Census data for North Carolina at the time of the first data collection (2006), the sample across the four North Carolina schools had a lower White population, and significantly higher Black, Asian, and Hispanic/Latino population.

The school district could not provide information for free or reduced lunch status of students; however, 28% of students in the district qualified for free or reduced lunch, with a range of 16 to 53% of students in each school receiving the service. The majority of the students were not qualified for any special education category (75.2 %), whereas 9.0% were classified as Academically Gifted and 7.9% qualified for other disability categories (autism, emotional disturbance, developmental disability, learning disability, other health impairment, speech/language, or visual impairment). Special education information was missing for 7.9% of participants. Students were also majority English speakers (77.8%) with some Spanish speakers (11.2%), and speakers of other languages (4.4%) (see Table 1).

Table 1

*Student Demographics*

	School 1	School 2	School 3	School 4	Total
Consent	91.4 (466)	87.6 (444)	83.4 (366)	92.7 (713)	89.4 (1,987)
Gender					
Male	51.3 (239)	51.1 (227)	53.6 (196)	49.4 (352)	50.1
Female	48.7 (227)	48.9 (217)	46.2 (169)	50.6 (361)	49.9
Race					
Asian	2.1 (10)	2.9 (13)	3.58 (14)	13.2 (94)	6.6
American Indian	0 (0)	0.5 (2)	0 (0)	0.6 (4)	0.3
Black	44.8 (209)	28.2 (125)	58.2 (213)	5.0 (36)	29.3
White	9.9 (46)	58.6 (260)	28.7 (105)	67.0 (478)	44.7
Hispanic/Latino	39.3 (183)	5.6 (25)	3.8 (14)	8.6 (61)	14.1
Multiracial	3.9 (18)	4.3 (19)	5.2 (19)	5.6 (40)	4.8
Special Ed.					
Not Qualified	80.9 (377)	76.1 (338)	79.2 (290)	68.6 (189)	75.2
AG <sup>a</sup>	2.1 (10)	5.9 (26)	9.3 (34)	15.3 (109)	9.0
Other <sup>b</sup>	4.5 (21)	9.0 (40)	7.7 (28)	9.5 (68)	7.9
Language					
English	52.1 (243)	88.5 (393)	93.7 (343)	79.4 (566)	77.8
Spanish	31.8 (148)	2.9 (13)	2.2 (8)	7.6 (54)	11.2
Other	3.9 (18)	1.6 (7)	0.5 (2)	8.6 (61)	4.4
Grade					
Kindergarten	18.2 (85)	21.2 (94)	15.8 (58)	15.8 (113)	17.5 (348)
First	17.2 (80)	17.3 (77)	17.5 (64)	20.8 (148)	18.6 (369)
Second	17.4 (81)	16.7 (74)	15.6 (57)	15.4 (110)	16.2 (322)
Third	18.0 (84)	17.1 (76)	12.8 (47)	16.8 (120)	16.5 (327)
Fourth	15.5 (72)	14.0 (62)	20.8 (76)	15.8 (113)	16.3 (323)
Fifth	13.7 (64)	13.7 (61)	17.5 (64)	15.3 (109)	15.0 (298)

*Note.* *N* is in parentheses. <sup>a</sup> AG = Academically Gifted. <sup>b</sup> Other includes all other special education categories besides academically gifted.

Of the 104 kindergarten through fifth grade teachers, 93.3% were female, and 6.7% were male. Race composition of teachers was 85.6% White, 10.6% Black, 1.0% Asian, and 2.9% Hispanic/Latino. There were 20 kindergarten teachers, 20 first grade teachers, 17 second grade teachers, 17 third grade teachers, 16 fourth grades teachers, and 14 fifth grade teachers (see Table 2). In addition, all four schools were implementing programs aligned

with School Wide Positive Behavior Support (SWPBS; e.g., character education, violence prevention) designed to decrease aggression and bullying, and increase prosocial behaviors.

Table 2

*Teacher Demographics*

	School 1	School 2	School 3	School 4	Total
Gender					
Male	8.3 (2)	4.3 (1)	4.8 (1)	8.3 (3)	6.7 (8)
Female	91.7 (22)	95.7 (22)	95.2 (20)	91.7 (33)	93.3 (111)
Race					
Asian	4.2 (1)	0 (0)	0 (0)	0 (0)	0.8 (1)
Black	16.7 (4)	13.0 (3)	19.0 (4)	0 (0)	10.1 (12)
White	70.8 (17)	87.0 (20)	81.0 (17)	97.2 (35)	86.6 (103)
Hispanic/ Latino	8.3 (2)	0 (0)	0 (0)	2.8 (1)	2.5 (3)
Grade					
Kindergarten	20.8 (5)	21.7 (5)	19.0 (4)	16.7 (6)	16.8 (20)
First	16.7 (4)	17.4 (4)	19.0 (4)	22.2 (8)	16.8 (20)
Second	16.7 (4)	17.4 (4)	14.3 (3)	16.7 (6)	14.3 (17)
Third	16.7 (4)	17.4 (4)	14.3 (3)	16.7 (6)	14.3 (17)
Fourth	16.7 (4)	13.0 (3)	19.0 (4)	13.9 (5)	13.4 (16)
Fifth	12.5 (3)	13.0 (3)	14.3 (3)	13.9 (5)	11.8 (14)

*Note.* *N* is in parentheses.

## Procedure

The 3-C Institute for Social Development Institutional Review Board (IRB) accepted procedures and approved the study on August 3, 2006 (IRB Study#: 3CG014-02). The school district IRB approval was also obtained prior to recruiting schools. Both review boards judged participation in the study to pose minimal risk defined in the Federal guidelines as "the probability and magnitude of harm anticipated in the research are not greater in and of themselves than those ordinarily encountered in daily life or during the performance of routine physical or psychological examinations or tests" [Federal Register, 1991, 45CFR 46.102(i)]. Measures were taken to ensure confidentiality and minimize



potential psychological risk. Social or legal risks were not likely. Participants were informed of their right to withdraw from the study at any time with no penalty. One student declined to participate during data collection at Time 1. The current study utilizes the existing data set collected in October 2006 for Time 1. The data used for this study were not collected by the current researcher. Permission to analyze the data set using the analytical procedures described below was granted by the principal investigator.

Recruitment letters were sent to all schools in one central school district in North Carolina. The letter described the LifeStories for Kids curriculum, the nature of the project, and honorarium for participation (see Appendix A). Participation selection was based on a first-come, first-serve basis. The first four schools who expressed interest at the administrative, counselor, and teacher levels were selected to participate. Consent forms were sent to both teachers and parents whose children were in participating classrooms. The parent letter explained all children would be participating in the character building curriculum, but requested permission for participation in the study (see Appendix B). Specifications of the curriculum and evaluation methods were also indicated. Consent forms by parents were returned to teachers with a 90% consent rate.

In October 2006, data for Time 1 were collected for teachers. On scheduled dates, teachers were individually interviewed for 40 to 60 minutes by project staff who were Ph.D. level researchers in psychology-related fields. Teachers were read questions and asked to indicate a number corresponding with a scaled response per child. Teachers were provided with a list of their participating student's names to follow. Following the interview, teachers also completed a brief survey. To compensate teachers for their time and appreciation for their willingness to participate, they were given a \$25 gift card to a local business.

Between September and October 2006, student data were collected for Time 1. Students were administered four measures during a scheduled time that did not interfere with core curriculum instruction time. Trained project staff orally administered the four questionnaires, with administration lasting between 30 to 45 minutes. Students were given small prizes upon completion of the questionnaires. Procedures were repeated in January 2007, and April to May 2007 for Time 2 and Time 3 respectively.

## **Measures**

**Student Characteristics.** Teachers rated the social and behavioral functioning of their participating students during a scripted oral interview (see Appendix C). The interview was a modified version of the *Teacher Checklist* developed by Terry, Underwood, and Coie (1994). For the current study, additional items were added to the original checklist questions to expand the social and behavioral content within each scale. The modified measure produced acceptable model fit using confirmatory factor analyses [ $\chi^2(309) = 1264.86, p < .01$ ; CFI = .90; RMSEA = .05; SRMR = .04]. Criteria for cutoffs recommended by Hu and Bentler (1999) indicate the factor structure meets most criteria (CFI  $\geq .95$ ; RMSEA  $\leq .06$ ; and SMRM  $\leq .08$ ). The final version measured the following student characteristics: direct aggression (physical and verbal), indirect aggression, immaturity, victimization, prosocial, shy/withdrawn, academic difficulty, and motivation. Teachers were asked to respond to three to five questions per student characteristic using a scale from 1 (never true of this child) to 7 (almost always true of this child).

**Teacher Liking.** During the teacher interview, teachers were asked to rate their liking of each student using the following question: “How easy is it for you to like this child?”. Teachers were given a five-point Likert scale ranging from 1 (not at all easy) to 5

(extremely easy). This one question has been used to measure teaching liking in other peer reviewed publications (e.g., Chang, 2004; Chang et al., 2007; Taylor & Trickett, 1989).

Teacher responses ranged across the full scale of response options.

**Peer Social Preference.** Peer social preference was measured using one question, “How much do you like this kid as a friend?”. Children were asked to rate their liking of each peer in their class on a 5-point Likert scale ranging from 1 (“not at all”) to 5 (“a whole lot”) (see Appendix D). A rating scale for only one question phrased with a “like” versus “dislike” anchor was used for three reasons. First, there have been objections by educators to the use of negative nominations of peers. Moore (1967) voiced concern regarding the encouragement the disliking nominations inferred for children to express rejection and disliking of their peers. Asher and Dodge (1986; Wentzel & Asher, 1995) proposed a rating scale to be used, with the lowest scores on the rating scale (1 and 2) being substituted for negative nominations to classify children as least liked (LL). The rating scale is applied to a question regarding “liking” as opposed to “disliking” to limit the encouragement to express disliking of a peer. Ratings on liking are “less objectionable on moral grounds” than negative nominations (Maassen, van der Linden, & Akkermans, 1997, p. 182). Second, when children are limited by nomination, they are likely to mention their friends, making the question a measure of friendship over liking. Parker and Asher (1993) claim, “A conceptually clearer approach would be to...use a ‘roster-and-rating scale’ measure of liking” (p. 612). With this approach, children are able to rate all peers highly or negatively, rather than forcing nominations one way or the other (Asher & Dodge, 1986). Ratings also allow for information to be gathered on more children, considering children provide information on all peers in their class rather than the few they nominate. More information

per child is also available as the ordinal scale indicates extent of liking as opposed to nominations that are on a dichotomous scale indicating nominated versus not nominated. Lastly, ratings have been shown to have greater test-retest reliability over nominations (Asher & Hymel, 1981), as well as high stability over time (Asher, Singleton, Tinsley, & Hymel, 1979; Maassen et al., 1997). Using the “like” anchor for a question regarding a “friend” (e.g., “How much to you like this friend?”), has been used by other researchers (Hawley, Little, & Card, 2007).

All children received a rating which was standardized within classrooms. A social preference score was calculated by subtracting standardized LL scores (based on ratings of 1 or 2) from standardized liked most (LM) scores (based on ratings of 4 or 5) for each child. Scores of 3 were not included in the calculation, such that a child who received all 3’s would score a 0 indicating they were just as much liked as disliked. The two-value determination criteria was used based on recommendations by Asher and Dodge (1986; Wentzel & Asher, 1996), as well as procedures similar to current researchers’ (e.g., Maassen, van der Linden, Goosens, & Borkhost, 2000).

**Job Satisfaction.** Teachers completed the *LifeStories Survey*, which was designed specifically for the larger study (see Appendix E). Teachers were asked to respond to several questions using the prompt: “In your current position, how satisfied are you with...”. Teachers responded to job satisfaction questions regarding prestige, opportunities, working conditions, recognition for work, feelings of accomplishment, and school policy. They were asked to respond on a 5-point Likert scale ranging from 1 (not at all) to 5 (highly). Item values were averaged to compute an overall job satisfaction score. Scores could range from 1 to 5 with higher scores indicating greater job satisfaction.

**Age and Gender.** Demographic variables including age and gender were obtained through school records. The school data management system provided printed data of school records at Time 1 for sample description purposes.

### **Analytic Procedures**

The analytic procedures are based on a theoretical framework proposed by Urie Bronfenbrenner (1977). Bronfenbrenner's ecological systems theory stressed the need for an understanding of the significance of the social environment, taking into account the relationships between a person and their environment. Immediate individual factors would include characteristics specific to the students, which in this study includes the student behavioral characteristics. At the microsystems level, relationships are assessed within the immediate settings. For this study, this would include how much a student is liked by their teacher (teacher liking) and peers (social preference). Bronfenbrenner (1977) proposed the next level, the mesosystem, comprised interrelations among the variables at the microsystems level and factors affecting those interrelations. Teacher level factors, such as job satisfaction, would be included at this level. Bronfenbrenner recommended that research be conducted within an ecological systems theory framework, and therefore variables should be assessed within a "nested arrangement of structures" (Bronfenbrenner, 1977, p. 514). For the current study, predictor variables were determined to exist at the microsystem and mesosystem levels. Students were also clustered within teachers, creating a nested hierarchical structure within the data. It is best to use statistical techniques that account for nesting when analyzing hierarchical data (Woltman, Feldstain, MacKay, & Rocchi, 2012). Therefore, it was determined Hierarchical Linear Modeling (HLM; Raudenbush & Bryk, 2002) should be used.

HLM was chosen to assess the moderating influence of teacher job satisfaction (Question 4) considering this variable is reported at the teacher level (Level-2). Traditionally, Ordinary Least Squares (OLS) would be used to assess the moderating influence of peer social preference (Question 5), considering this variable is reported at the student level (Level-1). The current researcher is treating teacher liking as a trait instead of a state. Therefore, it is likely there are variations in teacher liking scores, creating error variance at Level-2. Students are also still nested within teachers, regardless of the level at which the variables exist. Thus, HLM was chosen for several reasons. One, this statistical technique uses OLS regression to analyze outcome variables, when control and predictor variables are within differing levels of the analysis (Woltman et al., 2012). The student data, such as behavioral characteristics, are at Level-1, whereas teacher data, such as job satisfaction, are at Level-2, with students being nested within teachers. Second, HLM is able to analyze data with the least error considering it accounts for shared variance and variance at both levels, further supporting reasoning to use this model. Third, simultaneous relationships within and between all hierarchical levels of grouped or categorical data can be investigated, making it the most efficient model (Woltman et al., 2012). Fourth, HLM can accommodate discrete (e.g., gender) and continuous (e.g., teacher preference) variables in the same analysis (Raudenbush & Bryk, 2002). Fifth, HLM can also accommodate several factors that would typically violate assumptions of regression such as non-independence, missing data, and small group sizes. Along with HLM analyses, basic descriptive statistics will also be computed for all variables of interest including control, predictor, and outcome variables. The Statistical Package for the Social Sciences (SPSS) version 21 was used to conduct all analyses.

A two-level HLM model was constructed to investigate all questions. First, it must be determined if there is sufficient within- and between-group variance in teacher liking (outcome variable). Without sufficient between-group variance in teacher liking, other variables cannot explain differences in teacher liking. Between-group variance will be investigated using a one-way analysis of variance (ANOVA) in HLM. A null model of the regression equation will be used with no predictor variables at Level-1 or Level-2 to determine an intercept only estimate.

The null model is as follows:

$$\text{Level-1: } TL_{ij} = \beta_{0j} + e_{ij}$$

$$\text{Level-2: } \beta_{0j} = \gamma_{00} + U_{0j}$$

Where:

$TL_{ij}$  = teacher liking rating for student  $i$  by teacher  $j$

$\beta_{0j}$  = intercept, or mean teacher liking for teacher  $j$

$\gamma_{00}$  = grand mean teacher liking

$e_{ij} = \sigma^2$  = within-group variance in teacher liking

$U_{0j} = \tau$  = between-group variance in teacher liking for teacher  $j$

The Level-1 intercept can be calculated using  $\gamma_{00} + U_{0j}$  which, hereafter, will be referred to as:  $\beta_{0j}$ . With both within- and between-group variance, total variance in teacher liking can be determined:  $\text{Variance}(TL_{ij}) = e_{ij} + U_{0j} = \sigma^2 + \tau$ . This information also allows for intra-class correlations (ICC) to be computed to determine the percent of variance in teacher liking between teachers:

$$ICC = \frac{\tau_{00}}{\tau_{00} + \sigma^2}$$

Once between- and within-group variance has been partitioned, significant between-group variance in the slopes and intercepts can be investigated. This analysis will be done using a random-coefficient regression model in HLM. This investigates the first question (Hypotheses 1a-1g) and tests the significance of student behavior in relation to teacher liking, while controlling for gender and age. Dummy codes were created for gender (1 = male, 0 = female) and numerical values were assigned to each grade (0 = kindergarten, 1 = 1st grade, 2 = 2nd grade, 3 = 3rd grade, 4 = 4th grade, 5 = 5th grade). A random-coefficient regression model was design for each student behavioral characteristic as follows:

Level-1:  $TL_{ij} = \beta_{0j} + \beta_{1j}(DA)_{ij} + \beta_2(Gen)_i + \beta_3(Grade)_i + e_{ij}$

$$TL_{ij} = \beta_{0j} + \beta_{1j}(IA)_{ij} + \beta_2(Gen)_i + \beta_3(Grade)_i + e_{ij}$$

$$TL_{ij} = \beta_{0j} + \beta_{1j}(Imm)_{ij} + \beta_2(Gen)_i + \beta_3(Grade)_i + e_{ij}$$

$$TL_{ij} = \beta_{0j} + \beta_{1j}(Vict)_{ij} + \beta_2(Gen)_i + \beta_3(Grade)_i + e_{ij}$$

$$TL_{ij} = \beta_{0j} + \beta_{1j}(Wd)_{ij} + \beta_2(Gen)_i + \beta_3(Grade)_i + e_{ij}$$

$$TL_{ij} = \beta_{0j} + \beta_{1j}(Pro)_{ij} + \beta_2(Gen)_i + \beta_3(Grade)_i + e_{ij}$$

Level-2:  $\beta_{0j} = \gamma_{00} + U_{0j}$

$$\beta_{1j} = \gamma_{10} + U_{1j}$$

Where:

$TL_{ij}$  = teacher liking rating for student  $i$  by teacher  $j$

$\beta_{0j}$  = intercept, or mean teacher liking for teacher  $j$

$\beta_{1j}(DA)_{ij}$  = slope for relationship between *direct aggression* and teacher liking

$\beta_{1j}(IA)_{ij}$  = slope for relationship between *indirect aggression* and teacher liking

$\beta_{1j}(Imm)_{ij}$  = slope for relationship between *immature* and teacher liking

$\beta_{1j}(Vict)_{ij}$  = slope for relationship between *victimization* and teacher liking

$\beta_{1j}(Wd)_{ij}$  = slope for relationship between *withdrawn* and teacher liking



$\beta_{1j}(\text{Pro})_{ij}$  = slope for relationship between *prosocial* and teacher liking

$\beta_{2j}(\text{Gen})_i$  = slope for relationship between *gender* and teacher liking

$\beta_{3j}(\text{Grade})_i$  = slope for relationship between *grade* and teacher liking

$\gamma_{00}$  = mean of intercepts across teachers

$\gamma_{10}$  = mean of slopes across teachers

$e_{ij}$  = Level-1 residual variance

$U_{0j}$  = variance in intercepts

$U_{1j}$  = variance in slopes

A gross estimate of  $R^2$  can be determined using the Level-1 residual variance value ( $e_{ij}$ ) from the random-coefficient regression model and the total within-group variance from the null model ( $\sigma^2$ ). Using the following equation, the percent of variance accounted for by each behavioral characteristic can be determined.

$$\Delta R^2 = \frac{\sigma^2_{\text{null}} - e_{ij\text{-random-coefficient regression}}}{\sigma^2_{\text{null}}}$$

Hypotheses 1a-1f must be supported and the intercepts across teachers must have significant variance to test whether teacher job satisfaction (Hypothesis 2) or peer social preference (Hypothesis 3) are associated with teacher liking beyond student characteristics. There also must be significant variance in the slopes across teachers to test the moderating influence of teacher job satisfaction (Hypothesis 4) or peer social preference (Hypothesis 5). First, the cross level hypothesis will be tested. This investigation assesses whether the significant variance in the Level-1 intercepts ( $\beta_{0j}$ ) is related to the Level-2 variable, job satisfaction (Hypothesis 2). In other words, this analysis answers the question of whether job satisfaction significantly relates to the Level-1 intercept while holding individual level characteristics constant. Next, the peer social preference model assesses whether the

significant variance in the Level-1 intercepts ( $\beta_{0j}$ ) is related to the Level-1 predictor variable, peer social preference, while accounting for the nested structure (Hypothesis 3). This procedure is done using the HLM intercepts-as-outcomes model:

*Job satisfaction*

$$\begin{aligned} \text{Level-1: } TL_{ij} &= \beta_{0j} + \beta_{1j}(DA)_{ij} + \beta_3(\text{Gen})_i + \beta_4(\text{Grade})_i + e_{ij} \\ TL_{ij} &= \beta_{0j} + \beta_{1j}(IA)_{ij} + \beta_3(\text{Gen})_i + \beta_4(\text{Grade})_i + e_{ij} \\ TL_{ij} &= \beta_{0j} + \beta_{1j}(\text{Imm})_{ij} + \beta_3(\text{Gen})_i + \beta_4(\text{Grade})_i + e_{ij} \\ TL_{ij} &= \beta_{0j} + \beta_{1j}(\text{Vict})_{ij} + \beta_3(\text{Gen})_i + \beta_4(\text{Grade})_i + e_{ij} \\ TL_{ij} &= \beta_{0j} + \beta_{1j}(\text{Wd})_{ij} + \beta_3(\text{Gen})_i + \beta_4(\text{Grade})_i + e_{ij} \\ TL_{ij} &= \beta_{0j} + \beta_{1j}(\text{Pro})_{ij} + \beta_3(\text{Gen})_i + \beta_4(\text{Grade})_i + e_{ij} \\ \text{Level-2: } \beta_{0j} &= \gamma_{00} + \gamma_{01}(\text{JS})_j + U_{0j} \\ \beta_{1j} &= \gamma_{10} + U_{1j} \end{aligned}$$

*Peer social preference*

$$\begin{aligned} \text{Level-1: } TL_{ij} &= \beta_{0j} + \beta_{1j}(DA)_{ij} + \beta_{2j}(\text{PSP})_{ij} + \beta_3(\text{Gen})_i + \beta_{4j}(\text{Grade})_i + e_{ij} \\ TL_{ij} &= \beta_{0j} + \beta_{1j}(IA)_{ij} + \beta_{2j}(\text{PSP})_{ij} + \beta_{3j}(\text{Gen})_i + \beta_{4j}(\text{Grade})_i + e_{ij} \\ TL_{ij} &= \beta_{0j} + \beta_{1j}(\text{Imm})_{ij} + \beta_{2j}(\text{PSP})_{ij} + \beta_{3j}(\text{Gen})_i + \beta_{4j}(\text{Grade})_i + e_{ij} \\ TL_{ij} &= \beta_{0j} + \beta_{1j}(\text{Vict})_{ij} + \beta_{2j}(\text{PSP})_{ij} + \beta_{3j}(\text{Gen})_i + \beta_{4j}(\text{Grade})_i + e_{ij} \\ TL_{ij} &= \beta_{0j} + \beta_{1j}(\text{Wd})_{ij} + \beta_{2j}(\text{PSP})_{ij} + \beta_{3j}(\text{Gen})_i + \beta_{4j}(\text{Grade})_i + e_{ij} \\ TL_{ij} &= \beta_{0j} + \beta_{1j}(\text{Pro})_{ij} + \beta_{2j}(\text{PSP})_{ij} + \beta_{3j}(\text{Gen})_i + \beta_{4j}(\text{Grade})_i + e_{ij} \\ \text{Level-2: } \beta_{0j} &= \gamma_{00} + U_{0j} \\ \beta_{1j} &= \gamma_{10} + U_{1j} \end{aligned}$$

Where:

$TL_{ij}$  = teacher liking rating for student  $i$  by teacher  $j$

$\beta_{0j}$  = intercept, or mean teacher liking for teacher  $j$

$\beta_{1j}(DA)_{ij}$  = slope for relationship between *direct aggression* and teacher liking

$\beta_{1j}(IA)_{ij}$  = slope for relationship between *indirect aggression* and teacher liking

$\beta_{1j}(Imm)_{ij}$  = slope for relationship between *immature* and teacher liking

$\beta_{1j}(Vict)_{ij}$  = slope for relationship between *victimization* and teacher liking

$\beta_{1j}(Wd)_{ij}$  = slope for relationship between *withdrawn* and teacher liking

$\beta_{1j}(Pro)_{ij}$  = slope for relationship between *prosocial* and teacher liking

$\beta_{2j}(PSP)_{ij}$  = slope for relationship between *peer social preference* and teacher liking

$\beta_3(Gen)_i$  = slope for relationship between *gender* and teacher liking

$\beta_4(Grade)_i$  = slope for relationship between *grade* and teacher liking

$\gamma_{00}$  = Level-2 intercept

$\gamma_{01}(JS)$  = Level-2 slope for job satisfaction

$\gamma_{10}$  = mean of slopes across teachers

$e_{ij}$  = Level-1 residual variance

$U_{0j}$  = variance in intercepts

$U_{1j}$  = variance in slopes

Conceptually, the HLM intercepts-as-outcomes and OLS regression are estimating the same relationship with variables at differing levels. There are only two main differences. First, the OLS model only estimates error at the student level (individual; Level 1), whereas the HLM model accounts for error at the student and teacher level. In addition, the OLS model calculates degrees of freedom based on the number of students ( $n$  at Level 1), while

the HLM model more appropriately assigns degrees of freedom based on the number of teachers ( $n$  at Level 2).

Rough estimates of  $R^2$  can then be determined using the residual variance in intercepts ( $U_{0j}$ ). The amount of variance contributed to the model will be determined by using the difference in the residual intercept variances to calculate the reduction in variance estimates.

$$\Delta R^2 = \frac{U_{0j-\text{random-coefficient regression}} - U_{0j-\text{intercept-as-outcomes}}}{U_{0j-\text{random-coefficient regression}}}$$

If Hypotheses 2 or 3 are supported, moderation will then be tested. The fourth step of the model tests whether teacher job satisfaction or peer social preference moderates the student characteristic – teacher liking association (Hypotheses 4 and 5 respectively). The models assess whether these variables predict the variance in the Level-1 slopes. This analysis is done using the HLM slopes-as-outcomes model:

#### *Job satisfaction*

$$\text{Level-1: } TL_{ij} = \beta_{0j} + \beta_{1j}(DA)_{ij} + \beta_{2j}(JS)_{ij} + \beta_3(DA)(JS) + \beta_4(Gen)_i + \beta_{5j}(Grade)_i + e_{ij}$$

$$TL_{ij} = \beta_{0j} + \beta_{1j}(IA)_{ij} + \beta_{2j}(JS)_{ij} + \beta_3(IA)(JS) + \beta_4(Gen)_i + \beta_{5j}(Grade)_i + e_{ij}$$

$$TL_{ij} = \beta_{0j} + \beta_{1j}(Imm)_{ij} + \beta_{2j}(JS)_{ij} + \beta_3(Imm)(JS) + \beta_4(Gen)_i + \beta_{5j}(Grade)_i + e_{ij}$$

$$TL_{ij} = \beta_{0j} + \beta_{1j}(Vict)_{ij} + \beta_{2j}(JS)_{ij} + \beta_3(Vict)(JS) + \beta_4(Gen)_i + \beta_{5j}(Grade)_i + e_{ij}$$

$$TL_{ij} = \beta_{0j} + \beta_{1j}(Wd)_{ij} + \beta_{2j}(JS)_{ij} + \beta_3(Wd)(JS) + \beta_4(Gen)_i + \beta_{5j}(Grade)_i + e_{ij}$$

$$TL_{ij} = \beta_{0j} + \beta_{1j}(Pro)_{ij} + \beta_{2j}(JS)_{ij} + \beta_3(Pro)(JS) + \beta_4(Gen)_i + \beta_{5j}(Grade)_i + e_{ij}$$

$$\text{Level-2: } \beta_{0j} = \gamma_{00} + \gamma_{01}(JS) + U_{0j}$$

$$\beta_{1j} = \gamma_{10} + \gamma_{11}(JS) + U_{1j}$$

$$\beta_{2j} = \gamma_{20} + \gamma_{21}(JS) + U_{2j}$$

$$\beta_{3j} = \gamma_{30} + \gamma_{31}(\text{JS}) + U_{3j}$$

$$\beta_{4j} = \gamma_{40} + \gamma_{41}(\text{JS}) + U_{4j}$$

$$\beta_{5j} = \gamma_{50} + \gamma_{51}(\text{JS}) + U_{5j}$$

*Peer social preference*

$$\text{Level-1: } \text{TL}_{ij} = \beta_{0j} + \beta_{1j}(\text{DA})_{ij} + \beta_{2j}(\text{PSP})_{ij} + \beta_{3j}(\text{DA})(\text{PSP})_{ij} + \beta_4(\text{Gen})_i + \beta_{5j}(\text{Grade})_i + e_{ij}$$

$$\text{TL}_{ij} = \beta_{0j} + \beta_{1j}(\text{IA})_{ij} + \beta_{2j}(\text{PSP})_{ij} + \beta_{3j}(\text{IA})(\text{PSP})_{ij} + \beta_4(\text{Gen})_i + \beta_{5j}(\text{Grade})_i + e_{ij}$$

$$\text{TL}_{ij} = \beta_{0j} + \beta_{1j}(\text{Imm})_{ij} + \beta_{2j}(\text{PSP})_{ij} + \beta_{3j}(\text{Imm})(\text{PSP})_{ij} + \beta_4(\text{Gen})_i + \beta_{5j}(\text{Grade})_i + e_{ij}$$

$$\text{TL}_{ij} = \beta_{0j} + \beta_{1j}(\text{Vict})_{ij} + \beta_{2j}(\text{PSP})_{ij} + \beta_{3j}(\text{Vict})(\text{PSP})_{ij} + \beta_4(\text{Gen})_i + \beta_{5j}(\text{Grade})_i + e_{ij}$$

$$\text{TL}_{ij} = \beta_{0j} + \beta_{1j}(\text{Wd})_{ij} + \beta_{2j}(\text{PSP})_{ij} + \beta_{3j}(\text{Wd})(\text{PSP})_{ij} + \beta_4(\text{Gen})_i + \beta_{5j}(\text{Grade})_i + e_{ij}$$

$$\text{TL}_{ij} = \beta_{0j} + \beta_{1j}(\text{Pro})_{ij} + \beta_{2j}(\text{PSP})_{ij} + \beta_{3j}(\text{Pro})(\text{PSP})_{ij} + \beta_4(\text{Gen})_i + \beta_{5j}(\text{Grade})_i + e_{ij}$$

$$\text{Level-2: } \beta_{0j} = \gamma_{00} + U_{0j}$$

$$\beta_{1j} = \gamma_{10} + U_{1j}$$

Where:

$\text{TL}_{ij}$  = teacher liking rating for student  $i$  by teacher  $j$

$\beta_{0j}$  = intercept, or mean teacher preference for teacher  $j$

$\beta_{2j}(\text{JS})_{ij}$  = slope for relationship between *job satisfaction* and teacher preference

$\beta_3(\text{DA})(\text{JS})$  = interaction effect of *direct aggression* and *job satisfaction*

$\beta_3(\text{IA})(\text{JS})$  = interaction effect of *indirect aggression* and *job satisfaction*

$\beta_3(\text{Imm})(\text{JS})$  = interaction effect of *immaturity* and *job satisfaction*

$\beta_3(\text{Vict})(\text{JS})$  = interaction effect of *victimization* and *job satisfaction*

$\beta_3(\text{Wd})(\text{JS})$  = interaction effect of *withdrawn* and *job satisfaction*

$\beta_3(\text{Pro})(\text{JS})$  = interaction effect of *prosocial* and *job satisfaction*

$\beta_{2j}(\text{PSP})_{ij}$  = Slope for relationship between *peer social preference* and teacher liking

$\beta_{3j}(\text{DA})(\text{PSP})_{ij}$  = interaction effect of *peer social preference* and *direct aggression*

$\beta_{3j}(\text{IA})(\text{PSP})_{ij}$  = interaction effect of *peer social preference* and *indirect aggression*

$\beta_{3j}(\text{Imm})(\text{PSP})_{ij}$  = interaction effect of *peer social preference* and *immaturity*

$\beta_{3j}(\text{Vict})(\text{PSP})_{ij}$  = interaction effect of *peer social preference* and *victimization*

$\beta_{3j}(\text{Wd})(\text{PSP})_{ij}$  = interaction effect of *peer social preference* and *shy/withdrawn*

$\beta_{3j}(\text{Pro})(\text{PSP})_{ij}$  = interaction effect of *peer social preference* and *prosocial*

$\gamma_{00}$  = Level-2 intercept

$\gamma_{01}(\text{JS})$  = Level-2 slope for job satisfaction

$\gamma_{02}(\text{PSP})$  = Level-2 slope for peer social preference

$\gamma_{\#0}$  = Level-2 intercept for corresponding Level-1 variable

$\gamma_{\#1}$  = Level-2 slope for job satisfaction for corresponding Level-1 variable

$e_{ij}$  = error at the individual level for that term

$U_{0j}$  = residual intercept variance

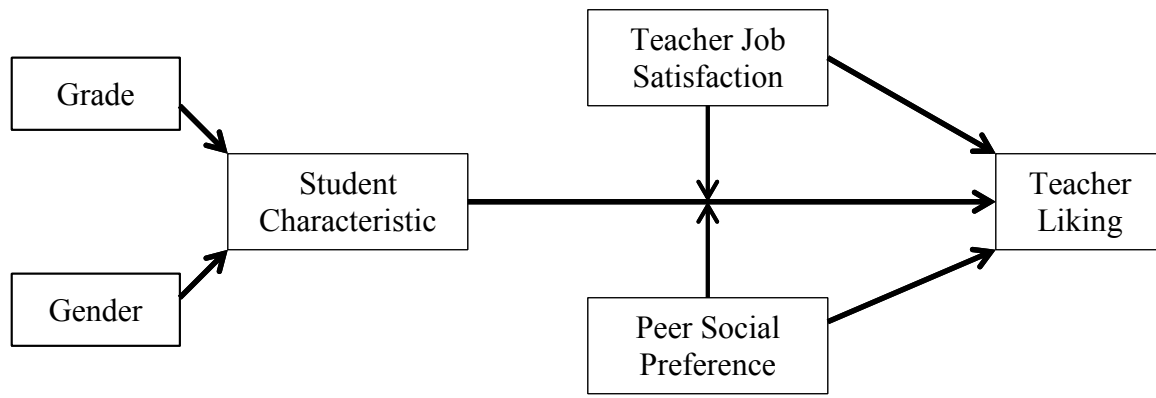
$U_{\#j} / U_{1j}$  = residual slope variance for the corresponding Level-1 variable

If Hypotheses 4 and 5 are supported, the percent of variance teacher job satisfaction and peer social preference contribute as moderators to the teacher liking – student characteristic relationship can be determined. The relationship can be calculated by looking at the difference between the residual slope variance ( $U_{1j}$ ) from intercept-as-outcomes and slopes-as-outcomes models. Using the results from the equations, it can be determined whether peer social preference accounts for more of the variance than teacher job satisfaction in the student characteristic – teacher liking association. The following equation was be used:

$$\Delta R^2 = \frac{U_{ij-\text{intercept-as-outcomes}} - U_{ij-\text{slopes-as-outcomes}}}{U_{ij-\text{intercept-as-outcomes}}}$$

Figure 1

*Proposed hierarchical linear modeling path diagram*



## CHAPTER IV

### RESULTS

#### Descriptive Statistics

Descriptive statistics were computed to determine levels of student characteristics, job satisfaction, peer social preference, and teacher liking by gender, grade, and overall (see Table 3).

**Gender.** All behavioral characteristic scores ranged from 1 to 7. Girls were rated as being significantly more prosocial ( $M = 5.06 > 4.64$ ) than boys. Girls were also rated to be slightly more shy ( $M = 2.15 > 2.12$ ) and indirectly aggressive ( $M = 1.87 > 1.86$ ) than boys. Boys were rated by their teachers to be more directly aggressive ( $M = 1.90 > 1.70$ ), immature ( $M = 2.58 > 1.97$ ), and victimized ( $M = 1.78 > 1.65$ ) than girls. An ANOVA test indicated there was a significant difference between genders at the .01 level for the following student characteristics: direct aggression,  $F(1,1970) = 16.11, p < .001$ ; immaturity,  $F(1,1970) = 116.28, p < .001$ ; prosocial,  $F(1,1970) = 42.93, p < .001$ ; and victimization,  $F(1,1970) = 9.17, p = .002$ .

**Grade.** Direct aggression mean scores per grade ranged from 1.57 (never to rarely true of this child) to 2.07 (rarely true of this child). These scores indicate there are few children in elementary school identified as being highly directly aggressive. Direct aggression mean scores are reported from highest to lowest: third grade ( $M = 2.07$ ), fifth grade ( $M = 1.84$ ), first grade ( $M = 1.83$ ), kindergarten ( $M = 1.78$ ), fourth grade ( $M = 1.68$ ), and second grade ( $M = 1.57$ ).



Mean indirect aggression scores per grade ranged from 1.63 (never to rarely true of this child) to 2.18 (rarely true of this child). As with direct aggression, there are few children in elementary school identified as being highly indirectly aggressive. Indirect aggression mean scores are reported from highest to lowest: fifth grade ( $M = 2.18$ ), third grade ( $M = 2.18$ ), fourth grade ( $M = 1.75$ ), kindergarten ( $M = 1.73$ ), first grade ( $M = 1.74$ ), and second grade ( $M = 1.63$ ).

Immaturity scores per grade ranged from 2.10 (rarely true of this child) to 2.56 (rarely true to sometimes true of this child). These scores indicate teachers felt their students are more immature than directly or indirectly aggressive. Immaturity mean scores are reported from highest to lowest: third grade ( $M = 2.56$ ), kindergarten ( $M = 2.34$ ), fifth grade ( $M = 2.23$ ), first grade ( $M = 2.20$ ), fourth grade ( $M = 2.15$ ), and second grade ( $M = 2.10$ ).

Victimization scores per grade ranged from 1.57 (never to rarely true of this child) to 2.00 (rarely true of this child). These scores indicate teachers felt their students are not often bullied by others. Victimization mean scores are reported from highest to lowest: third grade ( $M = 2.00$ ), fifth grade ( $M = 1.93$ ), fourth grade ( $M = 1.67$ ), kindergarten ( $M = 1.60$ ), first grade ( $M = 1.60$ ), and second grade ( $M = 1.60$ ).

Shyness scores per grade ranged from 1.89 (rarely true of this child) to 2.44 (rarely true to sometimes true of this child). These scores indicate there are few students considered shy or withdrawn. Shy/withdrawn mean scores are reported from highest to lowest: third grade ( $M = 2.44$ ), fifth grade ( $M = 2.38$ ), fourth grade ( $M = 2.10$ ), kindergarten ( $M = 2.10$ ), first grade ( $M = 1.98$ ), and second grade ( $M = 1.89$ ).

Mean prosocial ratings per grade ranged from 4.39 (often to very often true of this child) to 5.28 (very often to usually true of this child). These scores indicate teachers felt

their students exhibited mostly prosocial behaviors. Prosocial mean scores are reported from highest to lowest: second grade ( $M = 5.28$ ), fourth grade ( $M = 5.03$ ), first grade ( $M = 4.92$ ), kindergarten ( $M = 4.80$ ), third grade ( $M = 4.64$ ), and fifth grade ( $M = 4.39$ ).

**Job Satisfaction.** Teachers in kindergarten through fifth grade rated their job satisfaction between ‘not very satisfied’ and ‘highly satisfied’ (range = 2.27 - 5.00). On average, teachers felt close to being very satisfied with their teaching position ( $M = 3.70$ ). Descriptive statistics per grade indicated teachers are satisfied with their jobs at similar levels. Teachers in first grade reported the highest levels of job satisfaction ( $M = 3.83$ ), feeling very satisfied. Kindergarten, second, fourth, and fifth grade teachers were the next most pleased with their positions, indicating they felt close to being very satisfied ( $M = 3.74$ ,  $M = 3.71$ ,  $M = 3.68$ ,  $M = 3.69$  respectively). Third grade teachers were the least satisfied with mean scores ( $M = 3.52$ ) indicating they were between ‘sort of’ and ‘very’ satisfied with their teaching position.

**Peer Social Preference.** Girls ( $M = .21$ ) were rated by their peers as being more liked than boys ( $M = -.18$ ). The positive z-score indicates girls received higher LM ratings than LL ratings. The negative z-score for boys indicates they had greater LL ratings than LM ratings. The highest peer social preference ratings were found in fourth grade ( $M = .025$ ) and kindergarten ( $M = .023$ ). First ( $M = .015$ ) and second graders ( $M = .016$ ) also had more LM scores than LL scores indicating they were more socially preferred than not. Third graders were found to have just as many LM score as LL scores ( $M = .001$ ). Fifth graders were the least socially preferred by their peers with a mean score of  $-.012$ .

**Teacher Liking.** Girls ( $M = 4.32$ ) were rated by their teachers as being more liked than boys ( $M = 4.07$ ). Teachers of second grade students rated their students as being the

easiest to like ( $M = 4.44$ ). Fourth grade students were rated as the second most easiest to like ( $M = 4.20$ ). Kindergartners ( $M = 4.15$ ), first graders ( $M = 4.14$ ), and third graders ( $M = 4.13$ ) had similar liking ratings by their teachers. Fifth graders were rated as the most difficult to like ( $M = 4.10$ ). Overall, teachers rated students as being ‘very easy’ to like.

Table 3

*Mean Scores for Predictor and Outcome Variables*

	Job Satisfaction	Peer Social Preference	Teacher Liking
Gender			
Male		-.18 (.96)	4.07 (1.11)
Female		.21 (.95)	4.32 (.98)
Grade			
Kindergarten	3.74 (.39)	.02 (.96)	4.15 (1.03)
First	3.83 (.67)	.02 (.98)	4.14 (1.11)
Second	3.71 (.59)	.02 (.98)	4.44 (.78)
Third	3.52 (.59)	.00 (.96)	4.13 (1.17)
Fourth	3.68 (.65)	.03 (1.00)	4.20 (1.10)
Fifth	3.69 (.42)	-.01 (.98)	4.10 (1.09)

*Note.* Standard deviation is in parentheses.

### **Bivariate Correlations**

Interaction terms were created for each independent variable (student characteristics) and the two moderating variables (job satisfaction and peer social preference). Bivariate correlations were computed to determine if large correlations existed between all variables and the interaction terms. Values were assessed to investigate levels of multicollinearity.

Correlations between the peer social preference interaction terms and respective variables were analyzed first. High and significant levels of multicollinearity were found to exist between the peer social preference variable and the interaction terms. Values ranged from  $r^2 = .84, p < .001$  (product term for direct aggression) to  $r^2 = .95, p < .001$  (product term for prosocial). Low to moderate significant correlations were found between the student

characteristic variables and the peer social preference interaction terms (direct aggression,  $r^2 = -.59, p < .001$  to shyness,  $r^2 = -.20, p < .001$ ). Due to high levels of multicollinearity, centered variables and interaction terms were created to counteract it. Centered product terms were computed by subtracting the mean from each respective variable value, then multiplying the residuals for each IV and moderating variable together. Bivariate correlations were rerun and assessed using the centered variable interaction term. Correlations between the centered peer social preference variable and the interaction term reduced to weak relationships, but maintained statistical significance (shyness,  $r^2 = .06, p < .001$  to immaturity,  $r^2 = .21, p < .001$ ). Relationships between the product term and student characteristics reduced slightly, ranging from  $r^2 = -.56, p < .001$  (direct aggression) to  $r^2 = -.16, p < .001$  (prosocial).

High and significant levels of multicollinearity were found to exist between the student characteristics and respective job satisfaction interaction terms. Values ranged from  $r^2 = .88, p < .001$  (prosocial) to  $r^2 = .95, p < .001$  (direct aggression). Job satisfaction was also found to correlate at a low to moderate significant level (immature,  $r^2 = .11, p < .001$  to prosocial,  $r^2 = .52, p < .001$ ). To reduce the effects of multicollinearity, centered variables were created and new product terms were computed. Relationships between the student characteristics and respective job satisfaction interaction terms reduced significantly. Correlations ranged from the low significant range (victimization,  $r^2 = -.27, p < .001$ ) to the low, non-significant range (prosocial,  $r^2 = -.04, p = .085$ ). The relationships between job satisfaction and the job satisfaction interaction terms reduced to low, significant (prosocial,  $r^2 = .09, p < .001$ ) to low, non-significant values (indirect aggression,  $r^2 = .00, p = .99$ ).

Though multicollinearity could not be completely eliminated, correlations were reduced significantly and for some variables, to non-significant levels.

### **Null Model**

After conducting preliminary data analyses, the null model (unconditional model with no predictor variables) was analyzed to assess whether teacher liking varied between teachers. Teacher liking was specified as the dependent (outcome) variable, whereas teacher ID (i.e., group membership) was specified as the independent variable. The results indicated the grand mean teacher liking estimate ( $\gamma_{00}$ ) is 4.19 (SD = 1.06) with a standard error of .046. This score indicates teachers, on average, felt it was very easy to like their students. The intercept estimate was statistically significant demonstrating significant teacher effects,  $t(102) = 39.01, p < .001$ . The results were then used to partition the total variance in teacher liking scores to determine within- and between-teacher variance. The between-teacher variance ( $U_{0j}$ ) was found to be .165 and the within-teacher variance ( $e_{ij}$ ) was found to be .952 resulting in an ICC of 0.148.

$$ICC = \frac{.165}{.165 + .952} = 0.148$$

The ICC estimate indicated teachers account for about 15% of the variance in teacher liking scores. Though this estimate is a small percentage of variance between teachers, it is significant and therefore provides a basis for investigating Level-2 predictors of the variance in teacher liking.

### **Random-Coefficient Regression Model**

Once teacher liking had been confirmed to vary within and between teachers, individual level characteristics (within teacher variables) could be examined. The first

question, associations between student behavioral characteristics and teacher liking, could now be assessed. Hypothesis 1a-c, e-f predicted direct aggression, indirect aggression, immaturity, shy/withdrawn, and victimization respectively, would be negatively associated with teacher liking. These hypotheses suggest that within a given teacher, those with higher behavioral ratings would be less liked by their teacher. Hypothesis 1d predicted prosocial behavior would be positively associated with teacher liking such that students rated higher on the prosocial scale would be more liked by their teacher.

A random-coefficient regression model was first created for each of the six behavioral characteristics. A *t* test of significance for the  $\gamma_{10}$  parameter within each model investigated Hypothesis 1. The results indicated direct aggression ( $\gamma_{10} = -.62$ ,  $SE = .03$ ), indirect aggression ( $\gamma_{10} = -.65$ ,  $SE = .04$ ), immaturity ( $\gamma_{10} = -.56$ ,  $SE = .03$ ), and victimization ( $\gamma_{10} = -.63$ ,  $SE = .04$ ), and shy/withdrawn ( $\gamma_{10} = -.06$ ,  $SE = .02$ ) were negatively associated with teacher liking. Prosocial was found to be positively associated with teacher liking ( $\gamma_{10} = .48$ ,  $SE = .02$ ). These results provide support for Hypotheses 1a-1f. Hypothesis 1g was not supported considering the magnitude of the associations were not found to fall in the same order as predicted. Indirect aggression was hypothesized to have a weaker association with teacher liking than direct aggression, however, the opposite was found. Indirect aggression was found to have a slightly stronger association. This hypothesis was also not supported considering victimization was hypothesized to have one of the weakest associations with teacher liking yet victimization was found to have a stronger relationship than direct aggression, immaturity, and prosocial behaviors. The negative regression coefficients indicated that the student was rated the value of the regression coefficient higher on the respective behavioral scale for each 1 unit decrease in teacher liking. For example, a

coefficient of -.62 for direct aggression means that for each 1 unit decrease in teacher liking scores, the child was rated .62 units higher on the direct aggression scale. The positive regression coefficients for prosocial indicates that for each 1 unit increase in teacher liking, the student was rated .48 points higher on the prosocial scale.

The results from the estimates of fixed effects also indicated there were significant behavioral effects on teacher liking for direct aggression,  $t(75) = -19.89, p < .001$  (see Table 3); indirect aggression,  $t(78) = -17.47, p < .001$  (see Table 4); immaturity,  $t(95) = -19.39, p < .001$  (see Table 5); victimization,  $t(66) = -15.28, p < .001$  (see Table 6); shy/withdrawn,  $t(69) = -2.59, p = .012$  (see Table 7); and prosocial,  $t(90) = 20.02, p < .001$  (see Table 8).

Significant gender effects were also observed in the direct aggression model,  $t(1845) = 4.29, p < .001$ ; indirect aggression model,  $t(1838) = 7.63, p < .001$ ; immaturity model,  $t(1834) = -2.17, p = .030$ ; victimization model,  $t(1846) = 5.09, p < .001$ ; and shy/withdrawn model,  $t(1857) = 5.99, p < .001$ . The slope estimates indicated teachers favored females more than males when they exhibited direct aggression (slope = .14), indirect aggression (slope = .26), victimization (slope = .19), and shy/withdrawn (slope = .26). However, teachers liked immature males more than immature females (slope = -.07). This estimate indicates immature females were .07 units less easy to like than immature males. No gender effects were found in the prosocial model and no grade effects were found in any of the six models.

The random effects were assessed next to determine significant variance in the Level-1 intercepts ( $U_{0j}$ ) and slopes ( $U_{1j}$ ) between teachers. All three variance parameters and the covariance parameter were found to be significant for the direct aggression, indirect aggression, immaturity, victimization, and prosocial models. Estimates indicated there was significant variance in intercepts (Wald Z range = 4.79 – 5.89,  $p < .001 - .001$ ) and slopes

(Wald Z range = 3.36 – 5.19,  $p < .001$  - .001) across teachers. Only the intercept parameter in the shyness model was found to be significant across teachers (Wald Z = 5.12,  $p < .001$ ). The variance in slopes did not reach statistical significance (Wald Z = 1.39,  $p = .165$ ), which indicated there was minimal variance in shyness scores across students within each teachers' classroom. There was a positive covariance between intercepts and slopes across teachers for direct aggression ( $\rho = .08$ ), indirect aggression ( $\rho = .08$ ), immaturity ( $\rho = .08$ ), and victimization ( $\rho = .02$ ). These estimates indicated teachers with higher intercepts (higher teacher liking ratings) tend to have higher slopes (more of a behavior effect). The negative covariance between intercepts and slopes across teachers for the prosocial model ( $b = -.06$ ) indicated teachers with higher teacher liking ratings (higher intercepts) tended to be less affected by prosocial behaviors (have lower slopes).

Using the Level-1 residual variance value ( $e_{ij}$ ) from the current model and the total within-group variance from the null model ( $\sigma^2$ ), the percent of variance accounted for by each behavioral characteristic could be determined. In other words, the amount of residual variance in teacher liking after the behavioral characteristic was added into the model is subtracted from the within-teacher variance from the comparison model and divided by the within-teacher variance. Calculations indicated immaturity ( $e_{ij} = .43$ ) accounted for the most variance (55%) in teacher liking scores. Direct aggression ( $e_{ij} = .50$ ) and prosocial ( $e_{ij} = .50$ ) behaviors accounted for about 47% of variance in teacher liking scores. Indirect aggression ( $e_{ij} = .54$ ) accounted for 43% and victimization ( $e_{ij} = .65$ ) accounted for 32% of the variance within-teachers. Shy/withdrawn ( $e_{ij} = .92$ ) accounted for the least amount of variance in teacher liking by only accounting for 3%.



Although a significant association between the behavioral characteristics and teacher liking was found at Level-1, the results also indicated between-teacher variance in teacher liking (variance in intercepts), after controlling for each characteristic, was significant. Also, the association between teacher liking and all of the behavioral characteristics, except shy/withdrawn, significantly varied across teachers (variance in slopes). The significant variance in slopes must be considered when interpreting results for hypotheses considering the significant variance in slopes suggests the association across teachers is not the same. The significant variance in slopes also indicates the potential for a moderating variable to be present and influencing the relationship. Overall, Hypotheses 1a-1f regarding significance and directionality of the associations were supported. Hypothesis 1g, regarding the variation in the magnitude of the associations was not supported. Considering the behavioral characteristics were found to be significantly related to teacher liking, Hypothesis 2 and 3 can be investigated.

Table 4

*Random-Coefficient Regression Model: Direct Aggression*

Fixed Effects	Coefficient	Standard Error	<i>p</i> value	
Teacher Liking, $\gamma_{00}$	4.14	.01	< .001**	
Gender	.14	.03	< .001**	
Direct Aggression, $\gamma_{10}$	-.62	.03	< .001**	
Random Effects	Variance Component	Standard Error	Wald Z	<i>p</i> value
Residual, $e_{ij}$	.50	.02	29.60	< .001**
Intercept + DA [subject = teacher ID], $U_{0j}$	.17	.03	5.66	< .001**
Variance in Slopes, $U_{1j}$	.06	.01	4.11	< .001**
Covariance [UN(2,1)]	.08	.02	4.46	< .001**
Model Fit				
-2 Restricted Log Likelihood	4458.16			
AIC	4466.16			

Note. \*\*  $p < .01$  level; \*  $p < .05$  level.

Table 5

*Random-Coefficient Regression Model: Indirect Aggression*

Fixed Effects	Coefficient	Standard Error	<i>p</i> value	
Teacher Liking, $\gamma_{00}$	4.17	.11	< .001**	
Gender	.26	.03	< .001**	
Indirect Aggression, $\gamma_{10}$	-.65	.04	< .001**	
Random Effects	Variance Component	Standard Error	Wald Z	<i>p</i> value
Residual, $e_{ij}$	.54	.02	29.66	< .001**
Intercept + IA [subject = teacher ID], $U_{0j}$	.16	.03	5.17	< .001**
Variance in Slopes, $U_{1j}$	.08	.02	4.28	< .001**
Covariance [UN(2,1)]	.08	.02	3.85	< .001**
Model Fit				
-2 Restricted Log Likelihood	4605.51			
AIC	4613.51			

Note. \*\*  $p < .01$  level; \*  $p < .05$  level.

Table 6

*Random-Coefficient Regression Model: Immaturity*

Fixed Effects	Coefficient	Standard Error	<i>p</i> value	
Teacher Liking, $\gamma_{00}$	4.22	.08	< .001**	
Gender	-.07	.03	.030*	
Immature, $\gamma_{10}$	-.56	.03	< .001**	
Random Effects	Variance Component	Standard Error	Wald Z	<i>p</i> value
Residual, $e_{ij}$	.43	.01	29.52	< .001**
Intercept + Imm [subject = teacher ID], $U_{0j}$	.15	.02	5.89	< .001**
Variance in Slopes, $U_{1j}$	.06	.02	5.19	< .001**
Covariance [UN(2,1)]	.08	.01	5.45	< .001**
Model Fit				
-2 Restricted Log Likelihood	4189.50			
AIC	4197.50			

Note. \*\*  $p < .01$  level; \*  $p < .05$  level.

Table 7

*Random-Coefficient Regression Model: Victimization*

Fixed Effects	Coefficient	Standard Error	<i>p</i> value	
Teacher Liking, $\gamma_{00}$	4.09	.11	< .001**	
Gender	.19	.04	< .001**	
Victimization, $\gamma_{10}$	-.63	.04	< .001**	
Random Effects	Variance Component	Standard Error	Wald Z	<i>p</i> value
Residual, $e_{ij}$	.65	.02	29.78	< .001**
Intercept + Vict [subject = teacher ID], $U_{0j}$	.16	.03	4.79	< .001**
Variance in Slopes, $U_{1j}$	.08	.03	3.21	.001**
Covariance [UN(2,1)]	.08	.02	3.36	.001**
Model Fit				
-2 Restricted Log Likelihood	4934.11			
AIC	4942.11			

Note. \*\*  $p < .01$  level; \*  $p < .05$  level.

Table 8

*Random-Coefficient Regression Model: Shy/Withdrawn*

Fixed Effects	Coefficient	Standard Error	<i>p</i> value	
Teacher Liking, $\gamma_{00}$	3.97	.12	< .001**	
Gender	.26	.04	< .001**	
Shyness, $\gamma_{10}$	-.06	.02	.012*	
Random Effects	Variance Component	Standard Error	Wald Z	<i>p</i> value
Residual, $e_{ij}$	.92	.03	29.84	< .001**
Intercept + Shy [subject = teacher ID], $U_{0j}$	.15	.03	5.12	< .001**
Variance in Slopes, $U_{1j}$	.01	.01	1.39	.165
Covariance [UN(2,1)]	-.00	.01	-.30	.762
Model Fit				
-2 Restricted Log Likelihood	5554.02			
AIC	5562.02			

Note. \*\*  $p < .01$  level; \*  $p < .05$  level.

Table 9

*Random-Coefficient Regression Model: Prosocial*

Fixed Effects	Coefficient	Standard Error	<i>p</i> value	
Teacher Liking, $\gamma_{00}$	4.39	.11	< .001**	
Gender	.04	.03	.221	
Prosocial, $\gamma_{10}$	.48	.02	< .001**	
Random Effects	Variance Component	Standard Error	Wald Z	<i>p</i> value
Residual, $e_{ij}$	.50	.02	28.75	< .001**
Intercept + Pro, $U_{0j}$ [subject = teacher ID]	.16	.03	5.58	< .001**
Variance in Slopes, $U_{1j}$	.04	.01	4.59	< .001**
Covariance [UN(2,1)]	-.06	.01	-4.62	< .001**
Model Fit				
-2 Restricted Log Likelihood	4459.45			
AIC	4467.45			

Note. \*\*  $p < .01$  level; \*  $p < .05$  level.

**Intercepts-as-outcomes Model**

**Job Satisfaction.** Having confirmed there was significant variance in the intercept between teachers for each behavioral characteristic, Questions 2 and 3 could then be examined using an HLM intercepts-as-outcomes model. Hypothesis 2 predicted the Level-2 variable, job satisfaction, would be positively associated with teacher liking ratings. This hypothesis suggested that teachers with higher job satisfaction would be more likely to rate their students as being easier to like. This model will also investigated whether teacher job satisfaction predicts variance in teacher liking beyond that accounted for by the Level-1 predictor.

The results indicated job satisfaction was positively associated with teacher liking, providing support for Hypothesis 2. It is important to remember that the job satisfaction coefficient was influenced by the previous variables in the regression model. Therefore, the

job satisfaction coefficient estimate represents the additional effect of adding the Level-2 variable to the model, after the effects of the respective behavioral characteristic are accounted for. Job satisfaction was found to have a moderate and significant effect on teacher liking scores in the shy/withdrawn model ( $\gamma_{01} = .32, t(92) = 4.29, p < .001$ ; see Table 9). The regression coefficient of .32 suggests that for each 1 unit increase in job satisfaction, teacher liking scores increased .32 units. In other words, the more a teacher was satisfied with their job, the easier it was for the teacher to like his or her students. Job satisfaction had a weak but significant effect on teacher liking scores in the direct aggression model ( $\gamma_{01} = .17, t(87) = 2.89, p = .005$ ; see Table 10), indirect aggression model ( $\gamma_{01} = .16, t(90) = 2.52, p = .013$ ; see Table 11), and the victimization model ( $\gamma_{01} = .18, t(96) = 2.61, p = .010$ ; see Table 12). The effects of job satisfaction on teacher liking scores did not reach statistical significance after accounting for immature ( $\gamma_{01} = .06, t(86) = 1.14, p = .256$ ; see Table 13) or prosocial behaviors ( $\gamma_{01} = .12, t(53) = 1.87, p = .067$ ; see Table 14). With job satisfaction added to the model, all behavioral characteristic variables and the gender variable held significant effects and maintained original estimates. The estimates could then be entered into the intercepts-as-outcomes equation to determine individual estimates. An example is presented for direct aggression:

$$\text{Direct aggression: } TL_{ij} = 4.13 - .62(DA_{ij}) + .17(JS_j) + .14(Gen_i) + .50$$

The grade level variable was excluded considering it was not found to significantly predict teacher liking scores. Considering males were set as the comparison estimate in the model, a 1 would be entered if the individual was a female, such that they were rated .14 points higher than males.

An assessment of the random effects indicated all three variance parameters and the covariance parameter were found to be significant for the direct aggression, indirect aggression, immaturity, victimization, and prosocial models. Estimates indicated there continued to be significant variance in intercepts (Wald Z range = 4.75 – 5.85,  $p < .001$  - .001) and slopes (Wald Z range = 3.36 – 5.19,  $p < .001$  - .001) across teachers. Only the intercept parameter in the shyness model was found to be significant across teachers (Wald Z = 4.78,  $p < .001$ ). These results indicated there was still a significant amount of unexplained variance in teacher liking scores. It also suggested that even after including teacher job satisfaction as a predictor, a significant amount of variance existed in the intercept and slope terms that could be explained by additional Level-1 and Level-2 variables, such as peer social preference. Additionally, the decrease in model fit estimates indicated a better fit model with the addition of the Level-2 predictor variable, job satisfaction, for direct aggression, indirect aggression, victimization, and shyness. Equivalent estimates indicated no better fit for the prosocial model and increased  $X^2$  and Akaike's Information Criterion (AIC) estimates indicated poorer fit for the immaturity model.

Gross estimates of  $R^2$  could be calculated to determine the amount of variance explained by the model. The estimates were calculated by looking at the difference between the random-coefficient regression model and intercepts-as-outcomes model variances and dividing by the random-coefficient regression model variance. A 20% reduction in the residual intercept variance was observed in the shyness model ( $\Delta R^2 = -.20$ ) after using job satisfaction as a predictor of teacher liking. Therefore, it could be estimated that job satisfaction explained about 20% of the Level-2 variance between teachers. Job satisfaction explained about 12% of the teacher variance in the direct aggression model ( $\Delta R^2 = -.12$ ). By

adding job satisfaction into the immaturity model ( $\Delta R^2 = -.07$ ), a 7% reduction in residual intercept variance was observed. The least amount of variance between teachers was explained in the indirect aggression ( $\Delta R^2 = -.06$ ), victimization ( $\Delta R^2 = -.06$ ), and prosocial models ( $\Delta R^2 = -.06$ ) with job satisfaction only explaining about 6% of the variance.

Most importantly, job satisfaction was found to be significantly associated with teacher liking for all models except immaturity and prosocial, therefore providing partial support for Hypothesis 2. Question 4 regarding job satisfaction as a moderator in the teacher liking – student characteristic association could then be investigated for the direct aggression, indirect aggression, victimization, and shy/withdrawn models using the slopes-as-outcomes model.

Table 10

*Job Satisfaction Intercepts-as-Outcomes Model: Shy/withdrawn*

Fixed Effects	Coefficient	Standard Error	<i>p</i> value	
Teacher Liking, $\gamma_{00}$	3.98	.11	< .001**	
Gender	.26	.04	< .001**	
Shy, $\gamma_{10}$	-.06	.02	.013*	
Job Satisfaction, $\gamma_{01}$	.32	.07	< .001**	
Random Effects	Variance Component	Standard Error	Wald Z	<i>p</i> value
Residual, $e_{ij}$	.92	.03	29.84	< .001**
Intercept + Shy [subject = teacher ID), $U_{0j}$	.12	.02	4.77	< .001**
Variance in Slopes, $U_{1j}$	.01	.01	1.45	.146
Covariance [UN(2,1)]	-.01	.01	-.73	.463
Model Fit				
-2 Restricted Log Likelihood	5540.57			
AIC	5548.57			

*Note.* \*\*  $p < .01$  level; \*  $p < .05$  level.

Table 11

*Job Satisfaction Intercepts-as-Outcomes Model: Direct Aggression*

Fixed Effects	Coefficient	Standard Error	<i>p</i> value	
Teacher Liking, $\gamma_{00}$	4.13	.09	< .001**	
Gender	.14	.03	< .001**	
Direct Aggression, $\gamma_{10}$	-.62	.03	< .001**	
Job Satisfaction, $\gamma_{01}$	.17	.06	.005**	
Random Effects	Variance Component	Standard Error	Wald Z	<i>p</i> value
Residual, $e_{ij}$	.50	.02	29.59	< .001**
Intercept + DA [subject = teacher ID], $U_{0j}$	.15	.03	5.61	< .001**
Variance in Slopes, $U_{1j}$	.06	.01	4.10	< .001**
Covariance [UN(2,1)]	.08	.02	4.54	< .001**
Model Fit				
-2 Restricted Log Likelihood	4454.00			
AIC	4462.00			

Note. \*\*  $p < .01$  level; \*  $p < .05$  level.

Table 12

*Job Satisfaction Intercepts-as-Outcomes Model: Indirect Aggression*

Fixed Effects	Coefficient	Standard Error	<i>p</i> value	
Teacher Liking, $\gamma_{00}$	4.17	.10	< .001**	
Gender	.26	.03	< .001**	
Indirect Aggression, $\gamma_{10}$	-.65	.04	< .001**	
Job Satisfaction, $\gamma_{01}$	.16	.06	.013*	
Random Effects	Variance Component	Standard Error	Wald Z	<i>p</i> value
Residual, $e_{ij}$	.54	.02	29.65	< .001**
Intercept + IA [subject = teacher ID], $U_{0j}$	.15	.03	5.18	< .001**
Variance in Slopes, $U_{1j}$	.08	.02	4.28	< .001**
Covariance [UN(2,1)]	.08	.02	3.99	< .001**
Model Fit				
-2 Restricted Log Likelihood	4603.05			
AIC	4611.05			

Note. \*\*  $p < .01$  level; \*  $p < .05$  level.



Table 13

*Job Satisfaction Intercepts-as-Outcomes Model: Victimization*

Fixed Effects	Coefficient	Standard Error	<i>p</i> value	
Teacher Liking, $\gamma_{00}$	4.09	.11	< .001**	
Gender	.19	.04	< .001**	
Victimization, $\gamma_{10}$	-.63	.04	< .001**	
Job Satisfaction, $\gamma_{01}$	.18	.07	.010**	
Random Effects	Variance Component	Standard Error	Wald Z	<i>p</i> value
Residual, $e_{ij}$	.65	.02	29.77	< .001**
Intercept + Vict [subject = teacher ID], $U_{0j}$	.15	.03	4.75	< .001**
Variance in Slopes, $U_{1j}$	.08	.02	3.36	.001**
Covariance [UN(2,1)]	.08	.02	3.25	.001**
Model Fit				
-2 Restricted Log Likelihood	4931.08			
AIC	4939.08			

Note. \*\*  $p < .01$  level; \*  $p < .05$  level.

Table 14

*Job Satisfaction Intercepts-as-Outcomes Model: Immaturity*

Fixed Effects	Coefficient	Standard Error	<i>p</i> value	
Teacher Liking, $\gamma_{00}$	4.22	.08	< .001**	
Gender	-.07	.03	.033*	
Immature, $\gamma_{10}$	-.56	.03	< .001**	
Job Satisfaction, $\gamma_{01}$	.06	.05	.256	
Random Effects	Variance Component	Standard Error	Wald Z	<i>p</i> value
Residual, $e_{ij}$	.43	.01	29.52	< .001**
Intercept + Imm [subject = teacher ID], $U_{0j}$	.14	.02	5.85	< .001**
Variance in Slopes, $U_{1j}$	.06	.01	5.19	< .001**
Covariance [UN(2,1)]	.08	.01	5.42	< .001**
Model Fit				
-2 Restricted Log Likelihood	4192.29			
AIC	4200.29			

Note. \*\*  $p < .01$  level; \*  $p < .05$  level.

Table 15

*Job Satisfaction Intercepts-as-Outcomes Model: Prosocial*

Fixed Effects	Coefficient	Standard Error	<i>p</i> value	
Teacher Liking, $\gamma_{00}$	4.40	.11	< .001**	
Gender	.04	.03	.224	
Prosocial, $\gamma_{10}$	.48	.02	< .001**	
Job Satisfaction, $\gamma_{01}$	.12	.07	.067	
Random Effects	Variance Component	Standard Error	Wald Z	<i>p</i> value
Residual, $e_{ij}$	.49	.02	28.83	< .001**
Intercept + Pro, $U_{0j}$ [subject = teacher ID]	.15	.03	5.45	< .001**
Variance in Slopes, $U_{1j}$	.04	.01	4.60	< .001**
Covariance UN(2,1)]	-.05	.01	-4.31	< .001**
Model Fit				
-2 Restricted Log Likelihood	4459.81			
AIC	4467.81			

Note. \*\*  $p < .01$  level; \*  $p < .05$  level.

**Peer Social Preference.** The HLM intercepts-as-outcomes model was also used to examine Question 3, Hypothesis 3 which predicted the Level-1 variable, peer social preference, would be positively associated with teacher liking ratings. This hypothesis suggested that students with higher peer social preference would be more likely to be rated by their teachers as being easier to like. This model will also investigated whether teacher peer social preference predicted variance in teacher liking beyond that accounted for by the Level-1 predictor, student characteristic.

The peer social preference-teacher liking association was found to be positive, providing support for Hypothesis 3. As with the job satisfaction models, the peer social preference coefficient estimates indicated the additional effect of adding the peer social preference variable to the model, after accounting for the effects of the individual behavioral characteristics. Peer social preference was found to have a positive association and

significant effect on teacher liking scores for all models. Results indicated peer social preference had a moderate association with teacher liking at a significant level within the shy/withdrawn model ( $\gamma_{01} = .42, t(1844) = 19.75, p < .001$ ; see Table 15). The positive regression coefficient of .42 suggested that for each 1 unit increase in job satisfaction, teacher liking scores increased .42 units. Therefore, the more a student's peers liked them, the easier it was for the teacher to like the student. Peer social preference had a weak but significant relationship with teacher liking scores in the direct aggression model ( $\gamma_{01} = .20, t(1826) = 11.41, p < .001$ ; see Table 16), indirect aggression model ( $\gamma_{01} = .25, t(1827) = 13.71, p < .001$ ; see Table 17), victimization model ( $\gamma_{01} = .26, t(1879) = 12.65, p < .001$ ; see Table 18), immaturity model ( $\gamma_{01} = .14, t(1845) = 7.65, p < .001$ ; see Table 19), and prosocial model ( $\gamma_{01} = .15, t(1870) = 7.95, p < .001$ ; see Table 20). With peer social preference added to the model, all behavioral characteristic effects and gender effects decreased, but maintained statistical significance. Gender effects decreased between .02 and .16 points. Student behavioral characteristic effects decreased between .05 to .11 points. Individual estimates could be determined by entering the coefficient estimates into the intercepts-as-outcomes equation. An example is presented for direct aggression:

$$\text{Direct aggression: } TL_{ij} = 4.19 - .53(DA_{ij}) + .20(PSP_i) + .08(Gen_i) + .46$$

As with the models involving job satisfaction, the grade level variable was excluded considering it was not a significant predictor of teacher liking. Females were found to be liked .08 units higher than males, therefore a 1 would be entered if the individual was a female.

An evaluation of the estimates of covariance parameters indicated all estimates were found to be significant for the direct aggression, indirect aggression, immaturity,

victimization, and prosocial models. There continued to be significant variance in intercepts (Wald Z range = 4.91 – 5.92,  $p < .001$  - .001) and slopes (Wald Z range = 3.50 – 5.21,  $p < .001$  - .001) across teachers. Only the residual and intercept parameters in the shyness model were found to be significant across teachers (residual: Wald Z = 29.81,  $p < .001$ ; intercept: Wald Z = 5.57,  $p < .001$ ). The significant residual variance also indicated a significant amount of variance existed in the intercept and slope terms even after including peer social preference as a predictor. Though there was still a significant amount of unexplained variance, the addition of peer social preference decreased the model fit estimates for all models indicating a better fit model with the addition of the Level-1 predictor variable.

Gross estimates of  $R^2$  were calculated to determine the amount of variance explained by the addition of peer social preference. Considering peer social preference was a Level-1 predictor variable, the Level-1 residual variance was used to determine  $R^2$ . There was not a significant amount of between-teacher variance found to be explained by this variable. After peer social preference was added as a predictor of teacher liking, a 17% reduction in the residual intercept variance was observed in the shy/withdrawn model ( $\Delta R^2 = -.17$ ).

Therefore, it was estimated that peer social preference explained about 17% of the variance in teacher liking scores. Peer social preference was found to explain 8-9% of the variance in teacher liking scores for indirect aggression ( $\Delta R^2 = -.09$ ), direct aggression, ( $\Delta R^2 = -.08$ ), and victimization ( $\Delta R^2 = -.08$ ). Peer social preference accounted for a minimal amount of variance in teacher liking scores for immature ( $\Delta R^2 = -.02$ ) and prosocial ( $\Delta R^2 = -.02$ ) students, explaining 2% of the variance. An even smaller amount of variance was explained within the Level-2 intercept variances. Gross estimates indicated peer social preference explained between 0% and 6% of between teacher variance (immaturity,  $R^2 = .00$ ; direction

aggression,  $R^2 = .00$ ; prosocial,  $R^2 = -.06$ ; victimization,  $R^2 = -.06$ ; indirection aggression,  $R^2 = -.06$ ). The between teacher variance increased in the shy/withdrawn model by 2% after peer social preference was added to the model ( $R^2 = .02$ ). These estimates were expected to be low considering peer social preference was a Level-1 predictor variable.

Overall, peer social preference was found to be significantly related to teacher liking for all models, providing support for Hypothesis 3. Considering this hypothesis was supported, Question 5 regarding peer social preference as a moderator in the teacher liking – student characteristic relationship could be investigated for all characteristics using the slopes-as-outcomes model.

Table 16

*Peer Social Preference Intercepts-as-Outcomes Model: Shy/withdrawn*

Fixed Effects	Coefficient	Standard Error	$p$ value	
Teacher Liking, $\gamma_{00}$	4.05	.13	< .001**	
Gender	.10	.04	.017*	
Shy, $\gamma_{10}$	.01	.02	.744	
Peer Social Preference, $\gamma_{01}$	.42	.02	< .001**	
Random Effects	Variance Component	Standard Error	Wald Z	$p$ value
Residual, $e_{ij}$	.76	.03	29.81	< .001**
Intercept + Shy [subject = teacher ID), $U_{0j}$	.18	.03	5.57	< .001**
Variance in Slopes, $U_{1j}$	.01	.01	1.23	.220
Covariance [UN(2,1)]	.00	.01	.12	.906
Model Fit				
-2 Restricted Log Likelihood	5186.69			
AIC	5194.69			

Note: \*\*  $p < .01$  level; \*  $p < .05$  level.

Table 17

*Peer Social Preference Intercepts-as-Outcomes Model: Direct Aggression*

Fixed Effects	Coefficient	Standard Error	<i>p</i> value	
Teacher Liking, $\gamma_{00}$	4.19	.10	< .001**	
Gender	.08	.03	.016*	
Direct Aggression, $\gamma_{10}$	-.53	.03	< .001**	
Peer Social Preference, $\gamma_{01}$	.20	.02	< .001**	
Random Effects	Variance Component	Standard Error	Wald Z	<i>p</i> value
Residual, $e_{ij}$	.46	.02	29.52	< .001**
Intercept + DA [subject = teacher ID], $U_{0j}$	.17	.03	5.70	< .001**
Variance in Slopes, $U_{1j}$	.06	.01	4.32	< .001**
Covariance [UN(2,1)]	.08	.02	4.44	< .001**
Model Fit				
-2 Restricted Log Likelihood	4320.10			
AIC	4328.10			

Note. \*\*  $p < .01$  level; \*  $p < .05$  level.

Table 18

*Peer Social Preference Intercepts-as-Outcomes Model: Indirect Aggression*

Fixed Effects	Coefficient	Standard Error	<i>p</i> value	
Teacher Liking, $\gamma_{00}$	4.23	.10	< .001**	
Gender	.16	.03	< .001**	
Indirect Aggression, $\gamma_{10}$	-.55	.04	< .001**	
Peer Social Preference, $\gamma_{01}$	.25	.02	< .001**	
Random Effects	Variance Component	Standard Error	Wald Z	<i>p</i> value
Residual, $e_{ij}$	.49	.02	29.58	< .001**
Intercept + IA [subject = teacher ID], $U_{0j}$	.15	.03	5.20	< .001**
Variance in Slopes, $U_{1j}$	.09	.02	4.46	< .001**
Covariance [UN(2,1)]	.07	.02	3.81	< .001**
Model Fit				
-2 Restricted Log Likelihood	4413.38			
AIC	4421.38			

Note. \*\*  $p < .01$  level; \*  $p < .05$  level.

Table 19

*Peer Social Preference Intercepts-as-Outcomes Model: Victimization*

Fixed Effects	Coefficient	Standard Error	<i>p</i> value	
Teacher Liking, $\gamma_{00}$	4.13	.11	< .001**	
Gender	.11	.04	.003**	
Victimization, $\gamma_{10}$	-.50	.04	< .001**	
Peer Social Preference, $\gamma_{01}$	.26	.02	< .001**	
Random Effects	Variance Component	Standard Error	Wald Z	<i>p</i> value
Residual, $e_{ij}$	.60	.02	29.74	< .001**
Intercept + Vict [subject = teacher ID], $U_{0j}$	.15	.03	4.91	< .001**
Variance in Slopes, $U_{1j}$	.07	.02	3.50	.001**
Covariance [UN(2,1)]	.07	.02	3.20	.001**
Model Fit				
-2 Restricted Log Likelihood	4764.23			
AIC	4772.23			

Note. \*\*  $p < .01$  level; \*  $p < .05$  level.

Table 20

*Peer Social Preference Intercepts-as-Outcomes Model: Immaturity*

Fixed Effects	Coefficient	Standard Error	<i>p</i> value	
Teacher Liking, $\gamma_{00}$	4.23	.08	< .001**	
Gender	-.09	.03	.005**	
Immature, $\gamma_{10}$	-.50	.03	< .001**	
Peer Social Preference, $\gamma_{01}$	.14	.02	< .001**	
Random Effects	Variance Component	Standard Error	Wald Z	<i>p</i> value
Residual, $e_{ij}$	.42	.01	29.46	< .001**
Intercept + Imm [subject = teacher ID], $U_{0j}$	.15	.03	5.92	< .001**
Variance in Slopes, $U_{1j}$	.06	.01	5.21	< .001**
Covariance [UN(2,1)]	.08	.02	5.50	< .001**
Model Fit				
-2 Restricted Log Likelihood	4121.85			
AIC	4129.847			

Note. \*\*  $p < .01$  level; \*  $p < .05$  level.

Table 21

*Peer Social Preference Intercepts-as-Outcomes Model: Prosocial*

Fixed Effects	Coefficient	Standard Error	<i>p</i> value	
Teacher Liking, $\gamma_{00}$	4.37	.10	< .001**	
Gender	.01	.03	.690	
Prosocial, $\gamma_{10}$	.42	.02	< .001**	
Peer Social Preference, $\gamma_{01}$	.15	.02	< .001**	
Random Effects	Variance Component	Standard Error	Wald Z	<i>p</i> value
Residual, $e_{ij}$	.49	.02	28.69	< .001**
Intercept + Pro, $U_{0j}$ [subject = teacher ID]	.15	.03	5.61	< .001**
Variance in Slopes, $U_{1j}$	.04	.01	4.63	< .001**
Covariance [UN(2,1)]	-.06	.01	-5.19	< .001**
Model Fit				
-2 Restricted Log Likelihood	4387.73			
AIC	4395.73			

Note. \*\*  $p < .01$  level; \*  $p < .05$  level.

**Slopes-as-outcomes Model**

**Job Satisfaction.** Considering job satisfaction was found to be a significant predictor of teacher liking in all models except immaturity and prosocial, the HLM slopes-as-outcome model was used to investigate Question 4. Hypothesis 4 predicted teacher job satisfaction would be a cross-level moderator of the Level-1 relationship between teacher liking and respective behavioral characteristics. For this hypothesis to be supported, job satisfaction would have to account for a significant portion of the between-teacher variance in the Level-1 slope.

The results indicated that teacher job satisfaction did not significantly predict associations between teacher liking and any of the student characteristics. An evaluation of the fixed effects indicated the interaction slope coefficients were small and nonsignificant for direction aggression ( $\gamma_{11} = .04$ ,  $t(64) = .67$ ,  $p = .51$ ; see Table 21), indirect aggression ( $\gamma_{11} = -$



.02,  $t(65) = -.34, p = .73$ ; see Table 22), victimization ( $\gamma_{11} = .01, t(57) = .18, p = .86$ ; see Table 23), and shy/withdrawn ( $\gamma_{11} = .02, t(55) = .41, p = .69$ ; see Table 24). Models were not run for immaturity and prosocial considering job satisfaction was not found to be a significant predictor of teacher liking. An investigation of the random effects indicated all variance and covariance parameters remained the same, indicating the addition of the interaction did not reduce the unexplained variance in the Level-1 slopes. Considering there was no change in the residual variances, it could be determined that the interaction did not account for a significant portion of the between-teacher variance in the Level-1 slope. Therefore, the hypothesis that teacher job satisfaction moderates the teacher liking-student characteristic relationship for direct aggression, indirect aggression, victimization, or shy/withdrawn (Hypothesis 4a and 4b) was not supported.

Table 22

*Job Satisfaction Slopes-as-Outcomes Model: Direct Aggression*

Fixed Effects		Coefficient	Standard Error	<i>p</i> value
Teacher Liking, $\gamma_{00}$		4.14	.09	< .001**
Gender		.14	.03	< .001**
Direct Aggression, $\gamma_{10}$		-.62	.03	< .001**
Job Satisfaction, $\gamma_{01}$		.20	.08	.011*
Job Satisfaction*Direct Aggression, $\gamma_{11}$		.04	.06	.506
Random Effects	Variance Component	Standard Error	Wald Z	<i>p</i> value
Residual, $e_{ij}$	.50	.02	29.59	< .001**
Intercept + DA [subject = teacher ID), $U_{0j}$	.16	.03	5.60	< .001**
Variance in Slopes, $U_{1j}$	.06	.01	4.11	< .001**
Covariance [UN(2,1)]	.08	.02	4.55	< .001**
Model Fit				
-2 Restricted Log Likelihood	4456.73			
AIC	4464.73			

Note. \*\*  $p < .01$  level; \*  $p < .05$  level.

Table 23

*Job Satisfaction Slopes-as-Outcomes Model: Indirect Aggression*

Fixed Effects		Coefficient	Standard Error	<i>p</i> value
Teacher Liking, $\gamma_{00}$		4.17	.10	< .001**
Gender		.26	.03	< .001**
Indirect Aggression, $\gamma_{10}$		-.65	.04	< .001**
Job Satisfaction, $\gamma_{01}$		.14	.08	.078
Job Satisfaction*Indirect Aggression, $\gamma_{11}$		-.02	.07	.733
Random Effects	Variance Component	Standard Error	Wald Z	<i>p</i> value
Residual, $e_{ij}$	.54	.02	29.65	< .001**
Intercept + IA [subject = teacher ID), $U_{0j}$	.15	.03	5.15	< .001**
Variance in Slopes, $U_{1j}$	.08	.02	4.28	< .001**
Covariance [UN(2,1)]	.08	.02	3.98	< .001**
Model Fit				
-2 Restricted Log Likelihood	4606.52			
AIC	4614.52			

Note. \*\*  $p < .01$  level; \*  $p < .05$  level.

Table 24

*Job Satisfaction Slopes-as-Outcomes Model: Victimized*

Fixed Effects		Coefficient	Standard Error	<i>p</i> value
Teacher Liking, $\gamma_{00}$		4.09	.11	< .001**
Gender		.19	.04	< .001**
Victimized, $\gamma_{10}$		-.62	.04	< .001**
Job Satisfaction, $\gamma_{01}$		.18	.08	.027*
Job Satisfaction*Victimized, $\gamma_{11}$		.01	.07	.857
Random Effects	Variance Component	Standard Error	Wald Z	<i>p</i> value
Residual, $e_{ij}$	.65	.02	29.76	< .001**
Intercept + Vict [subject = teacher ID), $U_{0j}$	.15	.03	4.71	< .001**
Variance in Slopes, $U_{1j}$	.08	.02	3.36	.001*
Covariance [UN(2,1)]	.08	.02	3.24	.001*
Model Fit				
-2 Restricted Log Likelihood	4934.44			
AIC	4942.44			

Note. \*\*  $p < .01$  level; \*  $p < .05$  level.

Table 25

*Job Satisfaction Slopes-as-Outcomes Model: Shy/Withdrawn*

Fixed Effects		Coefficient	Standard Error	<i>p</i> value
Teacher Liking, $\gamma_{00}$		3.98	.11	< .001**
Gender		.26	.04	< .001**
Shy, $\gamma_{10}$		-.06	.02	.014*
Job Satisfaction, $\gamma_{01}$		.32	.07	< .001**
Job Satisfaction*Shy, $\gamma_{11}$		.02	.04	.687
Random Effects	Variance Component	Standard Error	Wald Z	<i>p</i> value
Residual, $e_{ij}$	.92	.03	29.82	< .001**
Intercept + Shy [subject = teacher ID), $U_{0j}$	.12	.02	4.77	< .001**
Variance in Slopes, $U_{1j}$	.01	.01	1.46	.144
Covariance [UN(2,1)]	-.01	.01	-.72	.472
Model Fit				
-2 Restricted Log Likelihood	5544.97			
AIC	5552.97			

Note. \*\*  $p < .01$  level; \*  $p < .05$  level.

**Peer Social Preference.** Considering Hypothesis 3 was supported, which indicated peer social preference was found to be a significant predictor of teacher liking in all models, the HLM slopes-as-outcome model was used to investigate Question 5. Hypothesis 5 predicted peer social preference would be a moderator of the relationship between teacher liking and respective student characteristics. The peer social preference – student characteristic interaction effects would have to reach statistical significance for this hypothesis to be supported.

The results indicated that peer social preference significantly predicted the association between teacher liking and prosocial behavior ( $\gamma_{11} = -.09$ ,  $t(1867) = -7.61$ ,  $p < .001$ ; see Table 25). Therefore, the hypothesis that peer social preference moderated the teacher liking-prosocial association was partially supported. The interaction effect was also found to

be significant for the indirect aggression model at the .05 significance level ( $\gamma_{11} = .03$ ,  $t(1867) = 2.05$ ,  $p = .041$ ; see Table 26). Peer social preference was not found to moderate the relationship between teacher liking and direct aggression ( $\gamma_{11} = -.01$ ,  $t(1819) = .38$ ,  $p = .705$ ; see Table 27), victimization ( $\gamma_{11} = -.01$ ,  $t(1731) = -.47$ ,  $p = .641$ ; see Table 28), immaturity ( $\gamma_{11} = -.00$ ,  $t(1864) = -.03$ ,  $p = .979$ ; see Table 29), or shy/withdrawn ( $\gamma_{11} = .02$ ,  $t(1476) = 1.37$ ,  $p = .172$ ; see Table 30). Therefore, these hypotheses were not supported. In the prosocial model, the negative peer social preference-prosocial interaction slope coefficient indicated that the prosocial behavioral effect on teacher liking decreased as peer social preference increased. This finding did not support Hypothesis 5b which predicted higher peer social preference would strengthen the teacher liking-prosocial relationship. The positive interaction slope coefficient in the indirect aggression model indicated the indirect aggression effect on teacher liking increased as the student is liked more by his or her peers. Again, Hypothesis 5b was not supported considering the opposite direction of the effect was predicted.

Gross estimates of the  $R^2$  for the prosocial model indicated peer social preference explained 25% ( $\Delta R^2 = -.25$ ) of the between-teacher variance in slopes and 7% ( $\Delta R^2 = -.07$ ) of the between-teacher variance in intercepts. No additional variance was explained within- or between-teachers in the indirect aggression model. All covariance parameters maintained estimates from the previous model. Though peer social preference accounted for a significant proportion of the variance in slopes, significant variance in the intercepts and slope parameters remained in both models. These results indicated there was a significant amount of unexplained variance at Level-1 and Level-2. Estimates of students' teacher liking scores can be determined using the following equations:

$$\text{Prosocial: } TL_{ij} = 4.38 + .40(\text{Pro}_{ij}) + .14(\text{PSP}_j) - .09(\text{Pro}_{ij} * \text{PSP}_j) + .48$$

$$\text{Indirect aggression: } TL_{ij} = 4.24 - .54(\text{IA}_{ij}) + .25(\text{PSP}_j) + .04(\text{IA} * \text{PSP}_j) + .16(\text{Gen}) + .48$$

Hypothesis 5a was only partially supported considering the analyses revealed there was only a moderating effect of peer social preference on the teacher liking - indirect aggression and teacher liking - prosocial behavior associations. Peer social preference was not found to moderate the other student characteristics. The moderating effect did not have the directional effect hypothesized for indirect aggression or prosocial behaviors. Therefore, Hypothesis 5b was not supported. Hypothesis 5c was supported considering a greater amount of variance in teacher liking was predicted by peer social preference than the job satisfaction.

Table 26

*Peer Social Preference Slopes-as-Outcomes Model: Prosocial*

Fixed Effects		Coefficient	Standard Error	p value
Teacher Liking, $\gamma_{00}$		4.38	.10	< .001**
Gender		.02	.03	.471
Prosocial, $\gamma_{10}$		.40	.02	< .001**
Peer Social Preference, $\gamma_{01}$		.14	.02	< .001**
Peer Social Preference * Prosocial, $\gamma_{11}$		-.09	.01	< .001**
Random Effects	Variance Component	Standard Error	Wald Z	p value
Residual, $e_{ij}$	.48	.02	28.84	< .001**
Intercept + Pro, $U_{0j}$ [subject = teacher ID]	.14	.02	5.67	< .001**
Variance in Slopes, $U_{1j}$	.03	.01	4.57	< .001**
Covariance [UN(2,1)]	-.06	.01	-5.49	< .001**
Model Fit				
-2 Restricted Log Likelihood	4338.60			
AIC	4346.60			

Note. \*\*  $p < .01$  level; \*  $p < .05$  level.

Table 27

*Peer Social Preference Slopes-as-Outcomes Model: Indirect Aggression*

Fixed Effects		Coefficient	Standard Error	<i>p</i> value
Teacher Liking, $\gamma_{00}$		4.24	.10	< .001**
Gender		.16	.03	< .001**
Indirect Aggression, $\gamma_{10}$		-.54	.04	< .001**
Peer Social Preference, $\gamma_{01}$		.25	.02	< .001**
Peer Social Preference*Indirect Agg., $\gamma_{11}$		.04	.02	.041
Random Effects	Variance Component	Standard Error	Wald Z	<i>p</i> value
Residual, $e_{ij}$	.49	.02	29.58	< .001**
Intercept + IA [subject = teacher ID), $U_{0j}$	.15	.03	5.20	< .001**
Variance in Slopes, $U_{1j}$	.09	.02	4.48	< .001**
Covariance [UN(2,1)]	.07	.02	3.82	< .001**
Model Fit				
-2 Restricted Log Likelihood	4415.58			
AIC	4423.58			

Note. \*\*  $p < .01$  level; \*  $p < .05$  level.

Table 28

*Peer Social Preference Slopes-as-Outcomes Model: Direct Aggression*

Fixed Effects		Coefficient	Standard Error	<i>p</i> value
Teacher Liking, $\gamma_{00}$		4.19	.10	< .001**
Gender		.08	.03	.016*
Direct Aggression, $\gamma_{10}$		-.53	.03	< .001**
Peer Social Preference, $\gamma_{01}$		.21	.02	< .001**
Peer Social Preference*Direct Agg., $\gamma_{11}$		.01	.01	.705
Random Effects	Variance Component	Standard Error	Wald Z	<i>p</i> value
Residual, $e_{ij}$	.47	.02	29.51	< .001**
Intercept + DA [subject = teacher ID), $U_{0j}$	.17	.03	5.70	< .001**
Variance in Slopes, $U_{1j}$	.06	.01	4.32	< .001**
Covariance [UN(2,1)]	.08	.02	4.44	< .001**
Model Fit				
-2 Restricted Log Likelihood	4326.44			
AIC	4334.44			

Note. \*\*  $p < .01$  level; \*  $p < .05$  level.

Table 29

*Peer Social Preference Slopes-as-Outcomes Model: Victimized*

Fixed Effects		Coefficient	Standard Error	<i>p</i> value
Teacher Liking, $\gamma_{00}$		4.13	.11	< .001**
Gender		.11	.04	.004**
Victimized, $\gamma_{10}$		-.50	.04	< .001**
Peer Social Preference, $\gamma_{01}$		.26	.02	< .001**
Peer Social Preference *Victimized, $\gamma_{11}$		-.01	.02	.641
Random Effects	Variance Component	Standard Error	Wald Z	<i>p</i> value
Residual, $e_{ij}$	.60	.02	29.73	< .001**
Intercept + Vict [subject = teacher ID), $U_{0j}$	.15	.03	4.91	< .001**
Variance in Slopes, $U_{1j}$	.07	.02	3.47	.001**
Covariance [UN(2,1)]	.07	.02	3.19	.001**
Model Fit				
-2 Restricted Log Likelihood	4769.99			
AIC	4777.99			

Note. \*\*  $p < .01$  level; \*  $p < .05$  level.

Table 30

*Peer Social Preference Slopes-as-Outcomes Model: Immaturity*

Fixed Effects		Coefficient	Standard Error	<i>p</i> value
Teacher Liking, $\gamma_{00}$		4.24	.08	< .001**
Gender		-.09	.03	.005**
Immature, $\gamma_{10}$		-.50	.03	< .001**
Peer Social Preference, $\gamma_{01}$		.14	.02	< .001**
Peer Social Preference *Immature, $\gamma_{11}$		-.00	.01	.979
Random Effects	Variance Component	Standard Error	Wald Z	<i>p</i> value
Residual, $e_{ij}$	.42	.01	29.44	< .001**
Intercept + Imm [subject = teacher ID], $U_{0j}$	.15	.03	5.91	< .001**
Variance in Slopes, $U_{1j}$	.06	.01	5.20	< .001**
Covariance [UN(2,1)]	.08	.02	5.49	< .001**
Model Fit				
-2 Restricted Log Likelihood	4128.78			
AIC	4136.78			

Note. \*\*  $p < .01$  level; \*  $p < .05$  level.

Table 31

*Peer Social Preference Slopes-as-Outcomes Model: Shy/Withdrawn*

Fixed Effects		Coefficient	Standard Error	<i>p</i> value	
Teacher Liking, $\gamma_{00}$		4.06	.13	< .001**	
Gender		.10	.04	.019*	
Shy, $\gamma_{10}$		.01	.02	.616	
Peer Social Preference, $\gamma_{01}$		.42	.02	< .001**	
Peer Social Preference *Shy, $\gamma_{11}$		.02	.02	.172	
Random Effects		Variance Component	Standard Error	Wald Z	<i>p</i> value
Residual, $e_{ij}$		.76	.03	29.79	< .001**
Intercept + Shy [subject = teacher ID), $U_{0j}$		.18	.03	5.57	< .001**
Variance in Slopes, $U_{1j}$		.01	.01	1.29	.197
Covariance [UN(2,1)]		.00	.01	.10	.938
Model Fit					
-2 Restricted Log Likelihood		5191.10			
AIC		5199.10			

Note. \*\*  $p < .01$  level; \*  $p < .05$  level.



## CHAPTER V

### **DISCUSSION**

The purpose of this study was to examine the moderating influences of teacher job satisfaction and peer social preference on the associations between teacher liking and student characteristics. The focus was on elementary school students and teachers. A nested hierarchical structure existed within the data, considering students were clustered within teachers. HLM was chosen to conduct the analyses to account for the nested structure. This chapter discusses the conceptual implications of the findings, strengths and limitations of the current research, suggested directions for future research, and implications for practice for school psychologists.

#### **Preliminary analyses**

Descriptive statistics were computed to determine ranges, mean scores, and significant differences between genders and amongst grade levels. As with the current literature on direct aggression gender differences (e.g., Card, Stucky, Sawalani, & Little, 2008; Crick, 1997; Moore et al., 2012), males were found to more frequently demonstrate directly aggressive behaviors than females. Females were found to be slightly more indirectly aggressive than males, but not at a significant level. The highest levels of direct and indirect aggression were found in third and fifth grade, and the lowest levels of both forms of aggression were found in second grade. The grade trend for direct aggression was not consistent with the literature, which indicated the frequency of direct aggression decreases with age (e.g., Côté et al., 2007; Murray-Close, Ostrov, & Crick, 2007) though the

literature estimates are mostly based on physical aggression alone. The current estimate is based on both physical and verbal aggression. The cross-sectional analysis of relational aggression rates was consistent with the literature (e.g., Murray-Close et al., 2007). Indirect aggression was found to increase with age with the highest indirect aggression mean scores in third – fifth grade, and the lowest scores being observed in kindergarten – second grade. Overall, mean scores indicated elementary age children rarely to never demonstrate aggressive behaviors.

Males were found to be significantly more immature than females, which supports findings by DeRosier and Mercer (2007). No trend was found amongst the grade levels. As with the aggression scores, students in third grade were found to be the most immature and students in second grade were found to be the least immature.

Consistent with findings by Wolke et al. (2001), males were found to be significantly more victimized than females. Inconsistent with Wolke and colleague's (2001) findings, students in later elementary grades were found to be more victimized than those in earlier elementary grades. The literature on victimization supports the notion that aggression becomes more sophisticated as children age and consequently less observable to both victims and teachers. Therefore, the findings are surprising considering the highest levels of aggression in third through fifth grade were found to be more covert aggressive means (i.e., indirect aggression).

There was no significant difference in levels of shyness between genders or across grades. This finding is consistent with the literature, which has found inconsistent to no gender differences (e.g., Rubin et al., 2009; Rubin, Burgess, & Hastings, 2002) as well as stable rates of shyness across grades (Rubin et al., 2009).

Females were found to be significantly more prosocial than females, which supports findings by Belacchi and Farina (2010) and Chung-Hall and Chen (2010). Hastings et al. (2007) found that prosocial behaviors increase over time, however, the mean scores for each grade level were not consistent with this finding. The highest prosocial behaviors were found for second grades, whereas the lowest scores were observed for third and fifth grades. Higher prosocial ratings were expected for the included sample of elementary age students considering second graders had the lowest direct aggression, indirect aggression, immaturity, victimization, and shy/withdrawn scores. It was also expected that third and fifth grades would have the lowest prosocial ratings considering they received the highest direct aggression, indirect aggression, immaturity, victimization, and shy/withdrawn scores.

With third graders demonstrating the highest ratings on the five negative student characteristic scales, and the lowest rating on the one positive student characteristic scale, it was not surprising to find that third grade teachers were the least satisfied with their job. Considering the above findings, it might also be expected that second grade teachers would have the highest levels of job satisfaction; however, first grade teachers indicated the greatest satisfaction with their teaching position. Teachers in the lower elementary grades (kindergarten to second grade) indicated the highest levels of satisfaction, whereas teachers in the upper elementary grades (third to fifth) indicated the lowest levels of job satisfaction. Overall, all teachers indicated adequate levels of satisfaction. Teachers across all grades indicated they were ‘sort of’ to ‘very satisfied’, with teachers in the upper elementary grades being more satisfied than teachers in the lower elementary grades.

Preliminary analyses of the peer social preference scores indicated females were more liked by their peers than males. No trend was found for age, with mean peer social

preference ratings fluctuating across elementary school grades. Students in kindergarten to second grade, and fourth grade received more LM ratings than LL ratings. Students in third grade were found to be just as LM as LL by their peers. Fifth grade students were rated by their peers as being more LL than LM. This is somewhat expected considering hierarchical social structures are often set by fifth grade. Students at this age have a limited set of peers with which they are friends and prefer to play. Therefore, they are less likely to only rate a few students as preferable and more students in their class as less preferable.

### **HLM analyses**

The null model indicated teachers felt it was very easy to like their students. There were significant differences amongst the teachers, with teachers accounting for 15% of the variance in teacher liking scores. The random-coefficient regression model was used to assess the hypotheses regarding associations between student characteristics and teacher liking. As predicted, the negative behavioral characteristics were found to have negative associations with teacher liking, and the one positive behavioral characteristic was found to have a positive association with teacher liking. No grade effects were found in any of the models, however, significant gender effects were.

The current findings support the literature basis on the association between teacher liking and aggression. Teachers rated directly and indirectly aggressive students less favorably (e.g., Mercer & DeRosier, 2008; Stuhlman & Pianta, 2002; Wentzel & Asher, 1995). The estimates from this investigation were found to be stronger than past estimates found by Moore et al. (2012) for direct aggression ( $r = -.62 > r = -.43$ ) and indirect aggression ( $r = -.65 > r = -.23$ ). Interestingly, indirect aggression had a stronger behavioral effect on teacher liking than direct aggression. As with the findings from Moore and

colleague's (2012) study, it was found that teachers preferred aggressive females significantly more than males in both aggression categories.

Immaturity was found to have a moderate, negative association with teacher liking. The gender effect indicated immature males were significantly more liked than immature females. The literature on immature students proposed that teachers are more tolerant of immature behaviors than more disruptive behaviors like aggression (Algozzine et al., 1983; Cunningham & Sugawara, 1998). The results from the current study align with this theory. The relationship between immaturity and teacher liking was weaker than the association between teacher liking and the aggression behaviors.

Students rated as being more victimized by their peers were found to be less liked by their teachers. This finding is consistent with findings found by Mercer and DeRosier (2008). The correlation was found to be as strong as the teacher liking associations with direct and indirect aggression. One might assume teachers would feel sorry for victimized students, therefore showing greater liking to them. However, it is possible that the same characteristics that provoke peer victimization are also attributes that are less desirable by teachers. Further analyses revealed teachers preferred victimized females more than victimized males.

Shy/withdrawn was found to have the weakest association with and effect on teacher liking. The effect of shyness on teacher liking only reached statistical significance at the .05 level. Teachers were less likely to like shy students, and liked shy males less than shy females. The relationship estimate was the exact same as the estimate found by Chang et al. (2007) for withdrawn fourth and fifth grades ( $r = -.06$ ). As proposed by Arbeau and Coplan

(2007), shy students were liked more than aggressive students, but less than prosocial students.

Students with higher prosocial behaviors were found to be more liked by teachers. There was no gender effect indicating prosocial males were just as liked as prosocial females. The current correlation ( $r = .48$ ) was similar to estimates found by Moore et al. (2012) ( $r = .41$ ). It was significantly higher than coefficients found by Chang and colleague's (2007) for first to third grades ( $r = .29$ ), and fourth to fifth grades ( $r = .33$ ); but significantly lower than Gorman and colleague's (2002) teacher liking-prosocial relationship estimate ( $r = .65$ ).

A significant amount of variance in intercepts and slopes across teachers was found for all models except shy/withdrawn. Only a significant amount of variance in the intercepts was found for shy/withdrawn. The significant variance in intercepts indicated teachers had varying levels of teacher liking ratings when students demonstrated average levels of each particular behavior. Therefore, it can be concluded that other factors at the teacher level (Level-2) could affect teachers' liking ratings. The variance in slopes indicated the degree to which the behavior affected the teachers' liking rating varied significantly. In fact, teachers with higher teacher liking ratings tended to be more affected by direct aggression, indirect aggression, immaturity, and victimization. For prosocial students, teachers who found it easier to like their students were less affected by prosocial student behaviors. Consistent with the literature, this finding provides support for the notion that disruptive behaviors have a greater effect on teacher liking than behaviors that are expected of students. Immaturity was found to account for the most variance in teacher liking scores followed by direct aggression, prosocial, indirect aggression, victimization, and shyness.

After confirming a significant variance in the intercept, the intercept-as-outcomes model was used to examine the hypothesis that predicted job satisfaction to be positively associated with teacher liking ratings at a significant level. Results supported the hypothesis in the direct aggression, indirect aggression, victimization, and shy/withdrawn models. Job satisfaction was found to have a moderate but significant effect on teacher liking ratings of shy/withdrawn students. Job satisfaction was found to have weak associations, but significant effects, on teacher liking for the direct aggression, indirect aggression, and victimization models. For these aforementioned student characteristics, teachers with higher job satisfaction found it was easier to like their students. Job satisfaction was not found to be significantly related to teacher liking scores for immature or prosocial students. With the addition of job satisfaction in the models, the amount of unexplained variance decreased. Job satisfaction was found to predict a small percentage of the teacher variance in all of the models, with estimates ranging from 6% to 20%. Though job satisfaction explained some of the variance, a significant amount of unexplained variance within and between teachers remained in all models. The job satisfaction interactions were then added into the models for direct aggression, indirect aggression, victimization, and shy/withdrawn. These slopes-as-outcomes HLM models examined the hypothesis that teacher job satisfaction would moderate the relationship between teacher liking and the student characteristics. Job satisfaction was not found to moderate any of the associations and the Level-2 variable also did not explain any additional residual variance within teachers. Therefore, the hypothesis was not supported. It is likely that the relationship between job satisfaction and teacher liking is bidirectional. This study looked at job satisfaction as an influence on teacher liking, however, it is reasonable to assume that the level of liking a teacher has for his or her

students also influences job satisfaction. Teachers with more students in their class who they ascribed greater liking to are likely to be more satisfied with their job. The bidirectionality of the relationship is not accounted for in this study and could have influenced the results.

Next, the hypothesis that predicted peer social preference to be positively associated with teacher liking ratings was examined using the intercepts-as-slopes model. As peer social preference increased, teacher liking scores were also found to increase within all models, providing support for the hypothesis. Peer social preference was found to have a moderate, but significant effect on teacher liking scores for shy/withdrawn students. Weak but significant associations were found within the direct aggression, indirect aggression, victimization, immaturity, and prosocial models. The amount of variance in teacher liking scores explained by the addition of peer social preference was between 2% and 17%. A significant amount of variance between-teachers remained unexplained. After confirming the teacher liking-peer social preference association, and considering the amount of variance unexplained, HLM slopes-as-outcomes models were used to investigate the moderating influence of peer social preference. Results indicated peer social preference moderated the teacher liking-prosocial and teacher-liking indirect aggression associations. Peer social preference was not found to moderate the relationships between teacher liking and direct aggression, victimization, immaturity, or shy/withdrawn behaviors. Within the prosocial model, the strength of the relationship for students with high peer social preference weakened as students' peer social preference ratings increased. In other words, the effect of prosocial behaviors on teachers' liking of students with high peer social preference was not as strong as the effect of prosocial behaviors on teachers' liking of students when the student was less liked by peers. The opposite moderating effect was found in the indirect aggression model.



The association between teacher liking and indirect aggression strengthened as students' peer social preference ratings increased. Considering the teacher liking - indirect aggression association is negative, the moderating effect of peer social preference would be interpreted such that students with high peer social preference would have lower teacher liking ratings as their indirect aggressive behaviors increased. This finding is opposite of what was hypothesized. It was expected that as students were liked by their peers more, the social preference would buffer the negative effects the student's behavior had on their teacher's liking of them. Instead, it was found that higher peer social preference significantly increases this negative effect indirect aggression has on teacher liking.

### **Limitations and Future Directions**

Though the current study contributes to the existing literature base regarding teacher liking of differing students, a number of limitations should be considered when interpreting the results. One limitation was in the narrow methodological approach in the measurement of the behavioral characteristics. Only one respondent completed a paper-pencil questionnaire, providing a limited scope of data collection means. Future studies should consider using observations, which have been acclaimed to be more ecologically valid. Observations also provide more natural information that is less biased by preconceptions or feelings towards the child. This information might be particularly important for studies focusing on teacher liking of students. Future researchers should also consider using multiple informants, such as parents or peers, to measure behaviors. As with observations, this informant method will provide a more accurate approach to measurement.

Measures from multiple informants for the teacher liking variable should also be considered by future researchers. In this study, teachers self-reported their own liking of

students which is an accurate assessment of their own preference. It does not, however, provide an assessment of how students perceive themselves to be liked by their teacher. It is important to understand students' perceptions of their teacher's liking of them before effects of teacher liking on student outcomes can be understood. Future researcher should consider the use of multiple informants and potentially observations of student-teacher interactions when assessing teacher liking.

The third limitation is the current study's lack of attention to the fully nested structure of the data. Four schools were used in this study, however, the nested nature of teachers within schools was not accounted for. Within this study, evaluating environmental factors at the school level might have been particularly important considering school climate has a significant effect on teacher job satisfaction (Nalcaci, 2012). In addition, the supportiveness of the staff and school administrators develops an emotional undertone that is often brought into classroom and adopted by students (Zaykowski & Gunter, 2012), potentially affecting behaviors in the classroom. Future studies should consider the fully nested nature of the data and consider moderating factors at the school level (Level-3).

A final limitation of the study is that inferences of causality cannot be interpreted from the results due to the nature of the association analyses. In addition, a considerable amount of unexplained variance remained in all models, indicating variables not included in this study could explain the associations with greater predictability. Results from this study indicated the greatest percent of variance was accounted for at the student level. Other Level-1 variables beyond peer social preference should be included in future models. As mentioned above, other variables at the teacher and school level should also be considered to more fully assess the environmental model proposed by Bronfenbrenner (1977).

## **Implications for school psychologists**

The following implications for practice are presented within the *School Psychologist: Blueprint for Training and Practice* (Ysseldyke et al., 2006) framework. Blueprint III states that specialists in this field should work to “build and maintain the capacities of systems to meet the needs of all students as they traverse the path to successful adulthood” including “becoming competent and caring adults, involved citizens, and productive members of their communities” (Ysseldyke et al., 2006, p.12). To foster these successful outcomes, school psychologists must first take into account the vulnerability factors which make these outcomes less likely. Several are presented in the literature review section of this paper. The negative student characteristics, low peer social preference, and lack of teacher liking all present with negative outcomes. The outcomes span from educational attainment to social-emotional wellbeing. Though the primary responsibility of a school psychologist is to develop academic skills and cognitive competencies, Blueprint III also calls for school psychologists to meet the social, emotional, and behavioral needs of students. Being able to “enhance the development of wellness, social skills, mental health, and life competencies” (Ysseldyke et al., 2006, p. 19) is a skill required of school psychologists under the functional competency domain. Therefore, it is important for school psychologists to understand rates and levels of differing student characteristics, such as aggression, victimization, and shyness, which could potentially lead to mental health disorders such as ODD, CD, and depression.

Understanding the level at which teachers prefer these students is also important. Another domain of functional competence in the Blueprint III is a systems-based service delivery. This domain requires school psychologists to understand the system in which a student exists. The system includes knowledge about the organization of the school and

classroom, and factors which affect students from a top-down approach. The Blueprint III calls for school psychologists to develop schools “as safe, civil, caring, and inviting places” (Ysseldyke et al., 2006, p.18). To do so, they must understand teachers liking of different types of students.

Considering teacher’s liking of students who exhibit aggressive and immature behaviors significantly decreases as these behaviors increase, it is important the decreased preferences be addressed. It is imperative to educate teachers about the adverse effects of low teacher liking and the significantly positive outcomes for students with high teacher liking. The impact teacher liking has on student academic, social, and emotional well-being is well document in the literature. Students with higher teacher liking have significantly higher grades, attendance, and graduation rates. They also are better liked by their peers and have fewer internalizing concerns. Most teacher assume they have similar liking towards all students and are unaware of their differential treatment to certain types of students. Examples of research looking at teacher behavior and how salient they are in the classroom can help teachers better understand their students’ recognition of their behavior. School psychologists could act as consultants to teachers to provide the support and guidance needed to deal with these difficult students, and continue to be successful in their positions. School psychologist could also be an instrumental part of teacher training programs to educate teachers about these effects before entering the classroom.

Blueprint III also calls for school psychologists to act as mental health practitioners to help teachers create learning environment in which students “feel protected and cared for”. Blueprint III advocates for evaluating and understanding difficulties within a multi-level

model, therefore, the environment should always be considered when assessing student outcomes and planning interventions for students.

A third functional competency is the use of data-based decision making. School psychologists are required to use empirically validated literature at both the individual and systems level. The current study provides a model of literature which should be used to inform practice which is research based and conducted within a multi-level model. The current study is a strong representation of an evaluation of teacher liking within a two level model.

In conclusion, the results of this study could be used by school psychologists to help teachers understand implications of their developed preferences for certain types of students. They could also be informed of the outcomes that are likely for students with certain behavioral characteristics, low peer social preference, and low teacher liking, with the understanding that the compounding effects of all are unknown. An important implication from the current research study is that there are multiple factors at all levels which account for teacher liking of students. Blueprint III calls for school psychologist to build instructional environments which “reduce alienation and foster the expression of appropriate behaviors, as well as environments in which all members of the school community – both students and adults – treat one another with respect and dignity” (Ysseldyke et al., 2006, p.20). Meeting this goal requires a multi-level, data-based approach taking into consideration multiple student and teacher variables.

## Appendix A

### Professional Recruitment



**3-C Institute for Social Development, Inc.**  
Comprehensive tools for promoting positive social relationships

**Please participate in an evaluation of a unique tool  
for building children's emotional intelligence and social skills**

Dear Professional:

We are looking for professionals who work with elementary-aged children to review and critique the components of an exciting new program designed to increase awareness of emotions, develop social skills, and cultivate emotional intelligence. The components of this new program are described on the attached sheet. For this project, you would review the Facilitator's Manual, two session scripts with child and parent handouts, a video activity, and a TV show for home viewing and practice. **Participants who review the program components and complete and return the evaluation surveys will be compensated \$100 for their time.** Plus, all materials will be yours to keep and use with children in your own setting.

The development and testing of this new program is supported by the National Institutes for Mental Health (NIMH). By evaluating our materials you will provide valuable information that will guide further development of the program to ensure the appropriateness and effectiveness of the completed program. As an active researcher and clinician in the area of children's social relationships for more than a dozen years, I know the importance of positive peer relationships for children's academic, behavioral, and emotional adjustment. There is a great lack of research-based programs that are both interesting and engaging for youth, but also effective for building social and emotional skills.

Please help create this new multi-media program to bridge school and home and provide effective training tools to professionals across the nation. To participate in this evaluation, please complete the enclosed confirmation form and fax it to our office at **919-677-0112 ATTN: Amy Lockhart**. The deadline for returning the confirmation form is **September 24, 2004**. Once your confirmation form has been received, a packet containing all materials and instructions will be sent to you. You will have one month to review all materials and complete the evaluation forms. Feel free to contact us with any questions or concerns. We look forward to hearing from you soon and working with you on this new and exciting project!

Sincerely,

Melissa DeRosier,  
Director, 3 - C ISD

**We need your help to review a new program  
from 3-C Institute for Social Development**



**Participants will keep all materials  
and receive **\$100!!****

### **The program is:**

**A unique multi-media program designed to  
build children's social skills and emotional intelligence.**

### **The Program includes:**

<b>A Facilitator's Manual;</b>	<b>Integrated child activity pages;</b>
<b>In-session videos;</b>	<b>Parent handouts;</b>
<b>Video specials for parent and child home viewing;</b>	<b>Web-based resources and games.</b>

### **Participants will review:**

- \* Facilitator's Manual**
- \* Two session scripts with child and parent handouts**
- \* A video with a sample video activity and sample TV show**

### **LIMITED OPPORTUNITY**

**REGISTER by September 24, 2004**

**Fax** the attached registration form to **Amy** at **(919) 677-0112**.

Go to [www.3cisd.com](http://www.3cisd.com) for more information.

Appendix B

Professional Consent



**3-C Institute for Social Development, Inc.**

*Comprehensive tools for promoting positive social relationships*

**Confirmation for Review of Program**

*Please complete this form and **fax** it to our office at (919) 677-0112.*

*Mark attention to **Amy Lockhart**. **Deadline for returning this form is September 24, 2004.***

Name: \_\_\_\_\_

Organization: \_\_\_\_\_

Home address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_

Zip Code: \_\_\_\_\_

Work Phone #: \_\_\_\_\_

E-Mail Address: \_\_\_\_\_

When is the best time to contact you? \_\_\_\_\_

What is the best way to contact you? *(PLEASE CIRCLE ONE)*

Work Phone      E-Mail      Postal Mail

What is your profession? *(PLEASE CIRCLE ONE)*

**Mental Health Professional      School Counselor      Teacher      Other:**

What age group of **children** do you work with? *(PLEASE CIRCLE ALL THAT APPLY)*

**Early Elementary K-2 (ages 5-7)      Older Elementary 3-5 (ages 8-10)**

**Young Teen (ages 11-13)      Older Teen (ages 14-18)**

\_\_\_\_ YES, I wish to participate in reviewing and critiquing this program.

Signature: \_\_\_\_\_

Date: \_\_\_\_\_



## Parent Consent



### **3-C Institute for Social Development, Inc.**

Comprehensive tools for promoting positive social relationships

#### **Parent Permission Form LIFESTORIES FOR KIDS**

**PLEASE READ, SIGN AND FILL OUT THE INFORMATION ON THE BACK, AND RETURN THIS YELLOW FORM TO YOUR CHILD'S TEACHER.**

We are asking permission for your child to take part in research about the 'LIFESTORIES FOR KIDS' program at your child's school. Even if you give permission, your child can still say no to participation in the research about LIFESTORIES. Participation in the study is voluntary. You may refuse to give permission for your child, or you may withdraw your permission at any time, for any reason, without anything bad happening.

#### **What is LifeStories?**

LifeStories is a classroom-based program designed for character education, social-emotional development and problem solving skills in elementary-aged children. Your child's school will be using the LifeStories program in all classrooms. Your child will listen to stories in class and learn about character traits and life skills. All classes in your child's school will participate in the LifeStories program.

#### **What is the purpose of this study?**

The purpose of the research study that goes along with the LifeStories program is to learn about the helpfulness of the LifeStories program for children.

#### **How many people will be in this study?**

Your child will be one of about 2800 students to participate in this research study.

#### **What will happen if your child is in this study?**

Children with parental permission to participate in the research study and who are willing to participate, will answer some short pencil and paper surveys about their school, peer relationships at their school, and their individual social skills. Researchers will be there to help them with the surveys. Children will be given these surveys on three 45-minute occasions (Fall '06, Winter '06/'07, and Spring '07) during a scheduled time in their classroom. Your child may choose not to answer any question he/she doesn't want to answer. We will also ask the teachers to comment on your child's social style in the classroom and your child's grades, attendance, and disciplinary records, if any, will be provided by the teacher and the school to the researchers.

#### **How will we protect your child's privacy?**

Your child's answers and all other information about your child will be kept private and secure. No names will be used and no information about identities of participants will be published or presented at conferences when we tell other people about the study. You have

the right to take your child out of the study at any time and ask that any personal information about your child be destroyed and not included in the research.

**Will your child receive anything for being in this study?**

During the classroom surveys your child will receive small gifts like pencils, highlighters, and erasers.

**What if you have questions about your child's participation?**

If you ever have any questions or concerns about your child's participation in the research study, please contact Dr. Melissa DeRosier at (919) 677-0101, [derosier@3cisd.com](mailto:derosier@3cisd.com).

**What if you have questions about your child's rights as a research participant?**

If you should have questions about your rights or your child's rights as a research participant, you may contact Dr. Barbara Goldman, 3-C IRB Chair, who has approved this study. She may be reached at: 919-966-7169 or by email at [barbara\\_goldman@unc.edu](mailto:barbara_goldman@unc.edu).

**Please sign and return one copy of this 2-page permission form with your child to his/her teacher. The teacher will give this form to 3-C. Please keep one copy of the 2-page permission form for your records.**

**Please note that parents with multiple children in the same school should fill out one form per child.**

**Parent's Agreement:**

I have read the information provided above. I have asked all the questions I have at this time.

**Please check below:**

\_\_\_\_\_ **YES**, you may invite my child to participate in the classroom surveys that are conducted three times during the school year.

\_\_\_\_\_ **NO**, I do not want my child to participate in the classroom surveys that are conducted three times during the school year. Instead, my child will go to the media center during the classroom survey times.

If you are not sure which option you should check or at any time you change your mind, please call or email Dr. Melissa DeRosier at (919) 677-0101 or [derosier@3cisd.com](mailto:derosier@3cisd.com).

Parent/Guardian's Signature:

Date:

\_\_\_\_\_

\_\_\_\_\_

Parent's Full Name: \_\_\_\_\_

Child's Full Name: \_\_\_\_\_

School: \_\_\_\_\_

Teacher: \_\_\_\_\_

## Appendix C

### Teacher Interview Script

#### TEACHER INTERVIEW SCRIPT

"For this first part of the interview, I will read a description of a child. Then, for each child in your class, please give me a number from 1 to 7 to indicate how true that description is for that child. I have the same list of names on my sheet, so I will mark your responses as you read them aloud." If the teacher asks for clarification for a question, use the information in parentheses to clarify.

#### (PROMPT WITH SCALE # 1)

- Question 1:** This child performs poorly in math.
- Question 2:** This child starts fights with peers; these can be either verbal or physical fights.
- Question 3:** Other children like this child and seek him or her out for play.
- Question 4:** This child is too **shy** to make friends easily.
- Question 5:** This child says bad things about other kids behind their back.
- Question 6:** This child is very good at understanding other people's feelings (empathetic).
- Question 7:** This child makes odd noises or unusual comments.
- Question 8:** This child gets bullied or picked on by other kids.
- Question 9:** This child is able to cooperate and work well with other children.
- Question 10:** This child says mean things to peers, such as teasing or name calling.
- Question 11:** This child is easily distracted when working on a task.
- Question 12:** Other children actively dislike this child and reject him or her from their play.
- Question 13:** This child leaves other kids out on purpose when it is time to play or do an activity.
- Question 14:** This child helps other children when they need it (like when they are sad or can't do something)
- Question 15:** This child is timid about joining other children and stays just outside the group without joining in.

**Question 16:** This child acts silly or immature.

**Question 17:** This child acts or speaks impulsively without thinking through the consequences.

**Question 18:** This child performs poorly in reading.

**Question 19:** When this child is mad at or doesn't like someone, he or she tries to get other kids to be mean to that person.

**Question 20:** This child gives up when things get hard and doesn't keep trying.

**Question 21:** Other kids are mean to this child (can be verbally, physically, or behind their back).

**Question 22:** This child does things that other children think are strange or inappropriate.

**Question 23:** This child has trouble completing assignments on their own.

**Question 24:** This child threatens or bullies others in order to get his or her own way.

**Question 25:** This child is anxious and insecure in social situations.

**Question 26:** This child is good to have in a group, shares things, and is helpful.

**Question 27:** This child gets called names or teased by other kids.

**Question 28:** This child bothers other kids when they are trying to work.

**(PROMPT WITH SCALE # 2)**

**Question 29:** How often does this child require teacher help with academic problems?

**Question 30:** How often does this child require teacher help with social or emotional problems?

**(PROMPT WITH SCALE # 3)**

**Question 31:** How easy is it for **you** to like this child?

## Appendix D

### Child Interview Script

#### **CLASSROOM ADMINISTRATION SCRIPT**

##### **CO-LEADERS:**

- (1) Write the staffs' names on the board, e.g. Mr. Jones, Ms. Clark,...;
- (2) Pass out the packets to students as the leader is going through the introduction;
- (3) **CONTINUALLY** walk around the room and monitor their progress as non-intrusively as possible. If it looks like a child doesn't understand a question or questionnaire, stop and help him/her--**DO NOT WAIT FOR THE CHILD TO ASK FOR HELP**;
- (4) Ensure quiet and privacy-- use glances, stand behind or near a disruptive child, separate children, or quietly ask them to get back on task, as needed.

##### **LEADER:**

*"Hello. My name is Ms. \_\_\_ and this is Ms. \_\_\_ and Mr. \_\_\_. We're from 3-C ISD in Cary and we're working with several Wake County Schools this year, including yours. Today, we're going to be asking you to answer some questions about you and your friendships with other kids here at "Name of School". Everyone will be getting their own packet and every packet is just the same. You're going to be answering lots of questions today, so it's very important that you be as quiet as possible, pay attention, and keep working so that we can finish up. But, if you have any questions as we go along, just raise your hand and one of us will come to you.*

*"OK. Pull out the pages in your packet, but keep them in order. Please use the folder to keep your answers more private, like this (DEMONSTRATE). We want you to know that everything you answer on these questionnaires is completely confidential. Who knows what that means? (get responses--reinforce correct ones) It means that everything you say on these pages is private and no one will know exactly what you say, not your parents, not your teachers, and not any other students. So, you can be completely honest. **Just like we're going to keep what you say private, you're NOT to talk with any other students about what you say on these pages; you need to keep your answers private from other kids.** What we are asking about today is very important and we need to know it, but it's also important to keep your answers to yourself so that no one's feelings get hurt. You can tell your parents about what you did today and what you answered, but remember to keep it private with other kids. OK?"*

*“If you feel uncomfortable or upset about any question, you can skip it, but try to answer as many as you can. **If you would like to ask us about any question, just raise your hand.** We really appreciate your filling out these surveys but you can stop at any time without anything bad happening to you. OK? OK, let's get started. Remember to raise your hand if you have a question.”*

**I. RATING SCALES:** For each question, there is a separate page containing a list of all the names of the children in their class at their school. A rating scale with five choices is included next to each name. Children should indicate their choice by marking one choice (NOT MORE) for each name. Children should also mark a choice for themselves.

**CO-LEADERS:** Write an example with several fake names on the board.

**LEADER:** *“Look at this first page and you’ll see a list of the names of every kid in your class. Quickly find your name. If you are not on this list or there is a problem with your name, raise your hand.”*

Mark any adjustments to this list on the board. Add any new or missing names to the bottom of the list and instruct all the kids to do the same on their questionnaire.

*“Now, we’re going to be asking you several questions about the kids in your class. We also want you to answer each question for yourself. There are no right or wrong answers. Just put down whatever is true for you. Each page has a different question, so let’s look at page 1 together.”*

### **Page 1: Hang out**

*“On this first page, go down the list and for each name mark how much you hang out with that kid at school. How much do you eat lunch together, play together at recess, work together in class, or otherwise just hang out together at school? Your choices are “Not at all”, “A little”, “Sometimes”, “A lot”, or “A Whole lot”. [Use the water glass to demonstrate levels, as needed.] Mark only one choice for each kid. Also, remember to mark a choice for yourself. Raise your hand if you have a question. Turn the page when you are done and wait for instructions.”*

The leader reads each item aloud so kids can follow along. Children can move ahead at their own pace, but they need to stop and wait for directions after they

finish the last rating scale. **DO NOT** wait for every child to be done before reading out the next item. Move on when about 75% of the class is done. Tell the remaining kids to keep working at their own pace and not worry about hurrying.

### **Page 2: Cooperate**

*“Now, for the next several pages, I’m going to describe a kind of kid and you’re going to go down the list of names and mark how much each kid in your class is like that kind of kid. Your choices are “Not at all”, “A little”, “Some”, “A lot”, or “A Whole lot”. On page two, this kid shares things and works well with other kids in a group, like during play or classroom activities. This kid cooperates and is a good team player when working with other kids. For each kid in your class, including yourself, mark how much each is like the kind of kid who cooperates with other kids. Raise your hand if you have a question. Turn the page when you are done and wait for instructions.”*

### **Page 3: Trustworthy**

*“Ok, on the third page, this is a kid you can trust. This kid keeps things that other kids tell him or her private. This kid is truthful and honest and does what he or she says they will do. For each kid in your class, including yourself, mark how much each is like the kind of kid you can trust. Raise your hand if you have a question. Turn the page when you are done and wait for instructions.”*

### **Page 4: Kind**

*“Ok, on the fourth page, this is a kid who is kind and nice to other kids. This kid is NOT mean on purpose to other kids. He or she is friendly, warm, and thoughtful towards others. For each kid in your class, including yourself, mark how much each is kind to other kids. Raise your hand if you have a question. Turn the page when you are done and wait for instructions.”*

### **Page 5: Helpful**

*“Ok, on the fifth page, this is a kid who helps other kids. If someone is having trouble with something like school work or getting along with another kid, this kid would be willing to help. If someone is feeling down or bad, this kid tries to help. For each kid in your class, including yourself, mark how much each is like the kind of kid who helps other kids. Raise your hand if you have a question. Turn the page when you are done and wait for instructions.”*

### **Page 6: Friendship**

*“Ok, on our last page, I would like you to go down the list and mark a choice to show how much you like that kid as a friend. Your choices are “Not at all”, “A little”, “Sort of”, “A lot”, or “A Whole lot”. Go down the list of names and mark how much you like each kid as a friend. Put a mark for yourself too. If there is a kid on the list who you really do not know at all, then mark through the name and don’t answer this question for him or her. Only mark through a name if you have never really talked to or played with this kid. Raise your hand if you have a question and wait for instructions.”*

Wait a couple minutes until some kids are almost done and then continue with directions for this page.

*“Before you are done with this page, the last thing I would like you to do is circle the name of one person in your class who you consider to be your very best friend. I know that you may have best friends in other classes or more than one best friend in this class. Just circle one person who you would say is your very best friend in this class. When you are done with this page, please turn to the next page in your packet and wait for directions.”*



## Appendix E

### Job Satisfaction Survey

### LifeStories Survey

**DIRECTIONS:** For each item, please mark the choice that is most true for you.

**Part 1:**

In your current position, how <u>satisfied</u> are you with...	Not at all	Not very	Sort of	Very	Highly
the prestige your job has within the community?					
being able to do things the “right” way?					
the chance to do things for students?					
the chance to do something that makes use of your abilities?					
the way school policies are put into practice?					
the chances for advancement?					
the freedom to use your own judgment?					
the chance to try your own approaches to working with students?					
your working conditions?					
the recognition you get for doing a good job?					
the feeling of accomplishment you get from your job?					

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