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Cumulative Risk, Parental Emotional Expressivity, And Parental Secure Base As Predictors Of Children's Social Competence

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CUMULATIVE RISK, PARENTAL EMOTIONAL EXPRESSIVITY, AND PARENTAL SECURE BASE AS PREDICTORS OF CHILDREN'S SOCIAL COMPETENCE

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CHAPTER 1: INTRODUCTION

Social Competence

Researchers have paid increasing attention to the factors that help a child successfully adapt to school. School adjustment, as defined by Von Suchodoletz (2009), is the extensive process of adaptation during which children learn to accommodate to school expectations and standards. In other words, school adjustment is how children learn to adapt to the social, emotional, and academic expectations of an educational setting for the first time. This transition to school and the ensuing period of adjustment can determine a child's future academic success (Malsch, Green, & Kothari, 2011). One of the most highly researched aspects of the many factors that have been shown to substantially influence the success of a child's school adjustment is a child's social competence (Bulotsky-Shearer, Dominguez, Bell, Rouse, & Fantuzzo, 2010; Krishnakumar and Black, 2002; Foster, Lambert, Abbott-Shim, McCarty, & Franze, 2005).

Social competence has been defined in many ways by various researchers. One commonly accepted definition of social competence, as defined by Yeates and Selman (1989) is:

> The development of the social-cognitive skills and knowledge, including the capacity for emotional control, to mediate behavioral performance in specific contexts, which in turn are judged by the self and others to be successful and thereby increase the likelihood of positive psychosocial adjustment (p. 66).

Previous research has found that a child's early social and emotional competence is a precursor to future school success, both socially and academically (Barnett, 1995). Additionally, other research has found that these early social and emotional skills are crucial to classroom adjustment, implying that children who are more skilled in these areas are likely to have an

easier time becoming successful in school (Rhoades, Warren, Domitrovich, & Greenberg, 2010). Other research has shown that children who do not display social competence related to the ability to get along with or successfully engage their peers are more at risk for social and academic difficulties, as they are unable to form the peer relationships which are necessary to participate in a classroom setting (Yeates & Selman, 1989; Fantuzzo, Bulotsky, McDermott, Mosca, & Lutz, 2003).

Although there are many different factors that predict social competence, two of the more important factors are contextual risk factors and the parent-child relationship. These factors are comprised of contextual and family risk (such as poverty and maternal depression), as well as parental emotional expressivity and parent-child attachment (Krishnakumar & Black, 2002; Cumberland-Li, Eisenberg, Champion, Gershoff, & Fabes, 2003; Fantuzzo & Perry, 2010). The current study focused on social competence as an indicator of school adjustment, as well as risk factors that may impede the development of social competence in children. In addition, it focused on the factors that may promote the development of social competence even in the face of risk. This study looked at these factors in a unique sample of kindergarteners attending three urban charter schools serving a high poverty population.

Cumulative Risk and Social Competence

Contextual and environmental risk may impede the development of social competence. These contextual and environmental risks can consist of a number of factors, including poverty, housing instability, parental drug use, parental mood, neighborhood dangerousness, and other negative events which occur within the child's family context or environment (Ackerman, Brown, & Izard, 2004). Children who grow up in risky situations, such as poverty, are more likely to experience injury, learning difficulties, lower IQs, impulsivity, and peer rejection than

children who are not exposed to risky living situations (Corapci, 2008). Furthermore, children who are raised in homes filled with conflict and/or abuse are more likely to have poorer socio-emotional competence than their peers (Cassidy, 1995). Other research shows that children who grow up in poverty are at higher risk for behavior problems and sub-average social skills (Kaiser, Cai, Hancock, & Foster, 2002). In summary, several of the most robust contextual risk factors for lower social competence are factors associated with the family's sociodemographic status (Foster, Lambert, Abbott-Shim, McCarty, & Franze, 2005; McLoyd, 1998).

In looking at various sociodemographic risk factors that are associated with a child's social competence, it is also important to consider the idea of cumulative risk. Cumulative or multiple risk is a count of the presence of various demographic, psychosocial, and environmental risk factors that children may be exposed to (Lengua, Honorado, & Bush, 2007; Sameroff, 1998). A cumulative risk index is generally calculated by adding the number of dichotomized risk factors present to obtain an overall risk index score (Trentacosta et al., 2008). Typical risk factors included in a cumulative risk index are socioeconomic status, household overcrowding, maternal education, and maternal psychopathology. Some of the earliest work on cumulative risk and child outcomes was conducted by Rutter (1979), who created a cumulative risk index to look at child adjustment; since that time, the idea of looking at cumulative risk influences on different child outcomes has become a well-established area of research (Evans et al., in press). Cumulative risk indices can be conceptualized in a variety of different ways; some researchers focus more on environmental risks (like overcrowding and neighborhood dangerousness), while others focus on more personal factors, such as parental warmth, maternal psychopathology, or attachment style (Ackerman et al., 2004; Gassman-Pines & Yoshikawa, 2006). Other indices of cumulative risk consider both the environmental and personal aspects, and create a risk index

that takes factors across both of these domains into account (Trentacosta et al., 2008). One of the largest problems with creating a broad multi-domain index is that it limits the opportunity to examine the more personal or proximal risk factors as mediators or moderators of associations between contextual risk and outcomes (Ackerman, Izard, Schoff, Youngstrom, & Kogos, 1999; Trentacosta et al., 2008).

One study that has examined the association between cumulative risk and children's social competence found that the social competence scores of less inhibited and less fearful preschoolers decreased when environmental risk factors increased (Corapci, 2008). This study lends support to the idea that exposure to a greater number of environmental risk factors can impair children's social skills. Teachers in particular were more prone to rate less inhibited children as less socially competent when they were aware of the child's high risk background, possibly due to anticipation of the child acting out (Corapci, 2008). Another study, conducted by Lengua and colleagues (2007), proposed that the impact of environmental risk factors on child behavior may be a direct one, due to the child's direct experience of the various factors, or an indirect one, from a combination of environmental risk factors and other life and interpersonal experiences. Findings from this study indicated that greater cumulative risk led to greater disruption in a child's life, and consequently influenced a child's social and emotional control, which in turn predicted a child's social competence (Lengua et al., 2007). Results from a study of mothers and sons conducted by Chang, Shelleby, Cheong, & Shaw (2012) corroborated these findings, suggesting that there is a negative association between cumulative risk and a child's social competence in school. Boys with higher levels of risk (more risk factors) had poorer emotional regulation abilities, which in turn predicted less social competence in school (Chang et al., 2012).

Attachment, Emotional Expressivity, and Social Competence

Although environmental and contextual risk factors undoubtedly influence children's social competence, there are other factors that have been linked to the development of social competence. Two of the most important of these factors are parent-child attachment and parental emotional expressivity (van IJzendoorn et al., 2004; Cumberland-Li et al., 2003). Previous research has found that both factors are highly influential predictors of the development of social competence. Therefore, it is important to consider the role each factor plays when looking at children's socioemotional competence and their future school adjustment.

Previous research has linked children's attachment security to their caregiver's sensitive responsiveness and social competence. Consequently, van IJzendoorn et al. (2004) postulated that greater parental sensitivity leads to a more secure attachment and better socioemotional skills, and their findings indicated that attachment was negatively associated with temperamental reactivity, such that parent-child dyads displaying more secure attachment had children with less reactive temperaments (van IJzendoorn et al., 2004). Krishnakumar and Black (2002) hypothesized that this may be due to children's need for attention. In the absence of a secure attachment with an attentive parental figure, children may turn to aggressive and negative social behaviors in order to attract any form of attention from a parent (Krishnakumar & Black, 2002). Other studies have shown that a secure attachment at 15 months predicts children's socioemotional success and problem behaviors at school age, and that secure attachment can protect children from negative life and family events (Dalliare & Weinraub, 2007). Additionally, a modest association between attachment security and social competence was found, as children with greater attachment security to their parents were found to be more socially competent. Other research also supported an association between attachment security and children's social

behaviors, such that children with less secure attachments to their mothers were found to demonstrate greater aggressive behaviors with peers (DeMulder, Denham, Schmidt, & Mitchell, 2000).

One way of measuring attachment is through the use of secure base scripts, a story-telling task designed to assess the presence or absence of a parental secure base (Waters, 1981). The maternal secure base scripts were developed by Harriet Waters (1981), to be used primarily as a research tool. The basic premise of the secure base scripts builds upon Bowlby's attachment theory and Waters and Waters' (2006) basic theory that an individual's history of secure bases is represented in his or her memory as cognitive scripts. Therefore, in accordance with Waters and Waters' theory, if an individual tells a complete, coherent, and relevant interpersonal story, he or she is posited to have a history of a consistent secure base support; if the story is incomplete or faulty, the individual may have had an ineffective or inconsistent secure base history (Waters & Waters, 2006). The secure base scripts have been found to positively correlate with narrative coherence during the Adult Attachment Interview (Waters & Waters, 2006), and supports the idea that, while not direct classifications of attachment, script representations of secure bases are an important part of attachment representations. Vaughn et al. (2006) found that in repeated administrations of the secure-base script, the stories told were stable over time and, therefore, the secure base script can be considered to be a stable representation of attachment.

Along with attachment, it has also been documented that varying levels and patterns of familial emotional expressivity influence children's developing social schemes and social understanding (Cumberland-Li et al., 2003; Eisenberg et al., 2003). Emotional expression, by definition, is the "overt expression (through facial expressions, gestures, other behavior, words) of emotion" that "often reflects felt emotional experience" (Cumberland-Li et al., 2003). There

are two commonly used approaches to measure parental emotional expressivity- measuring parents' expression of positive or negative emotion when interacting with their children or measuring parents' general tendencies to express emotion in interactions within the family (Eisenberg et al., 2003). The current study will focus on parents' general tendencies to express emotions, focusing primarily on the expression of positive emotions. Research has found many benefits of parental positive emotion expressivity and high warmth, including a tendency for their children to be more socially competent and possess more social understanding, along with an increased amount of pro-social behavior and emotional understanding (Eisenberg et al., 2003; Cumberland-Li et al., 2003).

According to Laible (2006), there are three types of family expressivity: positive expressivity, negative dominant expressivity and negative submissive expressivity. It has been found that positive maternal expressivity is related to a child's social competence, emotional understanding, pro-social behavior, self-esteem, and coping (Laible, 2006). Laible (2006) found that both parental emotional expressivity and attachment security played a role in children's social behaviors, such that more securely attached children came from families with high levels of positive emotional expressivity and low levels of negative dominant expressivity. Laible (2006) postulated that children do need some exposure to negative affect in order to help them develop healthy models of relationships and to promote social competence, but that prolonged exposure can lead to negative consequences for the child. As negative parental emotional expressivity has been shown to influence children both positively and negatively, the current study focused exclusively on exploring the association between positive emotional expressivity and social competence, as research has been more consistent as to its impact on social competence.

One way of assessing emotional expressivity is through analyzing the types and emotional valence of words people use in relevant circumstances (e.g., everyday conversations, structured tasks that could evoke emotional responses). Word analysis is commonly accomplished by transcribing a conversation or interaction, then using text analysis software, such as the Linguistic Inquiry and Word Count System, to assign each transcribed word to a particular language dimension, including positive and negative emotion categories (Pennebaker, Booth, & Frances, 2001). Other researchers have developed specific coding systems to capture the number of positive and negative words used during parent-child interactions (Suveg, Zeman, Flannery-Schroeder, & Cassano, 2005). While limited research has focused specifically on the link between the use of positive emotion words and social outcomes in children, the research that does exist suggests that this link is present. For example, mothers of anxious children tended to use fewer positive emotion words, and the study's authors hypothesized that this may be contributing to some of their children's anxiety and difficulties in social and other situations, as they learn from parents to suppress their emotions or to express them in a more negative and socially unacceptable manner (Suveg et al., 2005). Positive social outcomes associated with the use of positive emotion words have been studied more frequently in adults, with fairly consistent findings. For example, Slatcher and Pennebaker (2006) found that in couples participating in an expressive writing task, increased usage of positive emotion words resulted in greater relationship stability and more positive relationship outcomes. In another study, Bono and Iles (2006) found that leaders who used more positive emotion focused words were rated as more charismatic and more effective by their associates and followers. Although limited research has been conducted regarding the relationship between the use of positive emotion words and positive social outcomes, the existing research suggests there are benefits to using positive

emotion words and that positive emotion word use may be a reliable indicator of overall positive emotional expressivity.

Attachment and Emotional Expressivity as Moderators

Not all children exposed to contextual/environmental risks will display difficulties with social competence, and consequently, school adjustment. Rather, some children display resilience in the face of contextual risks, and recent research has aimed to identify the protective factors that may account for this resiliency (Masten, 2001). One factor that has been identified as a possible protective factor in the face of contextual risk/environmental risk is attachment security. It has been shown that a secure attachment relationship acts as a buffer against the negative effects that contextual risk may pose to the child (Pettit, Bates, & Dodge, 1997). As mentioned above, studies have found that children with high attachment security are more likely to have greater social success and competence, even when accounting for cumulative risk and factors such as low SES and other negative life and family events. For example, Dalliare and Weinrauab (2007) found that a secure attachment at as early as 15 months can serve as a later protective factor against developing negative social behaviors among children living in families with high amounts of family stress and negative life events (i.e., deaths, divorces, and house foreclosures).

Parental emotional expressivity is another factor that may attenuate the association between cumulative risk and children's social competence. As mentioned above, parental emotional expressivity has been shown to influence the various ways a child's social schemas develop, with the type of emotions expressed playing a large role in this development (Eisenberg et al., 2003; Cumberland-Li et al., 2003; Laible, 2006). Positive caregiver emotionality has been found to protect children with higher contextual risk by creating a supportive parent-child

relationship and minimizing the effects of experienced risk on problem behaviors and social skills (Ackerman et al., 1999; Laible, 2006). Therefore, the current study analyzed attachment security (level of parental secure base) and positive parental emotional expressivity as potential protective factors that may moderate the hypothesized negative association between cumulative contextual risk and children's social competence.

Current Study and Hypotheses

The current study aimed to investigate the extent to which the accumulation of contextual risk factors influenced social competence in an "at-risk" sample of kindergarteners from three urban Detroit charter schools. Environmental and contextual risk factors (such as parental education, neighborhood risk, and overcrowding in the home) were evaluated as predictors of children's social competence within a cumulative risk framework (Trentacosta et al., 2008). Furthermore, this study investigated the role that parent factors (i.e., positive emotional expressivity) and family relationship factors (i.e., parental secure base) played in predicting social competence and moderating the relationship between cumulative contextual risk and low social competence. Specific hypotheses included:

(1) Higher levels of cumulative risk will predict lower social competence in children.

(2) Parental secure base and positive parental emotional expressivity will predict higher social competence.

(3) Parental secure base and positive parental emotional expressivity will act as moderators between cumulative risk and social competence. More specifically, higher levels of parental secure base and positive parental emotional expressivity were expected to attenuate the expected negative association between cumulative risk and children's social competence.

CHAPTER 2: METHOD

Participants

Participants were recruited from the kindergarten classes at three charter schools in Detroit, MI. Teachers from each of the ten classes distributed consent forms to parents. Parents were asked to sign the forms and return them, indicating whether or not they provided consent for their child to participate in the study. Participants were 106 kindergarteners (56 males, 50 females), their caregivers, and their kindergarten teachers. The caregiver was typically the biological mother (89.1%); the others were either grandmothers (2.7%) or biological fathers (8.2%). Ninety-five percent of the participants were African-American, while the other 5% were biracial.

Retention. Of the 106 children who initially participated in the fall kindergarten assessment (Time 1), 97 (91.5%) participated in the spring kindergarten assessment (Time 2). All nine of the participants who did not participate at Time 2 had withdrawn from the school for unknown reasons. Of these 97 participants, 80 (82.5%) participated in the final assessment toward the end of first grade (Time 3). Of the 17 participants who did not participate at Time 3, 13 had withdrawn from the school for unknown reasons with no forwarding address (two out of state), and the other four were unable to be tested at their new school (due to distance or inability to locate them). Teacher reports were received for 81 students at this final assessment (one student was rated by his teacher but did not participate in the child assessment in first grade). Reasons for child attrition included: child withdrawal from school, teachers not completing teacher reports, and child moving out of state. Additionally, of the original 106 caregivers who agreed to participate in the caregiver interview portion of the assessment, 73 completed the

interview process (68.9% of the initial sample) during the kindergarten year. Reasons for lack of participation among parents/guardians in the interview process include withdrawal of the child from school (n = 2). All other reasons for lack of participation were due to either failure to contact due to a disconnected phone number or failure to complete a scheduled appointment. In total, 55 children from the initial sample (51.9%) completed all measures at all three time points. One additional participant completed the secure base script measure, but the audio-recording malfunctioned and was not able to be transcribed.

Children whose parent completed an interview did not significantly differ from children whose parent did not complete an interview on the Social Skills scale or the component subscales at Time 1 (all ps > .05). However, at Time 2, children with complete parent interviews differed from those without parent interviews on the Cooperation subscale, with children with complete parent interviews scoring higher (t(97) = 2.08, p = .04). No other differences were observed on Social Skills scales at Time 2. Of the 81 students participating at Time 3 with teacher information available, 55 had completed parent interviews (67.9%). At Time 3, children whose parent completed an interview did not significantly differ from children whose parent did not complete an interview on the Social Skills scale or any of the component subscales (all ps > .05).

Procedure

As noted above, assessments occurred at two time points during the kindergarten year: once in the fall (Time 1) and once in the spring (Time 2). A third time point assessment occurred toward the end of the first grade year (Time 3). All data, including parents' interview information, was collected at the children's respective schools. At Time 1, children participated in a brief measure of verbal ability and four tasks measuring self-regulation (total duration = 20-

25 minutes). At Time 2 and Time 3, children participated in a brief measure of academic achievement, followed by the same four self-regulation tasks (total duration = 25-30 minutes). Children received a set of colorful pencils at the end of each session.

Data assessing the children's social competence and academic achievement was collected at the same three time points. Teachers were asked to complete two measures: one measuring a child's overall behavior and academic performance, and the other measuring a child's social competence in a school situation. Monetary compensation was provided for each set of rating forms completed.

Primary caregivers were asked to participate in an hour-long interview during the child's kindergarten year, which included a demographic interview and several questionnaires assessing neighborhood dangerousness, primary caregiver depressive symptoms, life satisfaction, and the child's behaviors. Additionally, the primary caregiver participated in an audiotaped secure base script task. Monetary compensation was provided to primary caregivers for participation.

Primary Caregiver Measures

Cumulative risk index**.** The cumulative risk index score was composed of five indicators of socio-demographic risk: level of parental education (education less than high school), parental relationship status (single), overcrowding in the home (more occupants than rooms in the house), neighborhood risk (highest quartile within the current sample on the Me and My Neighborhood questionnaire; Trentacosta, Hyde, Shaw, & Cheong, 2009), and age of mother at birth of first child (19 or younger). A score of "1" was given when caregivers met criteria for the indicator, and "0" when criteria were not met. Twelve caregivers (16%) met the risk criterion for level of parental education indicator, 42 (58%) for the parental relationship status indicator, 17

(23%) for the overcrowding indicator, 20 (27%) for the neighborhood risk indicator, and 37 (51%) for the maternal age at first birth indicator.

Secure-base script. Primary caregivers were also asked to participate in a secure base script activity. The secure base script is comprised of several stories, elicited from the parental figure through specific prompts. In this case, the prompts for each story were the title of the story along with 12-14 words that were related to the story in some way (Waters & Waters, 2006). These word prompts are typically neutral, generally containing neither positive nor negative emotional valence. The secure base script consists of six possible stories, four that contain a secure base element, and two that do not. In the current study, the titles of the six stories were "Baby's Morning," "Trip to the Park," "Doctor's Office," "An Afternoon Shopping," "Cheryl and Anthony's Camping Trip," and "Lisa's Accident" (see Appendix A). Each script was transcribed and coded based on two different coding systems: Waters and Rodriquez-Doolabh's Scoring of Secure Base Script Content (Waters & Rodriguez-Doolabh, n.d.) and the Linguistic Inquiry and Word Count coding system developed by Pennebaker, Booth, and Francis (2001). These systems were used to assess parental secure base and parental emotional expressivity, respectively.

Waters and Rodriguez-Doolabh's Scoring of Secure Base Script Content is based upon a seven-point scale, representing different ranges and levels of secure base scriptedness as represented in an individual's cognitive scripts. The scripts are not a classification of attachment, but rather indicate the presence or absence of a secure base. Higher scores on this scale indicate stories with a great deal of secure base content and extensive interpersonal content. As scores decrease, stories contain less secure base content; at the lowest scores, stories also begin to contain "atypical content," or content that is inconsistent with the script, the prompts, or which

lacks coherence and relevance. Scores lower than "4" indicate a lack of presence of secure base and thus, an insecure attachment (Vaughn et al., 2007; Waters & Rodriguez-Doolabh, n.d.). In the current study, only 15.3% of parents/guardians averaged a "4" or higher ($n = 11$) on the secure base script; therefore, due to this low number of average scores at "4" or over, the dichotomous cutoff was not used. Stories were read and coded by researchers who were trained by Harriet Waters in the coding procedures. The coders assigned each story a score of 1 to 7, based upon secure base content, interpersonal content, and elaboration (Waters & Rodriguez-Doolabh, n.d.). There were two primary researchers coding the secure base scripts, with a third coder available to resolve scoring disputes. The coders were unaware of other information about participating caregivers and children while coding. Scripts assigned scores within two points of one another by the two primary coders were averaged; scripts with disparities greater than two points were given to the third coder for further analysis, per protocol as discussed with Harriet Waters. Three scripts had disparities greater than two points, and a third coder was consulted. The coder scored the three scripts, and all three scores were compared. The two scores closest together were used, while the third, more discrepant score was discarded, per protocol as discussed with Harriet Waters. Intraclass correlations (ICCs) based on a two-way random effects model were computed for each of the four coded stories to assess interrater reliability. Interrater reliabilities for Baby's Morning, Doctor's Office, Cheryl and Anthony's Camping Trip, and Lisa's Accident were .94, .90, .88, and .94, respectively.

The Linguistic Inquiry and Word Count system (LIWC), developed by Pennebaker, Booth, and Francis (2001) is a way of objectively measuring words in text. The LIWC, a computer text-analysis program, was designed to analyze written text, word-by-word, and assign each word to one of the 82 possible language dimensions that comprise the LIWC program. The

LIWC contains a wide range of categories, from pronouns to social words to words for various cognitive mechanisms. The LIWC also contains categories for labeling positive and negative emotion words, as well as eight emotion categories. Pennebaker, Mehl, and Niederhoffer (2003) hypothesized that a person's language can reflect his or her psychological state; therefore, if language can be measured, it may provide a more objective way of determining someone's current psychological state. Each word is analyzed and assigned to a category, and an overall percentage is calculated in order to control for the length of the writing sample. In the current study, the overall percentage of total words that were positive words used in scripts was calculated. The LIWC has been shown to be accurate in measuring emotional expression and distinguishing between positive and negative emotions, and has been used successfully with people of different races, ethnicities, and socioeconomic statuses (Kahn, Tobin, Massey, & Anderson, 2007; Kliewer et al., 2011; Gelfand et al., 2012; Cassidy, Sherman, & Jones, 2012). For example, Kliewer and colleagues (2011) used the LIWC to analyze the expressive writing of at-risk, urban African-American youth in an intervention addressing aggression and emotional lability, while Gelfand and colleagues (2012) used the LIWC to analyze interviews about intergroup conflict which were conducted with individuals from the US, Turkey, Egypt, Jordan, Lebanon, UAE, Iraq, and Pakistan. Cassidy and colleagues (2012) used the LIWC to explore the linguistic characteristics of adult attachment in a population of both African-American and Caucasian women.   Bantum and Owen (2009) found LIWC to be superior to other methods of coding emotional expression in written text, with strong performance in emotional coding. The interrater reliability of the LIWC ranges from 86% to 100%, depending on the scale/dimension being assessed (Pennebaker et al., 2001). Additionally, the LIWC has an alpha ranging from .55 to .92, also depending on the scale (LIWC Inc, n.d.).   The current study focused on positive

emotion words, as positive parental emotions have been shown to be strongly related to increased social skills in children (Eisenberg et. al, 2006). Examples of positive emotion words commonly used in the current study include "nice," "smile," "hug," "brave," and "warm."

Child Behavior Measures

Child social skills. Each participating child's head classroom teacher was asked to complete the Social Skills Improvement System (SSIS; Gresham & Elliott, 2008). The SSIS provides an assessment of behaviors that may interfere with a child's social skill development; additionally, it provides a measure of academic performance from the head classroom teacher's point of view. The SSIS provides ratings in three domains: Social Skills, Problem Behaviors, and Academic Competence (Gresham & Elliot, 2008). Within the Social Skills domain, the SSIS contains items assessing communication, cooperation, assertion, responsibility, empathy, engagement, and self-control. The communication subscale of the Social Skills domain consists of seven items and has an internal consistency of $\alpha = 0.85$, as reported by Gresham and Elliott (2008). An example of an item from this subscale is "Responds well when others start a conversation or activity." The six item cooperation subscale of the Social Skills domain includes statements such as "Follows classroom rules," and has an internal consistency of $\alpha = 0.90$. The assertion subscale of the Social Skills domain is comprised of seven items, such as ""Stands up for himself/herself when treated unfairly." This scale has an internal consistency of $\alpha = 0.87$. The six item responsibility subscale has an internal consistency of $\alpha = 0.90$ and includes items such as "Takes responsibility for his/her own actions." The empathy subscale has an internal consistency of $\alpha = 0.88$ and consists of six items such as "Shows kindness to others when they are upset." The engagement subscale consists of seven items and has an internal consistency of $\alpha = 0.89$. An example of an item from this subscale is "Interacts well with other children." Finally,

the seven item self-control subscale includes items such as "Stays calm when teased," and has an internal consistency of $\alpha = 0.90$. The overall Social Skills domain scale has an internal consistency of $\alpha = 0.97$. All reported alpha values cited thus far were taken from the Gresham and Elliott (2008) sample. For the current study, the overall Time 2 Social Skills domain scale had an internal consistency of $\alpha = .94$, while the overall Time 3 Social Skills domain had an internal consistency of $\alpha = .92$. Items are rated on a scale from *never* (0) to *almost always* (3).

Child verbal ability. Children were assessed for receptive language abilities using the Peabody Picture Vocabulary Test- 4th Edition (PPVT-4). In this test, the participant is shown four pictures and given a word by the researcher. The participant is then asked to point to the picture representing the target word. The PPVT-4 measures both receptive language abilities and verbal abilities (Dunn & Dunn, 2007). The internal consistency of the PPVT-4 ranges from $\alpha = 0.95$ to $\alpha = 0.97$, depending on the age of the participant, and test-retest reliability is .94. PPVT-4 receptive language ability scores were included as a covariate in all analyses, as past studies have found these scores to be predictive of children's social competence, particularly in the areas of adaptive skills and school functioning (Monopoli & Kingston, 2012). Other researchers have found that children with better receptive verbal skills were more accepted socially than children with lower receptive vocabulary abilities (Gertner, Rice, & Hadley, 1994).

CHAPTER 3: RESULTS

Preliminary Results

Means and standard deviations for the study variables can be found in Table 1. On average, participants had relatively low levels of contextual risks (between one and two risks). In addition, they also had relatively low mean levels of positive emotional expressivity (low percentage of positive words used) and low mean levels of parent secure base (i.e., lower than the "4" cutoff proposed by Waters and Doolabh). Variables were also inspected for normality. While both the cumulative risk variable and the positive parental emotion variable were mildly positively skewed (skew = 2.75 and 3.10, respectively), all other variables were relatively normally distributed. For Time 2, all regression analyses had an N of 62, while for Time 3, all regression analyses had an N of 54

Additionally, bivariate correlations between study variables were examined. Results from this analysis can be found in Table 2. Attachment security was significantly correlated with both social skills at Time 2 and cumulative risk. However, attachment security was not significantly positively correlated with social skills at Time 3 and was only marginally positively correlated with positive parental emotional expressivity. In addition, positive parental emotional expressivity was not significantly negatively correlated with cumulative risk or significantly positively correlated with social skills at Times 2 and 3. Finally, there was not a significant negative correlation between cumulative risk and socials skills at Time 2 or between cumulative risk and social skills at Time 3.

Hypothesis #1

In order to address the hypothesis that higher levels of cumulative risk would predict lower social competence in children, a linear regression was conducted with the cumulative risk

index score as the independent variable and social competence as indexed by the Social Skills score from the SSIS as the dependent variable. Child age, gender, and verbal ability were included as covariates. As shown in Table 3, cumulative risk did not significantly predict children's social competence at Time 2 or at Time 3.

Hypothesis #2

In order to test the hypothesis that there would be a main effect of parental secure base and a main effect of parental emotional expressivity, two multiple regressions were conducted. In the first, the cumulative risk index was entered in step 1, with children's social competence as the dependent variable. In step 2, the parental secure base variable was entered. It was expected that there would be a significant main effect for parental secure base, once cumulative risk and the other covariates (child age, gender, and verbal ability) were controlled. In the second multiple regression, the cumulative risk index was again entered in step 1, followed by entering the parental emotional expressivity variable in step 2. It was expected that there would be a significant main effect for parental emotional expressivity, while controlling for cumulative risk and the other covariates. Results of these analyses can be found in Tables 4 and 5. For Time 2, there was a significant main effect for parental secure base, such that parents with higher secure base scores had children who were rated as more socially competent. However, for Time 2 there was not a significant main effect for parental emotional expressivity. For Time 3, no significant main effects were observed, either for parental emotional expressivity or for parental secure base.

Hypothesis #3

Next, in order to address the hypothesis that parental secure base and parental emotional expressivity would act as moderators between cumulative risk and social competence, a

hierarchical regression was conducted. The cumulative risk index, parental secure base, and parental emotional expressivity were centered prior to creating interaction terms and conducting this analysis. In the first step of the equation, the cumulative risk index, parental secure base, and parental emotional expressivity variables were entered as predictors of children's social competence scores. The interactions between cumulative risk and parental secure base and between cumulative risk and parental emotional expressivity were entered into the second step of the equation. It was expected that that higher levels of parental secure base and positive parental emotional expressivity would attenuate the expected negative association between cumulative risk and children's social competence. Results of this hierarchical regression are summarized in Table 6. Neither the interaction between cumulative risk and parental secure base nor the interaction between cumulative risk and parental emotional expressivity was significant at Time 2. For Time 3, no significant interactions were observed for either the cumulative risk and parental secure base interaction or for the cumulative risk and parental emotional expressivity interaction.

Follow-up Analyses

In follow-up analyses, an independent samples t-test was performed to examine whether parents differed on parental secure base scores, depending on their education level. In order to do this, a dichotomous variable was created. Parents were categorized into two groups: high school degree or less ($n = 27$) and some college or more ($n = 46$). Parents with at least some college had significantly higher parental secure base scores ($M = 3.39$, $SD = 0.64$) than parents who had a high school degree or less ($M = 2.82$, $SD = 0.62$), $t(70)$, $p < .01$. Next, a multiple regression was conducted to investigate whether parental secure base would still predict Social Skills at Time 2, even after controlling for parental education levels and the covariates (child age, sex, and verbal

ability). After controlling for parental education and these covariates, parental secure base still significantly predicted Social Skills at Time 2 ($\beta=0.33$, t(58) = 2.48, $p <.05$). In this model, parental education did not significantly predict Social Skills at Time 2 ($\beta = .09$, t(58) = .67, $p = .50$).

CHAPTER 4: DISCUSSION

This study investigated the relationships between cumulative risk, parental emotional expressivity, parental secure base, and social competence in children. Limited support was found for the three main hypotheses. First, we explored whether higher levels of cumulative risk predicted lower levels of social competence in children. Contrary to previous research findings, the current study did not find a significant relationship between the number of cumulative risk factors children experienced and the teacher's rating of children's social competence. This may be due, in part, to the relatively homogenous nature of the sociodemographics of the sample. Furthermore, in addition to the low number of overall risks observed, there was less variability than desired in the risks that were present (e.g., most guardians were single parents). This may have affected the observed non-significant relationship between risk factors and social competence ratings, as most participants experienced similar risks and therefore, limited the observable differences between participants.

Next, we investigated whether level of parental secure base and positive parental emotional expressivity predicted higher levels of social competence in children. Results for these analyses were mixed. There was a significant main effect for parental secure base as a predictor of social skills at Time 2, such that parents who scored higher on the secure base measure had children who were rated as more socially competent. This finding suggests that the parent's secure base can have a significant impact on the trajectory of a child's social development. This may be in part, due to the fact that children who have parents with a secure base also tend to develop their own secure base with their parent, which may make them more confident and safe in their exploration of their surroundings and in their interactions with others (Waters & Cummings, 2000; Laible, 2006) Additionally, these children also have positive

expectations for interactions with others, making them more willing to engage in novel or unfamiliar social situations. They have also been given examples of how to interact with others in a positive and productive manner (Rose-Krasnor, Rubin, Booth, & Coplan, 1996). This finding also speaks to the importance of promoting the development and dissemination of interventions designed to encourage secure attachment relationships between parents and children, as well as the importance of early detection of insecure attachment between parents and children. Additionally, this finding suggests that it is particularly important to look at the parent-child relationship in children who have inadequate social skills or are struggling in social situations, in order to determine how this relationship may be contributing to their difficulties. However, this main effect of parental secure base was not observed at Time 3, nor was a main effect of parental emotional expressivity observed at Time 2 or Time 3. This may be due to the limitations of the current approach to measuring attachment security and parental emotional expressivity; namely, that these scores were derived from a scripted story-telling task solely involving the parent/guardian. In the future, it may be more beneficial to look at positive emotions and/or attachment security within an actual parent-child interaction, in the manner of Suveg and colleagues (2005).

The current study also examined whether higher levels of parental secure base and parental emotional expressivity would attenuate the expected negative association between cumulative risk and children's social competence. Previous research has indicated that both attachment security and parental emotional expressivity may serve as protective factors, ameliorating the effects of cumulative risk on social competence (Pettit et al., 1997; Laible, 2006). However, as cumulative risk and social competence were not negatively associated and no evidence of moderation was found, this indicates that in the current study, higher levels of

parental secure base and parental emotional expressivity did not moderate the relationship between cumulative risk and social competence.

The overall average secure base score was indicative of low attachment security and the absence of a secure base. According to Waters and Waters (2006) and Vaughn et al. (2007), any score lower than "4" indicates a lack of secure base content, and thus, an insecure attachment. As the average secure base score for participants in this study was almost a point lower than the typical cut-off for a secure base, it may appear as though many of the study participants lacked a well-developed working model of a secure base relationship. However, there is some question, given the relatively high-risk socio-demographic characteristics of the sample, as to whether these lower scores actually reflect less attachment security, or whether there are alternate explanations for this pattern of results. One possible explanation for this lower mean level of secure base scores resides in the respondent's overall knowledge of and experience with (or lack thereof) secure attachments. According to Waters and Doolabh (2004), adults with a personal history of secure base attachments would likely have better knowledge of how to go about forming these attachments and would be more likely to serve as a secure base for another (either child or adult). Therefore, if a person did not have the early-life opportunities to observe models of secure attachments, they will have a more difficult time demonstrating and implementing this type of relationship in their own lives. It is possible that many of the respondents in this study came from homes where this type of relationship was not often displayed, and therefore, it is reflected in their relationship with their children. Future studies should include gathering information about the parents' own developmental and family histories, as well as a more specific measure of attachment (such as the Adult Attachment Interview; George, Kaplan, and

Main, 1985), which would enable researchers to specifically classify the type of attachment experienced (secure, anxious/resistant, avoidant, disorganized).

Another potential explanation for the lower average secure base score observed in this study relates to the amount of parental education. It has been found that parents with greater amounts of education generally earn higher script scores (Vaughn et al., 2007). Additionally, while the secure-base script measure has been used cross-culturally, many participants have been from the middle to upper class backgrounds with substantial amounts of education, as per discussion with Harriet Waters and research by Vaughn and colleagues (2007). In contrast, although 63% of the current sample had at least some college education, only 16.4% of the sample had a bachelor's degree or higher. This disparity in educational levels between the current sample and the normative samples may in part explain the discrepancy in average scores observed. Furthermore, additional analyses showed significant differences in the attachment security scores between parents with a high school education or less and parents with some college or more, with parents with more education demonstrating higher scores. This finding corroborates Vaughn et al.'s (2007) finding, and speaks to the need for further research on the impact that educational levels have on attachment security scores. As this study is one of the first to utilize the secure base measure with an urban, lower SES population, it is important to take into account the limitations and obstacles the current sample may have experienced, and their effect on the participants' abilities to develop and display evidence of a secure base relationship. Future studies should work to replicate the findings of the current study and further explore the impact of education and low SES on the interpretability and generalizability of using the secure base script measure with an urban, lower SES population. In addition, future research should

look to establish and validate a series of culturally adapted scripts for this particular population, to aid in establishing secure base script norms for an urban, lower SES population.

There are a number of limitations in the current study. One of the most significant limitations was the small sample size, resulting from participant attrition and a limited number of parent/guardian interviews. This small sample size and participant attrition likely limited the power of analyses to detect significant relationships between cumulative risk, attachment security, parental emotional expressivity, and children's social skills. Only 75% of the original sample completed all three time points with corresponding teacher reports and child assessments. Future studies should work to ensure greater retention of participants, as well as to recruit a greater number of participants in order to have more statistical power for the analyses.

Furthermore, the participants in the current study were recruited from three urban charter schools in Detroit, MI and were ethnic minority children from primarily low-income families. Additionally, the composition of charter schools sometimes differs from public schools due to a variety of factors, including greater parental involvement and more resources (Bifulco & Ladd, 2005; Scott & Villavicencio, 2009). Therefore, the results of the current study may not be generalizable to middle class, upper class, suburban, or various other ethnic groups. They also may not be generalizable to children in non-charter public schools. Future studies should aim to replicate these findings among children of different races, ethnicities, socioeconomic statuses, and among children who attend different types of schools (public, private, parochial, etc.).

Another limitation of the current study was that positive rather than negative parental emotional expressivity was investigated, due to the fact that extant research has demonstrated stronger support for associations between positive parental emotional expressivity and children's social competence. However, researchers have also investigated negative parental emotional

expressivity and have sometimes found that the presence of negative parental emotional expressivity (such as anger) disrupts children's socioemotional development (Jenkins, 2000). Additional research found that higher levels of parental expression of sadness and anger may undermine children's socioemotional competence, as well as their social skills (Laible, 2006). Finally, researchers have found that high levels of negative expressivity or hostility directed at the child are negatively related to children's socioemotional competence and ease of adjustment (Eisenberg et al., 2003). Therefore, further studies should explore both positive and negative parental emotional expressivity, in order to gain a better and more comprehensive understanding of the influence of parental emotional expressivity on children's socioemotional development.

Related to parental emotional expressivity, the current study was also limited by an inability to examine the bidirectionality of the parent-child relationship. Sameroff and colleagues (Sameroff and Chandler, 1975; Sameroff and MacKenzie, 2003) have described a transactional developmental model, where the relationship of parent and child can best be viewed as a set of reciprocal transactions, in which the child influences the parent and the parent influences the child. In this type of model, it is difficult to tease apart how much of the relationship is a result of the child's effects on the parent, and how much is due to the parent's effects on the child. In the current study, there was only a single assessment of the parent characteristics, which occurred at nearly the same time as the assessment of the child's social skills. This aspect of the present study, coupled with the small sample size, made it impossible to tease apart the bidirectional attachment/temperament relationship between parent and child. However, this is an important relationship to understand, and future studies should focus on disentangling this bidirectional relationship to examine the contributions of each partner in the parent-child dyad by

having non-concurrent assessments of parents and children, and by assessing parents at multiple time points.

Despite these limitations, the current study also has one major strength: the uniqueness of the study participants. This study is one of the first of its kind to use the secure-base script method in an urban, lower SES population. In most other secure-base studies, only middle to upper class participants are included, leaving out an important part of the population. While using the secure base script with a population different from that on which it was normed does present some challenges in terms of interpretability, it also contributes to knowledge in an area in which research has been lacking. It is hoped that the findings of an overall lower average attachment security score, as well the findings of a disparity between scores in parents with different educational levels will prompt further research on the use of a secure-base script measure in a lower SES, lower education, and more at-risk population. This future research should focus not only on replicating the findings from this study, but also on norming the secure-base script measure for this population and other similar populations, so as to enable the measure to be used more broadly.

APPENDIX A

Table 1

Means and Standard Deviations

Variable	N	Mean	SD
Age Time 2 (years)	97	5.64	0.60
Age Time 3 (years)	81	6.58	0.57
PPVT score	106	94.47	11.30
Social Skills Time 2	97	137.05	23.54
Social Skills Time 3	81	132.99	26.94
Parental emotional expressivity	72	3.17	1.18
Parental secure base	72	3.18	0.66
Cumulative risk score	73	1.75	1.22

Table 2

Correlations

Variable	1	2	3	4	5	6
1. PPVT score	--					
2. Social skills score Time 2	.14	--				
3. Social skills score Time 3	.09	.50**	--			
4. Cumulative risk score	.04	-.18	-.06	--		
5. Parental emotional expressivity score	-.06	.15	-.05	-.20	--	
6. Parental secure base score	.20	.40**	.17	-.39**	.22	--

** $p < .01$

Table 3

Cumulative Risk Predicting Social Competence Time 2 and Time 3

Predictor	Time 2 (N = 62)			Time 3 (N = 54)		
	B	SEB	β	B	SEB	β
Age Time 2	2.49	4.86	0.07	-1.40	6.72	-0.03
Sex	8.39	6.12	0.18	7.65	7.83	0.15
Verbal Ability (PPVT-2)	0.35	0.29	0.16	-0.11	0.38	-0.04
Cumulative Risk Score	-2.05	3.10	-0.09	0.58	3.45	0.17

33

Table 4

Summary of Hierarchical Regression Analysis for Parental Secure Base as a Main Effect (Time 2 and Time 3)

Variable	Time 2- Model 1 (N = 62)			Time 2- Model 2 (N = 62)			Time 3- Model 1 (N= 54)			Time 3- Model 2 (N = 54)		
	B	SE B	β	B	SE B	β	B	SE B	β	B	SE B	β
Age	2.20	4.97	0.06	0.97	4.83	0.03	0.04	6.86	0.001	-1.18	6.88	-0.3
Sex	8.57	6.19	0.18	6.89	6.02	0.15	6.85	7.87	0.13	5.53	7.88	0.11
PPVT score	0.36	0.29	0.16	0.22	0.29	0.10	-0.11	0.38	-0.04	-0.22	0.38	-0.09
Cumulative risk score	-2.28	3.19	-0.09	-0.49	3.18	-0.02	1.34	3.53	0.06	2.42	3.60	0.11
Parental secure base				10.81	4.77	0.30**				7.44	5.75	0.20
R^2		0.08			0.16			0.02			0.05	
F for change in R^2		1.30			2.15			0.20			0.50	

**$p < .05$

Table 5

Summary of Hierarchical Regression Analysis for Parental Emotional Expressivity as a Main Effect (Time 2 and Time 3)

Variable	Time 2 - Model 1 (N = 62)			Time 2 - Model 2 (N = 62)			Time 3 - Model 1 (N = 54)			Time 3 - Model 1 (N = 54)		
	B	SE B	β	B	SE B	β	B	SE B	β	B	SE B	β
Age	2.20	4.97	0.06	1.80	4.98	0.05	0.04	6.86	0.001	0.26	6.92	0.01
Sex	8.57	6.19	0.18	8.75	6.19	0.18	6.85	7.87	0.13	7.31	7.97	0.14
PPVT score	0.36	0.29	0.16	0.39	0.29	0.17	-0.11	0.38	-0.04	-0.16	0.40	-0.06
Cumulative risk score	-2.28	3.19	-0.09	-1.91	3.22	-0.08	1.34	3.53	0.06	1.17	3.57	0.05
Parental Emotional Expressivity				2.49	2.51	0.13				-1.63	3.08	-0.08
R^2		0.08			0.10			0.02			0.02	
F for change in R^2		1.30			1.24			0.20			0.21	

Table 6

Summary of Hierarchical Regression Analysis for Moderation

Variable	Time 2- Model 1 (N=62)			Time 2- Model 2 (N=62)			Time 3- Model 1 (N=54)			Time 3- Model 2 (N = 54)		
	B	SE B	β	B	SE B	β	B	SE B	β	B	SE(B)	β
Age	0.79	4.86	0.02	1.51	5.01	0.04	-0.99	6.91	-0.02	0.57	7.43	0.01
Sex	7.09	6.07	0.15	7.01	6.20	0.15	6.08	7.94	0.12	6.89	8.20	0.13
PPVT score	0.25	0.29	0.11	0.21	0.30	0.09	-0.31	0.40	-0.12	-0.37	0.42	-0.15
Cumulative risk score	-0.36	3.21	-0.02	-0.47	3.27	-0.20	2.30	3.62	0.10	2.56	3.70	0.11
Parental emotional expressivity	1.51	2.48	0.08	1.91	2.57	0.01	-2.46	3.11	-0.12	-2.24	3.20	-0.11
Parental secure base	10.25	4.88	0.29**	10.05	4.97	0.28**	8.32	5.88	0.22	7.80	6.03	0.21
Risk x parental emotional expressivity				1.83	2.48	0.11				1.47	2.75	0.09
Risk x parental secure base				-0.39	4.63	-0.01				-3.77	5.81	-0.11
R^2		0.17			0.17			0.06			0.07	
F for change in R^2		1.83			1.41			0.51			0.44	

** $p < .05$

APPENDIX B

Figure 1

Study Timeline

Mid-Kindergarten (Time 1)
- Receptive Vocabulary
- Parent Interviews

End Kindergarten (Time 2)
- Social Skills
- Parent Interviews

End First Grade (Time 3)
- Social Skills
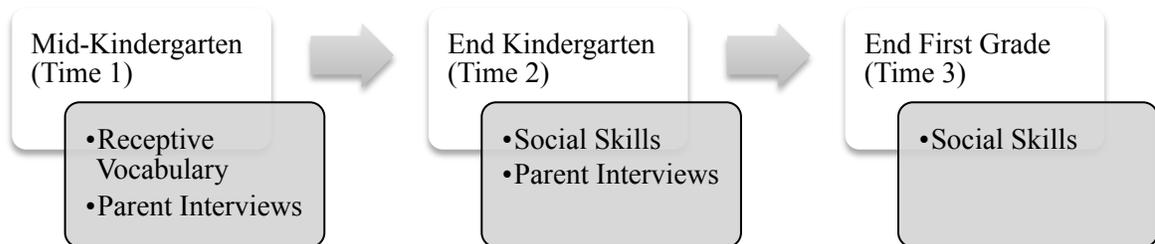
APPENDIX C

Secure Base Script Prompts

Baby's Morning

mother	hug	teddy bear
baby	smile	lost
play	story	found
blanket	pretend	nap

The Doctor's Office

Tommy	hurry	mother
bike	doctor	toy
hurt	cry	stop
mother	shot	hold

Cheryl and Anthony's Camping Trip

Cheryl	tent	campfire
Anthony	wind	shadow
bags	collapse	sounds
hurry	upset	hug

Lisa's Accident

Lisa	wait	home
road	Mike	dinner
accident	tears	bed
hospital	doctor	hug

Trip to Park

Ebony	swings	tired
bike	sandbox	bench
park	game	comics
friend	run	coke

An Afternoon Shopping

Emily	browse	hungry
car	buy	food
mall	money	talk
friend	gift	home

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ABSTRACT

CUMULATIVE RISK, PARENTAL EMOTIONAL EXPRESSIVITY, AND PARENTAL SECURE BASE AS PREDICTORS OF CHILDREN'S SOCIAL COMPETENCE

by

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There is substantial evidence in the literature focusing on the effects a child's social competence can have on future school success (Bulotsky-Shearer, Dominguez, Bell, Rouse, & Fantuzzo, 2010; Krishnakumar & Black, 2002; Foster, Lambert, Abbott-Shim, McCarty, & Franze, 2005). However, less research has been conducted specifically on the effects of exposure to risk on a child's social competence, and which factors may protect them from the negative effects of the presence of various risk factors. The purpose of the current study was to investigate the extent to which the accumulation of contextual risk factors influences social competence, and role that parent and family relationship factors play in predicting social competence and attenuating the relationship between cumulative contextual risk and low social competence. It was expected that higher levels of risk would predict lower social competence and that greater attachment security and positive parental emotional expressivity would predict higher social competence. Additionally, it was expected that attachment security and positive parental emotional expressivity would moderate the relationship between cumulative risk and social competence.

Data on children's social competence was collected at three time points, and parents/guardians were asked to participate in an interview that included demographic questionnaires and an audiotaped story-telling task ($N = 73$). The story-telling task was coded for both attachment security and positive emotion word use. Multiple regression and hierarchical linear regressions were used to conduct statistical analyses. Cumulative risk was not a significant predictor of attachment security, after controlling for child age, gender, and PPVT score. Additionally, while attachment security significantly predicted social competence at Time 2, this relationship was not observed at Time 3, nor was a main effect of positive parental emotional expressivity observed at Time 2 or 3. Finally, higher levels of attachment security and positive parental emotional expressivity did not moderate the relationship between cumulative risk and social competence. This study showed partial support for the influence of attachment security on a child's social competence, and demonstrates a need for future research on this topic.

AUTOBIOGRAPHICAL STATEMENT

Caitlin McLear was raised in Greenville, South Carolina, where she attended Furman University. Upon entering college, she was dead-set on studying medicine, something that quickly changed when she realized that she wasn't all that interested in blood, guts, and organic chemistry. After taking her first psychology class, she fell in love with the field. She gained some research experience by working in the lab of Dr. Jane Roberts at the University of South Carolina, investigating the co-morbidity of autism and Fragile X syndrome.. Additionally, in her senior year of college, she worked in Dr. Erin Hahn's Baby Learning Lab at Furman University, where she studied the effects of autism-inclusive education on neurotypical children. A seminar on counseling and clinical psychology senior year cemented Caitlin's love for the field, and she applied to clinical psychology programs, with a focus on child clinical psychology. She graduated Cum Laude from Furman in May of 2010, with a Bachelor of Science in Psychology.

Caitlin enrolled at Wayne State University in August of 2010, where she is a clinical psychology graduate student with an emphasis on child development. She works in the Family Emotion Lab under the supervision of her mentor, Dr. Christopher Trentacosta. In this lab, she has had the opportunity to conduct lots of hands-on research. She has gained additional experience as a Psychological Services intern at The Children's Center in Detroit, under the supervision of Dr. Angela Tzelepis. At The Children's Center, Caitlin is responsible for conducting psychological assessments and helping to co-facilitate a therapy group for children with ADHD. She also conducts research under the supervision of Dr. Richard Slatcher and Dr. Deborah Ellis, investigating life stressors that may impact diabetes management in young adults and adolescents. She plans to graduate with her Master of Arts in Clinical Psychology from Wayne State University in May of 2013.