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# An Assessment of School Adjustment in Head Start Children

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AN ASSESSMENT OF SCHOOL ADJUSTMENT IN HEAD START CHILDREN

A Thesis  
Presented to  
The Faculty of the Department of Psychology  
Western Kentucky University  
Bowling Green, Kentucky

In Partial Fulfillment  
Of the Requirements for the Degree  
Master of Arts

By  
Rachel Nicole Waford

May, 2006



AN ASSESSMENT OF SCHOOL ADJUSTMENT IN HEADSTART CHILDREN

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# AN ASSESSMENT OF HEADSTART CHILDREN'S SCHOOL ADJUSTMENT

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The purpose of the current study was to pilot test measures of cognitive-linguistic achievement and socioemotional competence to create an all encompassing model of school adjustment in a sample of Head Start children (N = 36). Past research examining school adjustment in low-income children has failed to address all of the components of school adjustment while often employing the same reporter (the teacher) for both predictor and outcome measures. Cognitive-linguistic measures included four subtests from the Woodcock-Johnson Tests of Achievement and two assessments of phonological awareness (rhyming and alliteration). Emotion regulation measures included teacher-reported emotionality and emotion regulation, parent-reported emotionality and emotion regulation, and an assessment of how children spend their time waiting during a delay of gratification task. Social functioning measures included student-teacher relationship quality, teacher-reported social competence and behavior problems, and a sociometric interview that provided information about peer relationships in the classroom. Results revealed significant differences between children who have friendships and are well-liked and those who do not have these positive peer relationships. Teacher-reported emotion regulation predicted the presence of positive peer interactions. In turn, the presence of prosocial peer interactions was highly related to socioemotional outcomes and highly predictive of cognitive indices of school adjustment.

## CHAPTER 1

### Introduction

#### *Overview*

Assessing school adjustment in Head Start populations is important due to the fact that low-income children are at risk for developmental difficulties and social adjustment problems. The following sections will introduce literature that examines the hurdles faced by low-income children. In addition, literature investigating cognitive achievement, social competence, and emotion regulation and emotional lability/negativity as predictors of school adjustment will be examined. Approaches of previous researchers in the field will be introduced while creating an argument for an all encompassing model of school adjustment in low-income children.

#### *Development of Disadvantaged Children*

When considering the environment of poverty in the development of low-income children, it is important to understand what constitutes a family living in poverty. The literature in this area most often defines poverty using the federal poverty threshold. The *federal poverty threshold* is an absolute dollar amount that indicates the amount of poverty or affluence (Huston, McLoyd, & Coll, 1994; McLoyd, 1998). *SES* is a multidimensional construct that signifies an individual's, family's, or group's ranking on a hierarchy in terms of their access to or control over some combination of valued commodities such as wealth, power, and social status (Huston, et al., 1994; McLoyd, 1998). Although poverty and SES may each represent unique circumstances for low-income families, both poverty and low SES represent less than ideal environments (e.g., context of the home and neighborhoods) for the cognitive-linguistic and socioemotional development of young children.

### *Impact of Low-income Communities*

McLoyd (1998) highlighted the environmental stressors present in high-poverty communities that negatively impact all who live in these high-risk areas, with special concern for young children. Children and adolescents in these high-risk areas are at a great disadvantage due to reduced accessibility to high-quality public and private services (e.g., child care, schools, parks, community centers) and informal social supports. In addition, such low-income, high-risk areas provide greater exposure to environmental stressors such as street violence, homelessness, illegal drugs, and negative role models, thereby introducing a greater risk for future behavior problems (Harden, et al., 2000; McLoyd, 1998). The effects of the high-poverty neighborhood and the stressors that it provides have proven to be significant predictors of adjustment and externalizing behavior problems (Duncan, Brooks-Gunn, & Klevanov, 1994; Evans & English, 2002; McLoyd, 1998).

When examining the impact of the high-poverty environment on the components of school adjustment in at-risk youth, it is crucial to evaluate the home environment in addition to the context of the low-income neighborhood. The environmental stressors that plague disadvantaged children are virtually absent in the lives of their affluent counterparts. The family dynamic has proved to be a strong predictor of both IQ and externalizing behavior problems. There is evidence that female-headed households and the less time a child spends with his/her father contribute to higher rates of externalizing behavior problems (Duncan et al., 1994; Harden, et al., 2000). Poverty research also suggests that family income is a stronger correlate of IQ, behavior problems, and academic achievement than are other measures of SES (Duncan et al., 1994; McLoyd, 1998).



### *Public Policy*

Research provides support for the need to evaluate poverty samples when studying school adjustment and academic achievement. Teachers, parents, researchers and policy makers are fighting to make sure that these children are provided with the necessary tools to compete with children from middle- and high-income circumstances. The No Child Left Behind Act (NCLB) of 2001 holds states, school districts, and schools accountable for children who do not perform at state standards or are “left behind.” Penalties are implemented for those states, school districts, and schools that have children who are not performing at the necessary levels on standardized tests (*No Child Left Behind*. U.S. Department of Education. Retrieved July 1, 2005, from <http://www.ed.gov/nclb/overview/intro/execsumm.html>).

In addition to relatively recent public policy, there are preschool programs in place that work to assist disadvantaged children. The Head Start program operates to enhance school readiness and adjustment in disadvantaged youth by focusing on the importance of early experience, parental involvement, and increasing parents’ ability to provide their children with cognitive stimulation and emotional support (Mantzicopoulos, 2003; McLoyd, 1998). In addition, a public program, such as Head Start, encourages teachers to consider the needs of low-income children and the problems that may stem from the stressors of a low-income environment (McLoyd, 1998). Being part of a high-quality, transitional program such as Head Start can provide both cognitive-linguistic and socioemotional tools for the future. In addition, involvement in a stimulating, social environment can impact the success of both public and private relationships during adolescence and adulthood.

### *Examining School Adjustment*

Investigating successful adaptation to school is an important task due to the fact that the school environment is one of the earliest and most influential social institutions a child experiences. The school environment exposes children to a novel social context that necessitates prosocial interactions with peers, appropriate interactions with new authority figures, and successful transition to an unfamiliar environment. School adjustment is a multifaceted construct that highlights successful adaptation to school as a product of cognitive-linguistic, socioemotional, and behavioral abilities (Perry & Weinstein, 1998). Perry and Weinstein asserted that successful adjustment to school is needed early to provide a foundation for a successful school career. Although much research deals with school adjustment in older children, Perry and Weinstein highlighted kindergarten through third grade as a developmental window in which children begin to construct these foundations. In addition, children have begun to enter the school environment earlier through the popularity of preschool programs, thereby providing some of these crucial experiences at an earlier age.

Research in the area of school adjustment has taken several different approaches in search of an all encompassing model of school adjustment in young children. One approach investigates children's early feelings about the new school environment as a predictor of subsequent achievement. Ladd, Buhs, and Seid (2000) discussed the degree to which children like school as a predictor of later kindergarten participation, achievement, and success. The authors introduced a "liking-participation-achievement" (LPA) model that proposed significant direct pathways from early school liking to classroom participation, and significant direct pathways from participation to achievement in kindergarten.

Ladd et al. (2000) found support for their LPA model. Analyses revealed the following: school liking assessed at the beginning of school was significantly related to classroom participation; family SES was directly related to classroom participation; and cooperative participation was directly related to achievement at year's end. In addition, school liking and family SES were both significantly, indirectly related to achievement through the mediational effect of cooperative participation, and a direct relationship emerged between school SES and achievement scores. The results from Ladd et al. demonstrate that children's early feelings about school and being a part of the school environment have a large impact on subsequent achievement scores at the end of kindergarten. Moreover, it appears that children's early school liking is indirectly related to achievement due to the fact that early school liking determines the degree to which children will participate in the classroom, which in turn impacts achievement scores. Therefore, the novel school experiences that occur in this developmental window (Ladd et al., 2000; Perry & Weinstein, 2004) may be crucial factors in subsequent school adjustment.

Miller et al. (2003) took a different approach and used screening assessments to identify children at risk for transition difficulties into Head Start preschool programs as predictors of socioemotional competence and school adjustment. Specifically, Miller et al. (2003) investigated whether results from a functional screening prior to beginning preschool would relate to school adjustment at preschool year's end.

Preliminary analyses revealed that the mean transition risk rating was "average to some transition risk." Children with lower transition risk were rated higher on assessments of emotion understanding. In addition, children classified as having lower transition risk were rated lower on indices of preschool problem behaviors and higher on indices of emotion regulation, social skills, and overall classroom adjustment. Miller et al. (2003) concluded that a functional

screening that identifies early transition risk can be used to predict preschool adjustment in low income preschoolers. Miller et al. introduced an often ignored transition period, that of home to preschool. In order for preschool programs to be as effective as possible, successful transition to these early programs is crucial.

Another approach used in assessing school adjustment discusses “goodness of fit models” in which classrooms are constructed such that they are tailored to children’s individual differences. Reed-Victor (2004) investigated how teacher appraisals of individual differences and adjustment in their classrooms contributed to school adjustment. Regression analysis investigating the influence of temperament and personality characteristics on school adjustment showed that all temperament dimensions were significant predictors of school adjustment. Of the personality characteristics assessed, extraversion (prosocial interaction with others and positive expression of emotions), low manageability (regulation of one’s emotions), and openness/conscientiousness (engagement and persistence in academic activities) accounted for 71% of the variance in school adjustment. This study highlighted the importance of considering individual differences while providing educational services for children who are most at risk for school adjustment problems. This “goodness of fit” model proposed by Reed-Victor (2004) suggests that classroom planning tailored to the individual needs of at-risk children can foster resilience that will positively influence later adjustment to school.

The work of Ladd et al., (2000), Miller et al., (2003), and Reed-Victor (2004) provide evidence for the importance of school adjustment research. However, each of these studies chose to narrow their view of school adjustment. School liking, transition risk, and individual differences are important factors in the school adjustment of young children. However, Perry and Weinstein (1998) argue that school adjustment is truly multifaceted and encompasses

academic functioning, social functioning, and behavioral functioning. Moreover, Perry and Weinstein acknowledge a common methodological mistake: investigating what the child brings to the school as opposed to the preexisting school dynamics that influence subsequent school adjustment. Perry and Weinstein posit that the social context of school is comprised of many different characteristics that work together to influence school adjustment. In addition, these authors also acknowledge the important relationships that facilitate prosocial interactions and motivated participation. Perry and Weinstein suggest that literature exploring school adjustment should incorporate representations of school adjustment in its entirety. This includes tapping into varying forms of achievement in addition to standardized tests, such as teacher and self-reports. Moreover, studies of early adjustment to school should include cognitive-linguistic and socioemotional predictors. In sum, research in the area of school adjustment is somewhat lacking in that many studies chose to narrowly focus on one domain of adjustment and/or utilize only one reporter. Investigating the broad domain of school adjustment while utilizing multiple reporters (parents, teachers, peers, and self-reports) may elicit the most accurate portrayal of school adjustment in young children.

The following sections will examine the cognitive-linguistic and socioemotional indices of school adjustment that have been explored previously.

#### *Cognitive Indices of School Adjustment*

A common theme in the school adjustment literature is to use several cognitive assessments as predictors of school adjustment and later achievement. Colarusso, Gill, Plankenhorn, and Brooks (1980) sampled 40 5-year-olds from a Head Start program to investigate the prediction of first-grade achievement through formal testing of at-risk children. Colarusso and colleagues used several cognitive batteries to predict first-grade achievement.

Only two significant relationships surfaced between the formal testing at age five and first-grade achievement. Both of the significant predictors of first-grade achievement (an auditory sequential memory task and a motor-free visual perception task) were assessments that required some self-regulation; the children were asked to sit, pay attention to instructions, and then make a decision. Colarusso et al. (1980) concluded that "...skills such as ability to follow oral directions, ability to attend to a task, and ability to visually and auditorily organize and systematically approach tasks are the best predictors of first grade achievement" (p. 361). This research implicated regulatory skills and attentional skills as key components in this assessment of achievement. However, Colarusso et al. did not consider the role of socioemotional skills in subsequent achievement and overall adjustment.

The findings of Colarusso et al. and others have created a need for investigating additional skills that, along with cognitive-linguistic abilities, may contribute to school adjustment. Spira, Bracken, and Fischel (2005) incorporated both cognitive-linguistic skills and behavioral skills as predictors of overall improvement for children who were below grade level in reading after first grade. Spira et al. followed the progress of children who scored below the 30<sup>th</sup> percentile in reading after first grade through their fourth-grade year. Measures of emergent literacy and language (e.g., phonological awareness, oral language, print knowledge, letter-word identification) and classroom behavior measured in kindergarten discriminated between those who improved in reading after first grade and those who did not. Furthermore, the presence of both of these skills in kindergarten (cognitive-linguistic and behavioral skills) predicted both first-and second-grade improvement. Having cognitive abilities is one thing, but if a child cannot sit still, regulate his/her frustrations, and apply these cognitive skills appropriately, then these cognitive skills may not provide many benefits. Not only does this research highlight the

importance of both cognitive-linguistic and behavioral skills, it also emphasizes the importance of acquiring these skills early.

### *Grade Retention*

Several researchers have chosen to focus on grade retention as a measure of school adjustment. Research in the area of grade retention has shown that lower cognitive abilities, coupled with externalizing behavior problems, are greatly associated with grade retention (Blair, 2001). Blair explored the idea that grade retention in elementary school would be associated with prenatal factors and birth status but would be mediated through child IQ and externalizing behavior at school entry for a low-income sample of African American children. Children with lower IQ, higher externalizing behavior problems, a less stimulating home environment, and small size for gestational age (SGA) had a higher risk of grade retention. In addition, it was found that in children with an  $IQ > 75$ , IQ was the sole predictor of retention. However, for children with an  $IQ \leq 75$ , IQ coupled with SGA and externalizing behavior problems distinguished retained from promoted children. Blair concluded that children with  $IQ \leq 75$  who were SGA were 26.8 times more likely to be retained than children at risk due to low IQ alone. In addition, children with an  $IQ \leq 75$  and high externalizing behaviors were 41.6 times more likely to be retained than were children at risk due to low IQ alone.

Research has also highlighted the contributions of intervention programs as mediators of grade retention. Children who participate in early intervention programs (e.g., Head Start) that emphasize parental involvement, reading/literacy skills, and other comprehensive services are less likely to be retained and less likely to be placed in special education programs (Blair, 2001; Reynolds & Temple, 1998). These early intervention programs provide children with skills and services that may greatly contribute to their future success. Reynolds and Temple explored

whether or not participation in extended intervention from preschool to second or third grade enhanced school adjustment at age 13 more so than participation in preschool and kindergarten alone. Enrollment in extended intervention was associated with significantly higher test scores in reading and math in grade 3. In addition, Reynolds and Temple highlighted the longer term effects by concluding that participation in extended intervention was associated with a significant 8.6 point increase in reading achievement and a nonsignificant 4.9 point increase in math achievement. In addition, children who participated in extended early childhood intervention for 2 or 3 years were significantly less likely to be retained by eighth grade and were less likely to receive special education services. By providing these intervention services early to children who start out at a disadvantage, there is a greater likelihood that these at-risk children will be able to overcome these difficulties.

When researching school adjustment in any population of children (e.g., Head Start or community), looking at cognitive predictors appears to be the first logical step. The rationale that children who do better on tests of achievement would be well-adjusted in the classroom may play a pivotal role in the current curriculum. However, by investigating cognitive skills as the sole predictor of school adjustment, there are several crucial skills that are not considered. The preschool environment can be an overwhelming source of new stimuli. Children are asked get along with new peers, obey new authority figures, and abide by a whole new set of rules. In addition, the poverty literature emphasizes that at-risk children are at a disadvantage in these highly stimulating environments due to environmental stressors such as violent neighborhoods, drug activity, less stimulation in the home, and possible health problems that may stem from their poverty status. Therefore, it is important to investigate predictors of school adjustment that encompass all the necessary skills to be successful.



### *Social Competence Indices of School Adjustment*

When children are introduced to a new setting such as school, there is a diverse set of classroom demands that ask children to demonstrate social and emotional maturity with teachers and peers, a motivation to learn, and academic achievement (Raver & Zigler, 1997). In addition, at-risk children may have a more difficult time due to problems and stressors that accompany low-income circumstance. Raver and Zigler defined social competence as a construct that emphasizes factors of emotional and motivational development, as well as young children's health, cognitive functioning, and achievement. Their definition of social competence recognizes all of the tools necessary for children to have prosocial interactions with others and make competent decisions within the social realm of the school environment.

The regulation of one's own emotions has proven to be a fundamental element of social competence. Research supports that competent children are considered to be those who can control their sadness, anger or frustration, remaining emotionally and behaviorally organized in the face of new, demanding challenges that the school environment provides (Denham, 1986). In addition, Raver and Zigler (1997) highlighted research that indicates that children who can remain emotionally positive during the course of group interactions are viewed by teachers and peers as more likeable and easier to get along with. Children who are more dysregulated and use more negative coping strategies tend to be less liked by their peers and have a lower peer status (Denham et al., 2003; Eisenberg et al., 1993). These findings are of no surprise. Children who have trouble regulating their emotions and display more intense negative reactions are not going to be as well liked as children who have more appropriate coping strategies. Moreover, children who exhibit greater dysregulation also exhibit more episodes of acting-out (Eisenberg, et al.,

1993). Research in the area of emotion regulation has emphasized the contributions of regulation and coping strategies to social competence and future school adjustment.

### *Emotion Regulation*

Shields, et al., (2001) investigated whether emotion regulation and emotion understanding made unique contributions toward school adjustment in a sample of 49 at-risk preschoolers. Shields et al. defined *emotion regulation* as the ability to monitor and modulate one's affective arousal such that an optimal level of engagement with the school context could be maintained. In addition, *emotion understanding* was defined as an individual's understanding of emotions in oneself and an appreciation of emotions in social partners.

Shields et al. (2001) found that teacher-reported school adjustment measured at the end of the year was significantly related to both teacher-reported emotion regulation and emotional lability/negativity assessed at the beginning of the school year. In addition, student-reported emotion understanding was significantly related to adjustment in the classroom evaluated at the end of the year. Finally, closeness and conflict in the student-teacher relationship during the first months of school were associated with both emotionality and dysregulation at the end of the school year.

Shields et al. (2001) highlighted the ability to maintain an adaptive level of arousal during the school day as a crucial element that may foster children's learning and their engagement in classroom activities. In addition, understanding emotions in one's self as well as in others may contribute to overall classroom adaptation as children utilize appropriate social skills in the classroom. Again, it is important to note that school is a social environment where children must interact effectively with others (e.g., teachers and peers) in addition to performing well academically. Although Shields et al. (2001) provide compelling evidence for the role of

emotional regulation in social competence and overall school adjustment, only a small sample of children was used (N=49). The small sample size reduces the power of the analyses. In addition, the classroom teacher filled out both the predictor and criterion measures used. This introduces obvious problems such as rater bias, compromising the validity of the measures. Further research in this area requires larger sample sizes and multiple raters.

Raver, Blackburn, Bancroft, & Torp (1999) also investigated the relations between effective emotional self-regulation and social competence with peers in a sample of 51 preschool-age children enrolled in Head Start. Children who used self-distraction as a coping strategy during a delay task were more socially preferred by their peers. In addition, children who actually touched the object of interest during the delay task were more likely to be disliked by their peers. Although this study provides additional compelling evidence for the pivotal role of emotion regulation as a predictor of social competence, Raver et al. (1999) used only a small sample of Head Start children (N=51) from a rural community. The small sample size is problematic for analytical procedures, and the rural population may not generalize to other low-income populations (e.g., inner-city).

Using elements of frustration as examples of regulatory contributors to children's kindergarten achievement, Howse, Calkins, Anastopoulos, Keane, and Shelton (2003) tested a model that hypothesized measures of behavioral self-regulation would serve as a mediator between emotion regulation and achievement scores. Howse et al. found that teacher ratings of behavioral self-regulation were significantly related to higher achievement scores in literacy, math, and reading comprehension, and parent ratings of lability/negativity and emotion regulation were related to children's literacy, math, and listening comprehension. Behavioral self-regulation mediated the relationship between emotion regulation and literacy achievement

and math achievement. This study highlights the unique contributions of emotion regulation in the classroom and is yet another example of the behavioral and regulatory contributors in the classroom.

### *Peer Relationships*

In addition to appropriate emotion regulation strategies, Raver and Zigler (1997) also highlighted the impact of positive, prosocial interactions with peers. Ladd and Price (1987) showed that children who spent more time in aggressive interactions and who had more negative peer contacts in preschool were more likely to be rejected by their peers and seen as hostile-aggressive by their teachers. In addition, children who were identified as having more cooperative play and more positive peer contacts had significantly more nominations of group acceptance, peer liking, and peer involvement. Additional research by Diehl, Lemerise, Caverly, Ramsay, and Roberts (1998) illustrated that peer acceptance and having friends each significantly increased the prediction of achievement scores. This research supports the assertion that having at least one friend is a protective factor for school adjustment problems, and that rejected children are at greater risk for school adjustment problems. Overall, children who have at least one friend and who are viewed as accepted by their peers have higher achievement scores and score higher on indices of school adjustment (Diehl et al., 1998; Ladd, Kochenderfer, & Coleman, 1996). Children who are competent in their social surroundings (e.g., with peers, teachers, etc.) perform better in all areas of school (e.g., relationships, academics, etc.).

### *Gender Differences*

Research examining the influence of gender differences has also provided ample evidence in school adjustment research. Specifically, gender differences in young children have been found for social competence and peer relations. Denham et al. (2003) found that emotion

regulation predicted age three to four social competence more strongly for girls than for boys. These results speak to the different teacher expectations for girls and boys. Girls are often expected to exhibit greater regulation in the classroom while boys are expected to be more impulsive and hyperactive. Therefore, teachers may have different standards of social competence for girls and boys.

Lemerise (1997) also found gender differences in her investigation of peer relations in mixed-age preschool and primary classrooms. Lemerise found that boys were less accepted by their classmates as defined by peer acceptance, social preference, and gets along nominations. Not only has research shown that regulatory strategies greatly contribute to social competence and school adjustment, it appears that boys in particular suffer when lacking these skills. The importance of regulatory strategies in young children may be overlooked due to the fact that it is the atypical behaviors exhibited by girls and boys that really get the attention of others. A girl may easily be labeled aggressive and rated lower in indices of social competence if she is the least bit impulsive or hyperactive. In the same regard, a young boy may be labeled timid, shy, and maybe even anxious and withdrawn if he is not engaging in more prototypical “male” behaviors.

In sum, past research has concluded that gender may in fact be a strong predictor of social competence and peer relations, which in turn predict school adjustment. However, it is important to consider teacher expectations for girls and boys independently and how these gender-specific expectations may factor in when assessing social competence and school adjustment.

### *Current Study*

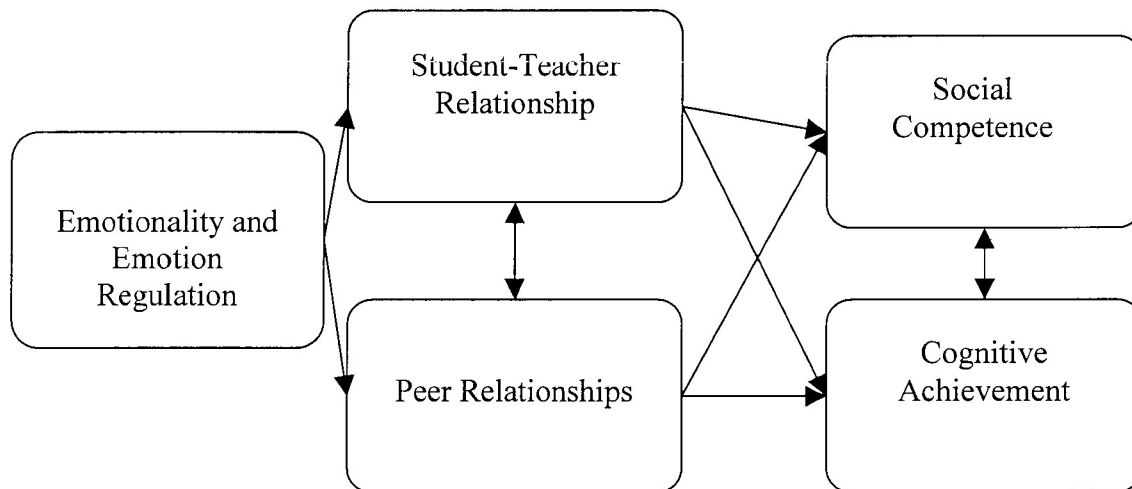
The goals of the current study were to examine previously validated cognitive-linguistic and socioemotional measures as indices of school adjustment, and evaluate a new, all encompassing model of school adjustment. The present study defined school adjustment as teacher-rated social competence and indices of cognitive achievement. The sample included preschool-age children in a local Head Start program. Multiple reporters were employed to eliminate biases and provide the most accurate information about the sample.

Research has emphasized appropriate emotion regulation strategies as predictors of school adjustment (Howse et al., 2003; Raver et al., 1999; Shields et al., 2001). Children who are able to appropriately regulate their emotions are more likely to have positive interactions in the classroom which in turn will influence their overall adjustment to the classroom environment. Thus, the first hypothesis states that indices of emotion regulation and emotional lability/negativity will predict the quality of teacher and peer relationships.

School adjustment research in young children has also consistently focused on classroom relationships as key components to successful adjustment. Prosocial interactions with teachers and peers contribute to successful adaptation to new school environments. Literature investigating the impact of student-teacher relationships has concluded that the quality of the student-teacher relationship is a good predictor of social competence in the classroom and overall school adjustment (Shields et al., 2001). In addition, research investigating friendships and positive peer relationships concludes that prosocial peer relations significantly predict school adjustment and overall achievement (Diehl et al., 1998; Ladd et al., 1987). Therefore, the second hypothesis states that the influence of emotion regulation and emotional lability/negativity on

school adjustment will be mediated by the quality of the student-teacher relationship and positive peer relationships.

In summary, it is hypothesized that indices of emotion regulation will predict the quality of the student-teacher relationship (as reported by the teacher) and peer relationships. The quality of the student-teacher relationship and peer relationships will in turn predict school adjustment as defined by teacher-reported social competence and measures of cognitive-linguistic achievement. The moderating effects of gender were not examined in this study but were used as a control to further examine the hypothesized model. The model below highlights the hypothesized pathways that will be examined.



## CHAPTER 2

### Method

#### *Participants*

Upon receiving HSRB approval (see Appendix A), a local Head Start facility was contacted by the principal investigator for participation in a pilot study investigating school adjustment in Head Start children. Upon receiving Head Start's interest and agreement to participate, parents were introduced to the purpose of the study and notified about the desired participation of parents, teachers, and students. Each participating parent/guardian was given a \$5 gift certificate to Wal-Mart. Each participating teacher was given \$50 gift certificate to the store of their choice for classroom supplies. Ninety percent of the 4- and 5-year-olds (n=36, 15 boys, 24 four-year-olds) attending the child care center and his/her parents agreed to participate. Teachers from the three participating preschool classrooms also agreed to participate.

#### *Measures*

*Cognitive Measures.* Four subtests from the Woodcock-Johnson III Test of Achievement (WJ-III, Woodcock, McGrew, & Mather, 2001) were used as indicators of cognitive achievement. The WJ-III utilizes standardized scores and has been validated for both preschool children and at-risk populations. The letter-word identification subtest, applied quantitative problems subtest, understanding directions subtests, and picture vocabulary subtest were administered to each child. The letter-word identification subtest measures word identification skills. This test required each child to identify letters and pronounce words correctly, and the items became more difficult as the words appear less often in written English. The applied quantitative problems subtest was an assessment of basic math skills. Children were asked to analyze and solve math problems.



The understanding directions subtest is an oral language measure that requires each child to follow a series of audio-recorded instructions. The picture vocabulary subtest is an assessment of oral language development and word knowledge. The children are required to identify pictured objects. The items become more difficult as they appear less frequently in the environment. Internal consistency for the composite score of the Woodcock-Johnson was good ( $\alpha = .75$ ).

The second cognitive measure used was Get it! Got it! Go! (GGG, McConnell, Priest, Davis, & McEvoy, 2000). This is a measure of preschool phonological awareness and has been validated for preschool and at-risk populations. The first subtest used was a measure of alliteration. Each child was asked to view a series of cards with four pictures on it: a stimulus picture and three additional pictures. Each child was assessed on his/her ability to name the picture that *starts with the same sound* as the stimulus picture. This task was scored by the number of correct answers given in two minutes. The second subtest used was a rhyming measure. The procedure for this subtest was the same as the alliteration subtest, except children were asked to *find the picture that rhymed* with the stimulus picture. Internal consistency for the composite score of the GGG was moderate ( $\alpha = .61$ ).

*Emotion Measures.* Two measures of emotion regulation were used in this study. The first measure used was the Emotion Regulation Checklist (ERC, Shields & Cicchetti, 1997). This measure is composed of 24 questions that addressed emotion regulation (“Can say when she/he is feeling sad, angry or mad, fearful or afraid.”), and lability/negativity (“Exhibits wide mood swings.”). Both parents and teachers filled out the ERC. The ERC has been validated for preschool children and at-risk populations. Both subscales reached adequate internal consistency for teachers (lability/negativity,  $\alpha = .77$ ; emotion regulation,  $\alpha = .77$ ) and parents (lability/negativity,  $\alpha = .73$ ; emotion regulation,  $\alpha = .65$ ).

The second emotion measure used was a Delay of Gratification (DOG) task adapted from Raver et al. (1999). In this task, each child is introduced to a hidden “cameraperson” and an “experimenter.” The experimenter generated the child’s interest in a surprise inside a small box. The child was informed that he/she was going to make a movie with the surprise inside the box. The experimenter then stated that she forgot something in her car. The child was asked not to touch the box while the experimenter left the room. The child was then videotaped for 3 minutes while the experimenter was out of the room. After three minutes, the experimenter returned, allowed the child to open the box, and then participate in a fun activity.

Each 3 minute, videotaped session in the DOG task was coded for observations of emotional tone and behavioral regulation. Assessment of emotional tone and behavioral regulation were coded second-by-second by two independent raters. Emotional tone was derived from a combination of facial expression, body language, and vocal tone and was coded on a 7-point scale ranging from 1 = very negative to 7 = very positive. Behavioral regulation was coded on 6 different dimensions that assessed visual and physical attention toward the delay object, passive and active engagement with non-delay objects, and self-soothing behaviors. Inter-rater reliability (Cohen’s kappa) was calculated on eight of thirty-six randomly chosen sessions (22%). Inter-rater agreement was strong with  $\kappa = .96$  for emotional tone and  $\kappa = .88$  for behavioral regulation. Indices of immature behavioral regulation were defined as immature distraction strategies and were used as an index of emotion regulation.

*Social Functioning Measures.* The Student-Teacher Relationship Scale (STRS, Pianta, 1988), completed by the teachers, assessed the quality of the student-teacher relationship. The STRS has been validated for both preschool and at-risk children and is composed of 28 questions addressing three dimensions of the student-teacher relationship. Internal consistencies for this

sample are indicated for each scale: conflict ( $\alpha = .77$ ), closeness ( $\alpha = .76$ ), and dependency ( $\alpha = .64$ ). These three subscales were aggregate to form a total score, or total overall measure of relationship quality.

Teachers also completed the Social Competence and Behavior Evaluation (SCBE-30, LaFreniere, Dumas, Dubeau, & Capuano, 1992). The SCBE-30 has been validated for preschool and at-risk children. This measure was composed of 30 questions addressing three dimensions of social behavior in the classroom; internal consistencies for this sample are indicated for each scale: social competence ( $\alpha = .78$ ), anxiety-withdrawal ( $\alpha = .77$ ), and anger-aggression ( $\alpha = .79$ ).

The last measure of social functioning used was the sociometric interview (Asher, Singleton, Tinsley, & Hymel, 1979). The sociometric interview, appropriate for use with preschoolers and at-risk children, was completed by each child and assessed aspects of peer relations. A Polaroid picture was taken of every child in each of the three participating classrooms to use stimuli for the task. Each participating child was asked to identify the classmate in the photograph and to rate how much he/she liked to play with each peer in his/her class on a scale from 1 (not much at all) to 3 (most of all). These ratings were averaged and standardized to yield an overall peer liking rating. In addition, children were asked to identify three of the following from their class: children they liked the most, peers who fight with others, shy peers, and easygoing peers. These nominations were tallied and standardized within the class. "Friendships" in each class were defined as reciprocal "like most" nominations. A Friendship Status variable was created that classified children as having no friends or one or more friends.

*Procedure*

The experimenters spent two weeks interacting with the children in the participating classrooms so that the children would be familiar with those involved with the study. The experimenters came to the Head Start facility during times designated by each teacher to administer all measures used. Each parent was given the parent version of the ERC. Each teacher was given a packet that included the teacher version of the ERC, STRS, and SCBE-30. The WJ-III, GGG, DOG, and the sociometric interview were completed by the children with the help of the experimenters involved in the study.

## CHAPTER 3

### Results

#### *Overview of Analyses Examining School Adjustment*

One set of analyses examined the effects of gender and friendship status (having no friends versus having one or more friends) on indices of school adjustment. A 2 (gender) x 2 (friendship status) ANOVA was conducted on the measure of immature distraction strategies in the DOG task. Three 2 (gender) x 2 (friendship status) MANOVAs were conducted on (a) the teachers' measures (two subscales from the TERC; three subscales from the STRS; and three subscales from the SCBE-30), (b) the parent measures (two subscales from PERC), and (c) the four subtests of the Woodcock-Johnson Tests of Achievement (letter-word identification, understanding directions, applied quantitative problems, and picture vocabulary). Significant multivariate analyses were followed up with univariate ANOVAs and Tukey's HSD post hoc tests.

The second set of analyses tested the proposed model of school adjustment with a series of hierarchical regression analyses. First, indices of emotion regulation and emotional lability/negativity were examined as predictors of both the quality of the student-teacher relationship and peer relationships. Next, the relationship variables were examined as mediators of emotion regulation and emotional lability/negativity and school adjustment as defined by (a) teacher-reported social competence and (b) measures of cognitive achievement. Although the conceptual model includes mediation, examining the relationship variables as mediators of emotion regulation and emotionality and measures of cognitive achievement was not *explicitly* tested here.

### *Effects of Gender and Friendship Status on School Adjustment*

The means and standard deviations for all variables are presented in Table 1. The 2 (gender) x 2 (friendship status) ANOVA on immature distraction strategies showed a significant main effect of friendship status,  $F(1,32) = 4.82, p = .035$ . Children with no friends ( $M = 60.67$ ) spent significantly more time engaged in immature distraction strategies than did children with friends ( $M = 18.06$ ).

Because many of the teacher variables were intercorrelated, 2 (gender) x 2 (friendship status) MANOVA was conducted on all of the teacher measures (teacher-reported emotion regulation and emotional lability/negativity; three dimensions of the student-teacher relationship; and three dimensions of teacher-reported social competence). There were significant multivariate main effects of friendship status  $F(8, 25) = 6.10, p < .000$ , and gender  $F(8, 25) = 7.11, p = .000$ . In addition, there was a significant multivariate interaction of friendship status and gender  $F(8, 25) = 4.77, p = .001$ . The significant multivariate effects were followed up with 2 (gender) x 2 (friendship status) univariate ANOVAs on each of the dependent measures. Significant effects were examined with Tukey's HSD post hoc tests; all post hoc results are reported at  $p < .05$ . Results of these analyses are reported below.

#### *Teacher-Reported Emotionality and Emotion Regulation*

Significant main effects of gender and friendship status were modified by a significant interaction between gender and friendship status on the emotional lability/negativity subscale,  $F(1,32) = 8.99, p = .022$ . Tukey's HSD post hoc analyses revealed that boys with no friends had significantly higher teacher-reported lability/negativity problems than did boys with friends, girls with friends, and girls with no friends (see Figure 1). There were no significant main effects or interactions of gender and friendship status on the emotion regulation subscale.

Table 1

*Means and Standard Deviations for all Measures*

Measure	Mean	Range	Standard Deviation
# Correct Alliteration (GGG)	2.39	0-9	2.67
# Correct Rhyming (GGG)	2.78	0-12	3.16
GGG COMP	5.17	0-21	4.95
WJ Letter-Word Identification	105.69	73-129	11.83
WJ Understanding Directions	111.19	69-144	13.61
WJ Applied Problems	103.56	61-127	13.42
WJ Picture Vocabulary	100.69	54-118	10.83
WJCOMP	105.28	85.25-123.25	9.41
TERC Emotionality	26.11	15-52	9.48
TERC Emotion Regulation	27.42	17-32	3.98
PERC Emotionality	25.74	16-40	5.53
PERC Emotion Regulation	29.86	26-32	1.88
Immature Distraction	30.64	0 - 172	51.30
STRS Conflict Subscale	19.50	12-44	10.15
STRS Closeness Subscale	47.86	35-55	5.15
STRS Dependency	9.08	5-15	2.58
STRS Total	121.28	84-140	13.53
SCBE Social Competence	40.53	21-59	10.58
SCBE Anxiety-Withdrawal	17.42	10-47	6.98
SCBE Anger-Aggression	20.69	10-49	10.95

*Note.* WJ = Woodcock-Johnson Tests of Achievement; TERC = Teacher-reported Emotion Regulation Checklist; PERC = Parent-reported Emotion Regulation Checklist; STRS = Student-Teacher Relationship Scale; SCBE-30 = Social Competence and Behavior Evaluation

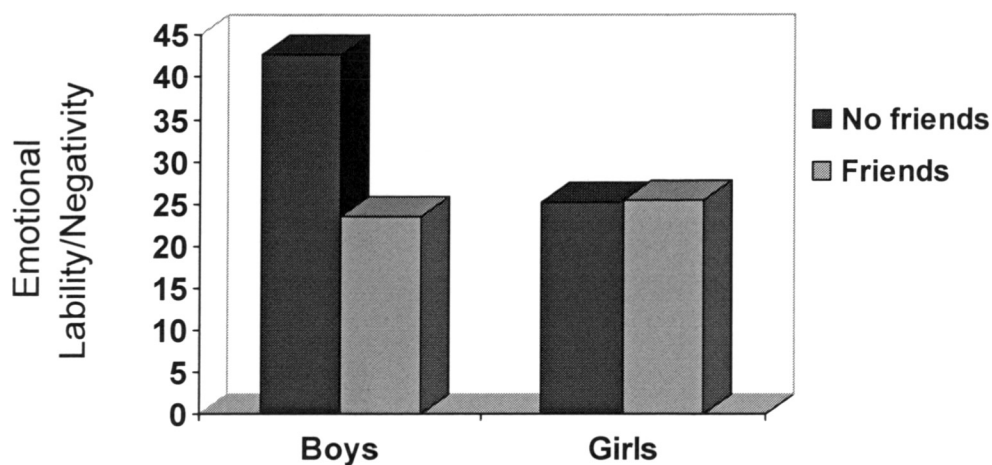


Figure 1. Interaction of gender and friendship status for teacher-rated lability/negativity.

#### *Student-Teacher Relationship Quality (STRS)*

Univariate analyses revealed a significant main effect of friendship status on the closeness subscale  $F(1,32) = 8.10, p = .008$ ; children with friends ( $M = 49.03$ ) had closer relationships with their teachers than did children with no friends ( $M = 44.17$ ). A significant main effect of gender was also found on the closeness subscale,  $F(1,32) = 13.15, p = .001$ ; girls ( $M = 49.70$ ) had closer relationships with their teachers than did boys ( $M = 43.50$ ). Finally, significant main effects of gender and friendship status on the conflict subscale were qualified by an interaction between gender and friendship status,  $F(1,32) = 12.29, p = .001$ ; boys with no friends had more conflict with their teachers than did boys with friends, girls with friends, and girls with no friends (see Figure 2).



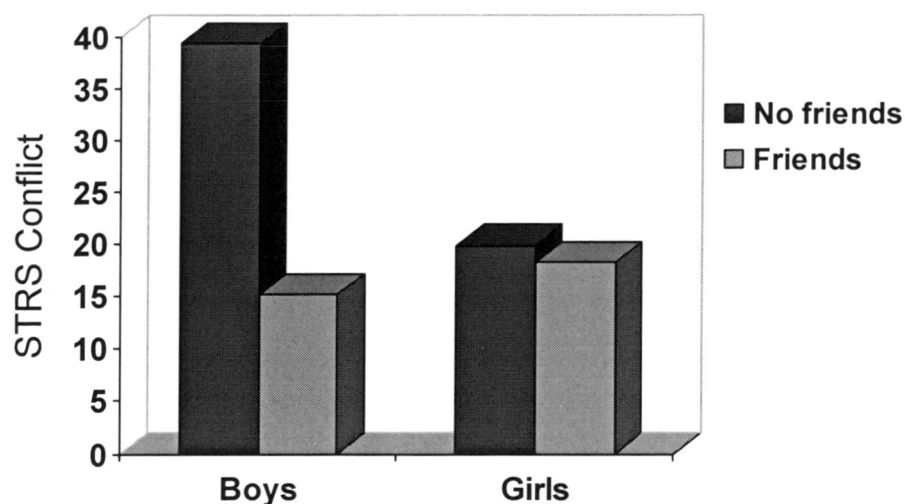


Figure 2. Interaction of gender and friendship status for STRS conflict.

#### *Teacher-Reported Classroom Behaviors (SCBE-30)*

Univariate analyses revealed a significant main effect of friendship status for the social competence subscale,  $F(1,32) = 5.07, p = .031$ ; children with friends ( $M = 42.45$ ) had higher teacher-reported social competence than did children with no friends ( $M = 33.83$ ). A significant main effect of gender was also found for the social competence subscale of the SCBE-30,  $F(1,32) = 6.98, p = .013$ ; girls ( $M = 43.20$ ) had higher teacher-reported social competence than did boys ( $M = 33.08$ ). Finally, a significant main effect of friendship status for teacher-reported anger-aggression was qualified by a significant interaction of gender and friendship status,  $F(1,32) = 5.17, p = .030$ ; boys with no friends exhibited more anger and aggression in the classroom than boys with friends and girls with friends. In addition, girls with no friends exhibited more anger and aggression in the classroom than boys with friends (see Figure 3).

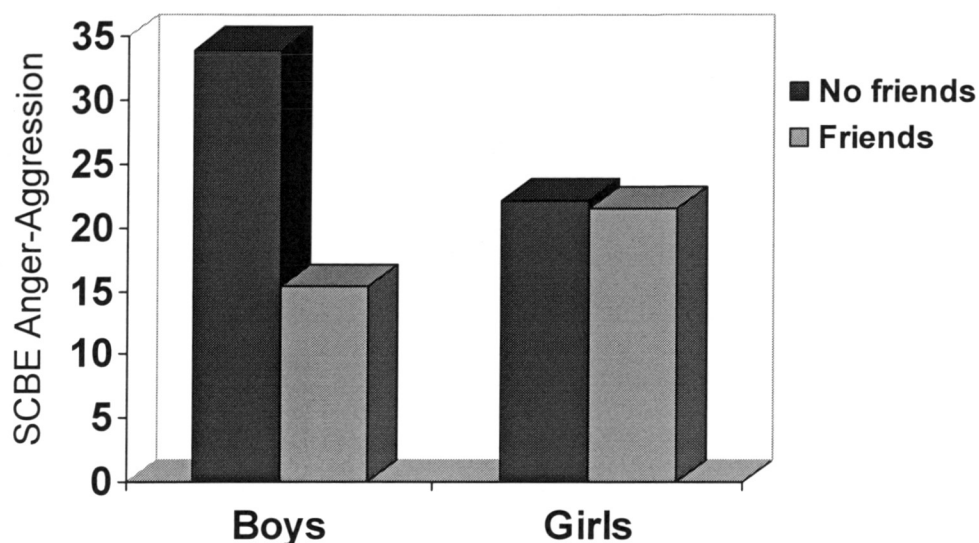


Figure 8. Interaction of gender and friendship status for teacher-rated anger-aggression.

#### *Parent-Reported Emotionality and Emotion Regulation*

A 2 (gender) x 2 (friendship status) MANOVA was conducted on the parent reported emotion regulation and emotional lability/negativity. There were no significant multivariate effects in this analysis.

#### *Woodcock-Johnson Subtests*

Because the Woodcock-Johnson subtest scores were intercorrelated, a 2 (gender) x 2 (friendship status) MANOVA was conducted on the four subtests of the Woodcock-Johnson. There was a significant multivariate interaction of gender and friendship status for the Woodcock-Johnson subtests,  $F(4,29) = 2.85, p = .042$ . The MANOVA was followed up with 2 (gender) x 2 (friendship status) ANOVAs on the four subtests of the Woodcock-Johnson. Follow-up univariate analyses revealed a main effect of friendship status on the picture vocabulary subscale that was modified by a significant interaction of gender and friendship status,  $F(1,32) = 7.27, p = .011$ . Boys with friends, and girls, had better vocabulary skills than

boys with no friends (Figure 4). There were no significant main effects or interactions of gender and friendship status on the letter-word identification subtest, the understanding directions subtest, or the applied quantitative subtest.

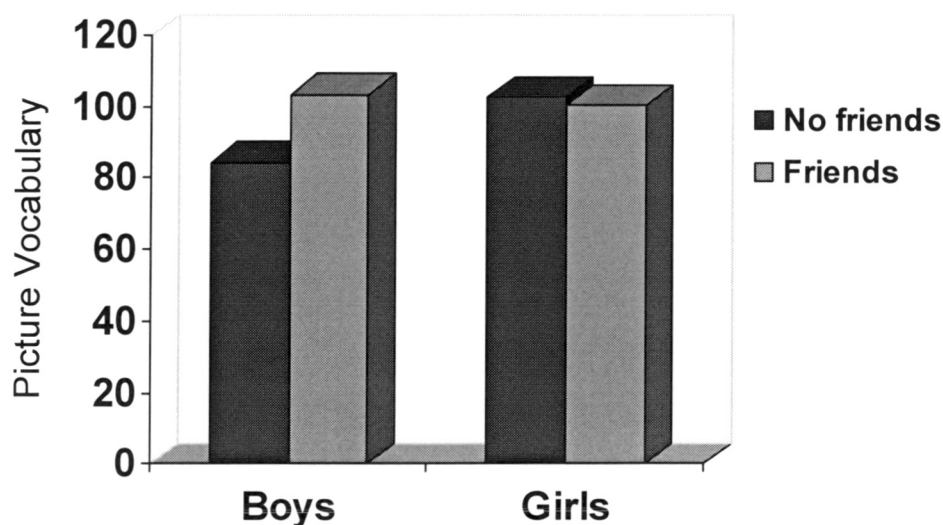


Figure 9. Interaction of gender and friendship status for Woodcock-Johnson picture

#### *Analyses Testing the Proposed Model of School Adjustment*

Analyses examining the model of school adjustment addressed two questions. The intercorrelations for all the measures are presented in Table 2. The proposed model is presented again to clarify the paths that were examined with the analyses. It is important to note that only relationships between independent predictors were investigated due to the fact all of the teacher measures were intercorrelated. In addition, gender was controlled in all of the following analyses in order to examine classroom relationships independent of gender. The first question examined emotion regulation and emotional lability/negativity as predictors of peer and teacher relationships. The second question examined whether the quality of relationships with peers and teachers mediated the relationship between emotionality and emotion regulation and school adjustment. The results will be examined in reference to the two questions presented above.

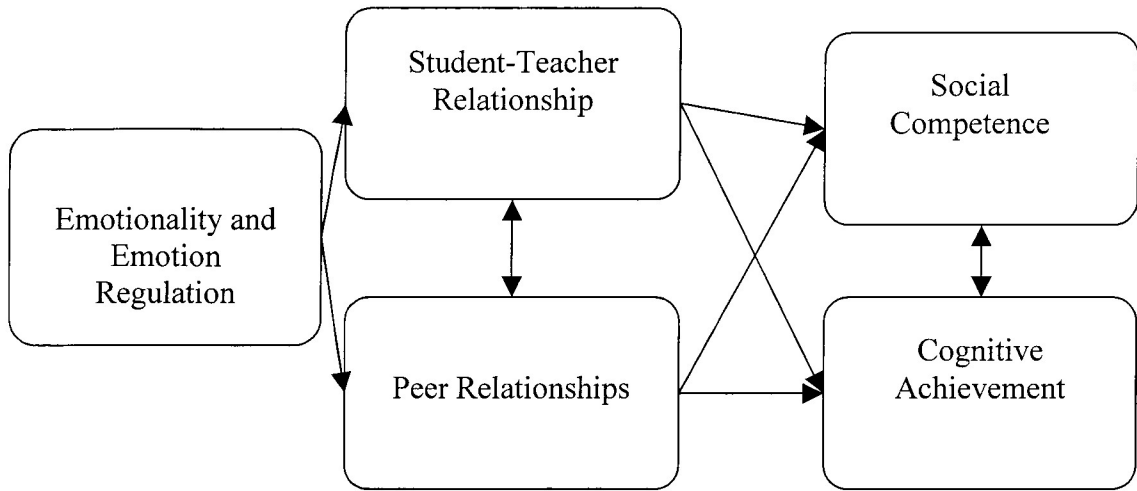


Table 2

*Correlation Matrix for all Measures*

	STRS Conflict	STRS Closeness	STRS Dependency	STRS Total	Liking Rating
STRS Conflict	—	-.512**	-.055	-.934***	-.438**
STRS Closeness		—	.139	.738***	.363*
STRS Dependency			—	-.097	.119
STRS Total				—	.444**
Liking Rating					—
SCBE Social Competence					
SCBE Anxiety- Withdrawal					
SCBE Anger-Aggression					
GGG Composite					
Woodcock- Johnson Composite					
TERC Emotional Lability/Negativity					
TERC Emotion Regulation					
PERC Emotional Lability/Negativity					
PERC Emotion Regulation					
Immature Distraction					

\*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

Table 2 continued

*Correlation Matrix for all Measures*

	SCBE Social Competence	SCBE Anxiety- Withdrawal	SCBE Anger- Aggression	GGG Composite	Woodcock- Johnson Composite
STRS Conflict	-.159	.197	.862***	.057	.108
STRS Closeness	.450**	-.271	-.305	.148	.055
STRS Dependency	-.082	.058	.081	-.070	-.047
STRS Total	.306	-.262	-.778***	.027	-.051
Liking Rating	.363*	-.334*	-.432**	.332*	.396*
SCBE Social Competence	—	-.081	-.299	.547**	.421*
SCBE Anxiety- Withdrawal		—	.127	-.115	.059
SCBE Anger- Aggression			—	-.018	.024
GGG Composite				—	.595***
Woodcock-Johnson Composite					—
TERC Emotional Lability/Negativity					
TERC Emotion Regulation					
PERC Emotional Lability/Negativity					
PERC Emotion Regulation					
Immature Distraction					

\*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

Table 2 continued

*Correlation Matrix for all Measures*

	TERC Emotional Lability/ Negativity	TERC Emotion Regulation	PERC Emotional Lability/ Negativity	PERC Emotion Regulation	Immature Distraction
STRS Conflict	.833***	-.450**	.314	-.109	.166
STRS Closeness	-.367*	.406*	-.228	.108	-.141
STRS Dependency	.188	.086	.157	-.290	.013
STRS Total	-.800***	.476**	-.354*	.180	-.181
Liking Rating	.496**	.472**	-.065	.159	-.237
SCBE Social Competence	-.352*	.550**	-.024	.029	-.285
SCBE Anxiety- Withdrawal	.238	-.465**	.035	-.060	-.142
SCBE Anger- Aggression	.862***	-.496**	.264	-.147	.044
GGG Composite	.047	.202	.078	.003	-.268
Woodcock- Johnson Composite	-.154	.162	-.264	.138	.336*
TERC Emotional Lability/Negativity	—	-.665***	.210	-.101	.070
TERC Emotion Regulation		—	-.192	-.068	.000
PERC Emotional Lability/Negativity			—	-.262	.283
PERC Emotion Regulation				—	-.029
Immature Distraction					—

\*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

*Do emotionality and emotion regulation predict peer and teacher relationships?*

Preliminary analyses revealed significant correlations between teacher-reported emotional lability/negativity, teacher-reported emotion regulation, and the peer liking rating. In addition, immature distraction on the DOG task (an independent measure of emotion regulation) was negatively correlated with peer liking rating. Because the two teacher measures were significantly correlated, immature distraction was used as an index of emotion regulation in the analyses to provide additional emotion regulation information from another source. To examine indices of emotionality and emotion regulation as predictors of liking rating, the first regression model examined immature distraction strategies and teacher-reported emotional lability/negativity as predictors of peer liking rating while controlling for gender. Analyses revealed that this model accounted for 31% of the variance in peer liking rating (total adjusted  $R^2 = .243$ ,  $p = .003$ ) and that teacher-reported emotional lability/negativity was a significant predictor (see Table 3).

To examine the relationship between parent-reported emotional lability/negativity and the quality of the student teacher relationship, gender was entered as the first step in this regression model, followed by parent-reported emotionality in the second step. Analyses revealed that this model accounted for 15% of the variance in the quality of the student-teacher relationship (total adjusted  $R^2 = .10$ ,  $p = .043$ ) and that parent-reported emotional lability/negativity was a significant predictor of teacher-reported student-teacher relationship quality (see Table 4).



Table 3

*Summary of Hierarchical Regression Analysis for Immature Distraction and Teacher-Reported Emotional Lability/Negativity Predicting Liking Rating (N = 36).*

Variable	B	Standard Error	Beta	t	F Change
Step 1					.173
Gender	-.148	.355	-.071	-.415	
Step 2					7.006**
Gender	-.302	.308	-.145	-.979	
Immature Distraction	-.004	.003	-.215	-1.456	
TERC Emotional Lability/Negativity	-.054	.016	-.497	-3.353**	

*Note.*  $R^2 = .005$  for Step 1;  $\Delta R^2 = .303$  for Step 2 ( $p < .01$ ).

\*\* $p < .01$ .

*Does relationship quality mediate emotionality and emotion regulation in the prediction of school adjustment?*

Based on the proposed model, the peer liking rating was explored as a mediator between emotion regulation and the indices of school adjustment. Peer liking rating as a mediator between parent-reported emotion regulation and emotional lability/negativity and indices of school adjustment was not explored due to a lack of significant relationships in the correlation analyses. However, the significant relationship between parent-reported emotional lability/negativity and the quality of the student teacher-relationship was investigated by examining the STRS as a mediator of parent-reported emotional lability/negativity and performance on the Woodcock-Johnson Tests of Achievement.

Peer liking rating was examined as a potential mediator of emotion regulation (as defined by immature distraction) and emotional lability/negativity (as defined by teacher-reported

emotional lability/negativity) and performance on the Woodcock-Johnson while controlling for gender. This specific pathway provides information about emotion regulation *and* emotional lability/negativity. In this model, gender was entered first, then immature distraction and teacher-reported lability/negativity, and finally peer liking rating. The final model accounted for 36% of the variance in performance on the Woodcock-Johnson (total adjusted  $R^2 = .273$ ,  $p = .006$ ) and revealed that gender and liking rating were significant predictors of cognitive performance (see Table 5).

Table 4

*Summary of Hierarchical Regression Analysis for Parent-Reported Emotional Lability/Negativity Predicting Student-Teacher Relationship (N = 36).*

Variable	B	Standard Error	Beta	t	F Change
Step 1					1.223
Gender	5.100	4.612	.189	1.106	
Step 2					4.423*
Gender	4.492	4.399	.166	1.021	
PERC Emotional Lability/Negativity	-.840	.400	-.343	-2.103*	

*Note.*  $R^2 = .036$  for Step 1;  $\Delta R^2 = .117$  for Step 2 ( $p < .05$ ).

\* $p < .05$ .

Finally, the quality of the teacher-child relationship was examined as a mediator between parent-reported emotional lability/negativity and cognitive performance on the Woodcock-Johnson. This model was not significant (see Table 7). We did not explore this same model with teacher-reported social competence as an outcome measure due to collinearity between teacher-reported social competence and the measure of the quality of the student-teacher relationship.

Table 5

*Summary of Hierarchical Regression Analysis for Immature Distraction, Teacher-Reported Emotional Lability/Negativity, and Liking Rating Predicting Performance on the Woodcock-Johnson Tests of Achievement (N = 36).*

Variable	B	Standard Error	Beta	t	F Change
Step 1					2.680
Gender	5.088	3.108	.270	1.637	
Step 2					1.923
Gender	4.631	3.056	.246	1.515	
TERC Emotional Lability/Negativity	.037	.161	.037	.227	
Immature Distraction	-.058	.030	-.317	-1.958	
Step 3					8.862**
Gender	6.041	2.779	.321	2.174*	
TERC Emotional Lability/Negativity	.291	.168	.293	1.736	
Immature Distraction	-.038	.027	-.206	-1.374	
Liking Rating	4.676	1.571	.516	2.977**	

*Note.*  $R^2 = .073$  for Step 1;  $\Delta R^2 = .099$  for Step 2;  $\Delta R^2 = .184$  for Step 3 ( $p < .01$ ).

\*\* $p < .01$ .

Table 6

*Summary of Hierarchical Regression Analysis for Immature Distraction and Liking Rating as Predictors of Teacher-Reported Social Competence (N = 36).*

Variable	B	Standard Error	Beta	t	F Change
Step 1					3.151
Gender	6.162	3.471	.291	1.775	
Step 2					2.632
Gender	5.667	3.405	.268	1.665	
Immature Distraction	-.054	.033	-.261	-1.622	
Step 3					4.745*
Gender	6.341	3.241	.300	1.956	
Immature Distraction	-.037	.032	-.177	-1.125	
Liking Rating	3.487	1.601	.342	2.178*	

*Note.*  $R^2 = .085$  for Step 1;  $\Delta R^2 = .068$  for Step 2;  $\Delta R^2 = .109$  for Step 3 ( $p < .05$ ).  
\* $p < .05$ .

### *Summary of Results*

Analyses examining the effects of gender and friendship status on school adjustment revealed gender and friendship differences on indices of emotion regulation and emotional lability/negativity, student-teacher relationship quality, teacher-reported social competence, and vocabulary skills. More specifically, children with friends, and girls, fared better on indices of school adjustment.

Analyses examining the proposed model of school adjustment revealed that indices of emotion regulation and emotional lability/negativity were significant predictors of teacher and

peer relationships. In turn, peer relationships were significant predictors of school adjustment. There is evidence that these classroom relationships are potential mediators of indices of emotion regulation and emotional lability/negativity in the prediction of school adjustment. These relationships should be examined in subsequent studies.

Table 7

*Summary of Hierarchical Regression Analysis for Parent-Reported Emotional Lability/Negativity and the Student-Teacher Relationship Predicting Performance on the Woodcock-Johnson Tests of Achievement (N = 36).*

Variable	B	Standard Error	Beta	t	F Change
Step 1					2.301
Gender	4.808	3.169	.255	1.517	
Step 2					2.251
Gender	4.501	3.118	.239	1.444	
PERC Emotional Lability/Negativity	-.425	.283	-.248	-1.500	
Step 3					1.937
Gender	5.273	3.123	.280	1.688	
PERC Emotional Lability/Negativity	-.569	.298	-.333	-1.912	
STRS Total Score	-.172	.123	-.246	-1.392	

*Note.*  $R^2 = .065$  for Step 1;  $\Delta R^2 = .061$  for Step 2;  $\Delta R^2 = .051$  for Step 3 ( $p < .05$ ).

## CHAPTER 4

### Discussion

#### *Overview*

The current study investigated school adjustment in Head Start children by examining the effects of gender and friendship on school adjustment. The current study also examined a proposed model of school adjustment.

#### *Effects of Gender and Friendship Status on School Adjustment*

Analyses examining the effects of gender and friendship status on school adjustment revealed that *children with friends* had closer relationships with their teachers and were rated as more socially competent by their teachers than were children with no friends. *Girls* had closer relationships with their teachers and were more socially competent than boys, and both *boys with friends and girls* had better vocabulary skills. Analyses also revealed that *children with no friends* used more immature distraction strategies than children with friends. Moreover, *girls with no friends* exhibited more anger and aggression than boys with friends, and *boys with no friends* exhibited more anger and aggression, had more conflict with their teacher, and were rated higher on teacher-reported emotional lability/negativity. Overall children with friends, and girls, fared better on indices of school adjustment. Moreover, having friends in preschool appeared to enhance children's adaptation to the preschool context particularly for boys.

The effects of friendship status and gender found here support the hypotheses of the current study as well as previous research findings. It was hypothesized that friendship status and gender would significantly affect indices of school adjustment. The friendship status differences found in this study support research that friendships significantly contribute to positive, prosocial interactions with teachers and peers (Ladd et al., 1987). In addition, research

has shown that social competence (e.g., having friends and quality relationships with teachers) predicts cognitive achievement and overall school adjustment (Diehl, et al., 1998; Ladd et al., 1996). Children who do not have quality relationships in the classroom are not going to enjoy participating in the classroom as much as children who do possess these quality teacher and peer relationships. This directly affects cognitive achievement because children who do not have friends and who have conflictual relationships with their teacher are not going to view the classroom as an enjoyable environment to learn. Everything about school (e.g., performing well in school, participating in the classroom, making friends) becomes a daunting task instead of a pleasant experience.

The gender differences found in this study support the gender differences in classroom competence and classroom behavior expectancies found in previous research (Denham et al., 2003; Lemerise et al., 1997). Teachers, parents, and society alike expect girls to regulate their emotions and behaviors and engage in more prosocial interactions to a greater extent than they expect for boys. In addition, these same attributes are often used to define socially competent children *and* adults. Therefore, it is of no surprise that this study concluded that girls appeared more adjusted to the classroom setting. In addition, it may be posited that because girls have more advanced behavioral expectations, teachers may spend more time reinforcing positive behaviors, emotion regulation, and prosocial interactions in girls than in boys. Prototypical behaviors for young boys often include impulsivity and hyperactivity; therefore, teachers may manifest a “boys will be boys” mentality. However, these gender-specific expectations may inadvertently influence teacher ratings of classroom social competence. More importantly, boys may suffer the future consequences of not gaining these prosocial skills early.

### *Proposed Model of School Adjustment*

The first question examined in these analyses investigated emotionality and emotion regulation as predictors of teacher and peer relationships. Analyses revealed that teacher-reported emotional lability/negativity significantly predicted peer liking rating independent of gender. In addition, parent-reported emotional lability/negativity predicted student-teacher relationship quality independent of gender. These conclusions support the hypothesized contributions of emotionality to peer and teacher relationships. Specifically, emotionality in the classroom contributed to peer interactions and children's overall liking rating by their peers and was the most predictive of classroom relationships. In addition, the emotional lability/negativity observed by the parents predicts the quality of the student-teacher relationship at school. This supports previous research showing that the regulatory strategies being used by children directly affect their relationships in the classroom (Raver et al., 1999; Shield et al., 2001). Children who are unable to utilize appropriate regulation strategies may not be as effective when trying to make friends or foster a good relationship with their teachers. Emotion regulation is an index of socially acceptable and competent behavior, even by peers' standards. Therefore, it appears that the inability to regulate (as indicated by emotional lability/negativity) is most predictive of classroom relationships.

The second question addressed relationship quality as a potential mediator of emotionality and emotion regulation in the prediction of school adjustment. Peer liking rating surfaced as a potential mediator of the effects of immature distraction (an index of emotion regulation) and teacher-reported emotional lability/negativity in predicting performance on the Woodcock-Johnson. In addition, peer liking rating mediated the effects of immature distraction in the prediction of teacher-reported social competence. These two significant regression models



provide support for the possible mediating effects of peer relationships. Indices of emotion regulation and emotionality were found to significantly predict peer relationships, which in turn significantly predicted indices of school adjustment as defined by cognitive achievement and teacher-reported social competence. It is important to note that peer relationships *are* indicators of social competence. In that respect, peer liking rating can be identified as an index of school adjustment. Again, this study found that regulatory strategies significantly contribute to classroom relationships and subsequent school adjustment, a theme often examined and supported in the literature (Colarusso et al., 1980; Howse et al., 2003; Spira et al., 2005). Thus, emotion regulation appears to be a tool that is necessary to successfully adapt to the social and academic demands of school. Effective emotion regulation impacts classroom relationships which in turn directly impact a child's outlook on the whole classroom experience. Children who enjoy being at school perform better. Therefore, it is imperative that effective regulatory skills are targeted early.

Investigation of student-teacher relationship quality as a potential mediator of parent-reported emotional lability/negativity and cognitive performance did not reveal a significant model. Although parent-reported emotional lability/negativity did significantly predict student-teacher relationship quality, the teacher relationship did not significantly mediate emotionality and cognitive performance. However, this in no way trivializes the impact of the student-teacher relationship. A positive and nurturing relationship with one's teacher provides crucial social information for the child by providing guidelines for what behaviors are appropriate. In turn, this social information is then employed to create prosocial relationships with others and successfully adapt the classroom (Shields et al., 2001).

Overall, our model of school adjustment was supported. Indices of emotion regulation significantly predicted teacher and peer relationships. In addition, peer relationships predicted school adjustment as defined by teacher-reported social competence and performance on the Woodcock-Johnson.

Analyses revealed that teacher-reports of emotionality and emotion regulation were better predictors of peer relationships, possibly due to providing greater variance than parent-reports. First and foremost, teachers appear to provide more consistent feedback about their students because they are present in situations where children are practicing regulatory strategies. At school, children practice following instructions and routines while balancing the social and cognitive demands in that environment. Parents observe emotionality and emotion regulation in a very different context. The expectations at home may be very different and less consistent. Secondly, teachers have a reference point with which to compare children of the same age group, a luxury that some parents may not have. Parents may have somewhat of a range restriction with which to compare the behavior of their child, particularly in the absence of siblings or other children of the same age group. Therefore, behavior that a teacher deems appropriate for a particular child, when comparing that child with the rest of the class, may be classified as inappropriate by the parent of that child (and vice versa). Lastly, teachers often have training in child development that may provide more insight into what is normal for a particular age group.

In addition teacher reports of emotionality and emotion regulation may be more predictive because the teachers provided a consistent element within the methodology; three teachers assessed thirty-six children while thirty-six parents assessed thirty-six children. The information from three teachers is mostly likely more consistent than the information from thirty-six different parents.

### *Strengths and Limitations*

Previous research in the area of school adjustment failed to investigate the complete picture of school adjustment. Most often, previous school adjustment literature approached school adjustment in low-income samples with a narrow vision of school adjustment. When bringing all of that literature together, it can be seen that there are many elements crucial to adjusting to the school environment. The proposed model in this study incorporated previous approaches and created an all-encompassing model of school adjustment.

The current pilot study employed multiple reporters in the assessment of school adjustment. Previous research has typically used the same reporter, the teacher, for both predictive and outcome measures. The current study was able to obtain predictive and outcome measures from different reporters. The use of multiple reporters, coupled with multiple indices of school adjustment, provided the most comprehensive assessment of school adjustment. In addition, the current study tapped into a population that has not previously been targeted in previous school adjustment research: low-income preschoolers.

As with all research, this pilot study included limitations. First and foremost, the sample size was very small ( $N = 36$ ). This eliminated the use of some analyses, specifically structural equation modeling (SEM), an analysis better suited to examine the proposed model. In addition, many of our measures were intercorrelated. Again, the use of SEM would help with this multicollinearity, as well any error found within the measurements. Despite the use of several different reporters, many of the measures were completed by the teacher. This presented some hurdles when utilizing hierarchical regression procedures. Moreover, this presented the potential for positive or negative teacher bias in the form of a rating error. Although the parents only

filled out one measure, parents can also possess biases toward their children in the form of negative biases or “rose-colored glasses.”

### *Implications*

This study has many implications for Head Start and preschool programs alike. This information can contribute to the development or amendment of curricula that target regulatory skills and prosocial classroom interactions. Cognitive performance is only one part of the equation. The classroom presents many challenges to preschoolers entering this environment for the first time. Low-income children may face additional challenges due to developmental delay, low stimulation in the home, and homes and neighborhoods that are less than nurturing.

As an extension of this study, it would be beneficial to further explore the dynamics of preschool peer relationships. Specifically, it may be informative to tease apart same-sex versus mixed-sex friendships. In addition, a longitudinal study that follows these children from preschool to middle childhood would provide information about the importance of mastering regulatory skills early, the impact of *early* prosocial teacher and peer relationships, and the continuity of positive peer relationships.

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## Appendix

Human Subjects Review Board  
Office of Sponsored Programs  
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*The Spirit Makes the Master*

In future correspondence please refer to HS05-063, January 14, 2005

Dr. Elizabeth Lemerise  
Tate Page Hall Room 221  
Psychology Department  
WKU

Dear Dr. Lemerise:

Your revision to your research project, "Assessing Head Start Children's Adjustment," was reviewed by the HSRB and it has been determined that risks to subjects are: (1) minimized and reasonable; and that (2) research procedures are consistent with a sound research design and do not expose the subjects to unnecessary risk. Reviewers determined that: (1) benefits to subjects are considered along with the importance of the topic and that outcomes are reasonable; (2) selection of subjects is equitable, and (3) the purposes of the research and the research setting is amenable to subjects' welfare and producing desired outcomes; that indications of coercion or prejudice are absent, and that participation is clearly voluntary.

1. In addition, the IRB found that you need to orient participants as follows: (1) signed informed consent is required; (2) Provision is made for collecting, using and storing data in a manner that protects the safety and privacy of the subjects and the confidentiality of the data. (3) Appropriate safeguards are included to protect the rights and welfare of the subjects.

This project is therefore approved at the Full Board Review level until January 14, 2006.

2. Please note that the institution is not responsible for any actions regarding this protocol before approval. If you expand the project at a later date to use other instruments please re-apply. Copies of your request for human subjects review, your application, and this approval, are maintained in the Office of Sponsored Programs at the above address. Please report any changes to this approved protocol to this office. A Continuing Review protocol will be sent to you in the future to determine the status of the project.

Sincerely,

Sean Rubino, M.P.A.  
Compliance Manager  
Office of Sponsored Programs  
Western Kentucky University

cc: HS file number Lemerise HS05-063  
cc: Rachel Waford