CLASSROOM EMOTIONAL SUPPORT AS A PROTECTIVE FACTOR FOR ADAPTIVE SOCIAL BEHAVIOR

by

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ABSTRACT

Preschoolers with social behavior difficulties are at an elevated risk for a multitude of negative outcomes and psychopathology. Identifying risk factors for and protective factors against social behavior problem development is crucial for creating preventive interventions. We assessed the risk for social behavior problems related to the emotion dysfunction of each the child, parent, and home environment, as well as the protective nature of classroom emotional support, by evaluating adaptive and maladaptive social behavior in 194 Head Start preschoolers. Results showed that emotion dysfunction of the child, parent, and home predicted lower levels of prosocial behavior. Moreover, emotional support facilitated the development of prosocial behavior for children whose parents exhibited emotion dysfunction. Based on these findings, we discuss potential interventions that focus on fostering emotionally supportive classrooms.
Chapter 1

INTRODUCTION

The widespread society costs of maladaptive social behavior highlight the importance of understanding social developmental processes (Lösel & Beelman, 2003; Webster-Stratton, Reid, & Hammond, 2001). Social development encompasses a myriad of processes including recognizing and processing social and emotional cues, regulating responses, and displaying emotion expressions (Dodge, Pettit, McClaskey, Brown, & Gottman, 1986; Rubin, Coplan, Fox, & Calkins, 1995). Social behavior incorporates both antisocial and prosocial behaviors. The need for early intervention to modulate the development of social behavior is evident from research that has demonstrated the harmful effects of early antisocial behaviors such as aggression and oppositionality (Kokko & Pulkkinen, 2000; Lösel & Beelman, 2003). The benefits of early prosocial behaviors are less well studied, due to the more salient costs associated with antisocial behaviors. Nonetheless, existing studies have suggested that early prosocial behaviors relate to positive outcomes in later life (Kokko, Tremblay, Lacourse, Nagin, & Vitaro, 2006).

Prosocial and antisocial behaviors have traditionally been conceptualized as representing opposite poles on a single continuum, but recent research stresses the importance of studying both adaptive and maladaptive social behaviors concurrently as categorically separate and distinct processes (Kokko et al., 2006; Veenstra et al.,
Prosocial behavior is often a buffer against the negative effects of antisocial behavior, implying that prosocial and antisocial behaviors are two discrete behavioral entities. In fact, a number of different patterns of prosocial and aggressive behavior have been identified in children. Particular levels of aggression have been shown to be associated with different levels of prosocial behavior and vice versa (Kokko et al., 2006). Therefore, antisocial behavior is not necessarily the opposite of prosocial behavior.

Early interventions to alter children’s prosocial and antisocial behavior development should be prioritized because these social behaviors are strongly associated with future outcomes (Lösel & Beelman, 2003). Social competence as a global construct is a known predictor of achievement. Social competence relates to students’ socially responsible behavior and self-regulatory processes, both important aspects of social learning (Wentzel, 1991). There is an abundance of research investigating the negative ramifications of early antisocial behavior, including aggression, violence, oppositionality, and hyperactivity. For instance, high levels of antisocial behavior predict school maladjustment (Kokko & Pulkkinen, 2000), long-term unemployment (Kokko & Pulkkinen, 2000), and future psychopathology (Webster-Stratton et al., 2001). In contrast, prosocial behaviors predict better academic performance and lower levels of peer rejection and bullying (Kokko et al., 2006; Veenstra et al., 2008).
Risk Factors of Maladaptive Social Development

Early identification of negative social trajectories is imperative because antisocial behaviors become more resistant to intervention in later life (Webster-Stratton et al., 2001). A meta-analysis of antisocial behavior prevention programs revealed that social skills training programs were particularly effective at reducing antisocial behaviors in high-risk preschool children (Lösel & Beelman, 2003). More research is needed to identify why some younger children are at risk for engaging in maladaptive behavior or exhibiting lower levels of prosocial behavior. Socioeconomic status (SES) is one factor that consistently predicts maladaptive social behavior development, due in part to the associations between income and other risk factors including single parenthood, low parental education, life stress, family psychiatric history, drug abuse, domestic abuse, and physical punishment of children (Webster-Stratton et al., 2001).

A transactional model illustrates the relationship between poverty and child behavioral outcomes. The model includes the individual influences of child, parent, and environmental risk factors, as well as their dynamic relationship with one another. The risk factors from these three domains (child, parent, and environment) result in a greater likelihood of behavior problems (see Qi & Kaiser, 2003). Each of these broader components is comprised of numerous characteristics; for instance, child risk factors include temperament, social skills, language abilities, and gender. Taking all three broader areas of risk (child, parent, and environment) into consideration allows for a comprehensive examination of risk factors for social behavior.
development and provides researchers with multiple areas for screening and intervention.

Studying emotion variables related to these three domains of risk is one avenue through which to identify risk factors for poor social development. Emotion competence and social competence are highly correlated with one another (Denham et al., 2003). Emotion competence includes both emotion knowledge and emotion regulation. Emotion knowledge is understanding expressions, feeling states, and functions of emotions (Morgan, Izard, & King, 2010); emotion regulation “consists of the intrinsic and extrinsic processes responsible for monitoring, evaluating, and modifying emotional reactions” (Thompson, 1994). A major component of social behavior is the ability to process and respond to social cues. Consequently, a lack of emotion knowledge and emotion regulation can interfere with social behavior (Dodge et al., 1986). This relationship is exemplified by research demonstrating that emotion dysfunction of the child, parent, and home relates to children’s adaptive and maladaptive social behaviors (Eisenberg et al., 1993; Eisenberg, Gershoff, et al., 2001; Jaycox & Repetti, 1993; Lucia & Breslau, 2006). Emotion dysfunction reflects numerous difficulties with emotions, such as the display of frequent and intense negative emotions, poor coping strategies, and lack of control over emotions (Denham et al., 2003; Eisenberg et al., 1993; Eisenberg, Gershoff, et al., 2001), processes that are important for social development.
Emotion Dysfunction in Young Children

Previous research has explored whether children’s emotion dysfunction is associated with negative behavioral outcomes (Eisenberg, Cumberland, et al., 2001; Rubin et al., 1995). Several aspects of emotion dysfunction, such as frequency of negative emotion expression, emotion dysregulation, and high levels of internalizing symptoms, have been investigated in relation to concurrent and future adaptive and maladaptive social characteristics. For instance, children who were identified as having negative emotionality showed frequent and intense negative emotions and experienced peer rejection as a result of underdeveloped social skills (Eisenberg et al., 1993).

The inability to regulate emotions specifically is often associated with social and behavioral difficulties (Havighurst, Harley, & Prior, 2004; Rubin et al., 1995). Children with low emotion regulation are described as having trouble understanding their own emotions (Havighurst et al., 2004). An examination comparing emotion regulation in preschoolers classified as exhibiting low or high social interaction found that children who were socially interactive but had poor emotion regulation demonstrated more externalizing problems (Rubin et al., 1995). Poor emotion regulation in children is also associated with internalizing symptoms, including withdrawn behavior, depression, and anxiety (Eisenberg, Cumberland, et al., 2001). Children who exhibit low levels of emotion regulation and high levels of internalizing behaviors may have difficulty controlling negative emotionality (Eisenberg, Cumberland, et al., 2001). Depressive symptoms in children are predictive of peer rejection and poor social problem-solving skills, which exemplifies the
relationship between emotion dysregulation and maladaptive social behavior (Rudolph, Hammen, & Burge, 1994). Research exploring the relations between children’s emotion dysfunction and social behavior provides a target for intervention aimed at modifying children’s emotion and social competence.

**Emotion Dysfunction of Parents**

As suggested by the aforementioned transactional model of children’s outcomes, children’s social development is also influence by the emotion dysfunction of their parents (Qi & Kaiser, 2003). Literature on attachment and learning theories posit that parents shape and reinforce children’s social behaviors, citing children’s tendencies for imitation of their parental figures (Rubin, Mills, & Rose-Krasnor, 1989). Supporting these theories, parenting programs aimed at improving parents’ own emotion regulation and expression are associated with decreases in behavior problems and emotional negativity in their children (Havighurst et al., 2004).

Children of parents with emotion expression difficulties, emotion dysregulation, and high levels of depressive symptoms have been shown to have poor social development. There are a number of proposed explanations for why parent emotion expressivity and emotion dysregulation predict children’s social functioning. One such explanation is children’s direct imitation of parents’ emotion expression (Eisenberg, Gershoff, et al., 2001). Imitation of parent’s displays of emotion is apparent in children as young as nine months of age, as evidenced by a study that found infants expressed more joy if their mothers expressed joy, but more sadness if their mothers expressed sadness (Termine & Izard, 1988). Another explanation may
pertain to the correlation between parent’s expressivity and parenting style, exhibited by the positive association between positive expressivity and warmth (Eisenberg, Gershoff, et al., 2001). In line with this association, depressed parents may affect children’s social functioning through genetics or through the environment that the parent created for their children (Foster, Lambert, Abbott-Shim, McCarty, & Franze, 2005). Depressed parents may provide an inadequate model for social relationships and be less involved in their children’s development (Goodman, Brogan, Lynch, & Fielding, 1993). Thus, emotion dysfunction experienced by parents, including frequent negative expressions, emotion dysregulation, and the presence of depressive symptoms, are negatively associated with both children’s emotion and social competence.

**Emotion Dysfunction of the Home Environment**

The home environment is also an important component to consider when conceptualizing risk factors for children’s social competence, as it provides an arena for the socialization of emotions (Cassidy, Parke, Butkovsky, & Braungart, 1992; Eisenberg, Cumberland, & Spinrad, 1998; Vandeleur, Jeanpretre, Perrez, & Schoebi, 2009). The emotional climate in the home is complex and is often dependent on the emotion competence of its occupants. When examining the emotional climate of the home, constructs used to characterize parent and children emotion dysfunction can also be applied to the home, including emotion expressivity and emotion dysregulation or conflict in the home. The level of cohesion in the family is also an important component of the emotional climate of the home. Cohesion represents the
commitment, support, and help family members provide for one another (Moos &
Moos, 1994).

Research examining these components (expressivity, conflict, and cohesion) has demonstrated a link between home climate and children’s social functioning. The level of family expressiveness predicted children’s peer relations, suggesting that families are an important context for children to learn about emotions and develop social skills (Cassidy et al., 1992). Family expressiveness can be separated into positive and negative expressiveness, both of which uniquely predict social patterns. Positive family emotional expressiveness related to children’s social competence and social status in school, while negative emotional expressiveness uniquely related to poor social competence (Eisenberg et al., 1998).

Likewise, literature exploring family conflict suggests that it influences children’s level of behavior problems and social competence (Koblinsky, Kuvalanka, & Randolph, 2006). Conflict includes openly expressed anger, aggression, and disagreement within the family (Moos & Moos, 1994). Families characterized by conflict display interpersonal relations defined by anger. Research suggests that family conflict predicted children’s self-report of aggression and outside ratings of lower sociability and problems with emotion regulation (Jaycox & Repetti, 1993).

Another aspect of the emotional climate of the home is the emotional bonding or closeness that family members experience (Moos & Moos, 1994; Vandeleur et al., 2009). Family cohesion includes warmth, affection, and consistency, all of which related to family satisfaction and individual well-being and can be translated to social relationships (Vandeleur et al., 2009). Low levels of cohesiveness
in the family related to various domains of children’s poor social functioning, including aggression (Amato, 1988; Vandeleur et al., 2009). On the contrary, high levels of family cohesion predicted less internalizing problems and fewer attention problems (Lucia & Breslau, 2006). In general, a family environment characterized by negative expressiveness, high levels of conflict, and low levels of cohesion provides children with a poor demonstration of social relationships and little opportunity to develop adaptive social skills (Amato, 1988).

**Classroom Climate as a Protective Factor for Social Development**

Taking into account the different areas of risk from the transactional model for poor social development, schools provide a valuable opportunity to counteract some of the risk posed by the emotion dysfunction of the child, parent, and the home. Researchers stress the importance of the classroom environment as children spend a significant portion of time in the classroom. Teachers become important adult figures who are responsible for regulating children’s activity level, communication, and contact with peers (Hamre & Pianta, 2001). The teacher and the classroom environment may compensate for the emotion dysfunction of the child, parent, and the home (O’Connor & Kathleen, 2006). Classrooms rated as high quality across multiple domains (i.e., staff characteristics, classroom dynamics, parent involvement, classroom structural variables) are associated with less problematic behaviors in students, especially for children who are at the highest risk for developing behavior problems (Lambert, Abbott-Shim, & Mccarty, 2002).
More specifically, the emotional support of the classroom is one aspect of the classroom environment that could act as a protective factor for children who are at risk for poor social behavior due to a range of emotional struggles. The emotional support in a classroom consists of the teacher’s ability to foster a classroom characterized by warmth and low negativity, as well as the teacher’s sensitivity, responsivity, and regard for students’ individual perspectives (Hamre & Pianta, 2007). There is evidence that these characteristics of an emotionally supportive classroom foster the development of adaptive social competence through modeling by the teacher and the availability of individualized learning experiences (Hamre & Pianta, 2005). Emotional support in the classroom is associated with lower levels of negative behaviors, as well higher levels of positive aspects of social behavior (Lambert et al., 2002; Mashburn et al., 2008).

In addition to emotional support relating to children’s social behavior, research has demonstrated the possibility that emotional support is particularly beneficial for children at high risk for developing poor social competence (O’Connor, Dearing, & Collins, in press; Rimm-Kaufman et al., 2002). African American males in a Head Start program that were in classrooms rated high in emotional support had significantly lower levels of externalizing behaviors than counterparts in classrooms that were not emotionally supportive (Grossman et al., 2010). Other studies have shown that children with particularly high functional risk (e.g., those displaying attention and behavior problems) benefited most from positive classroom variables and struggled most in negative classroom environments (Rimm-Kaufman et al., 2002). In another study of Head Start children, classroom quality and individualized attention

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moderated the relationship between parental depression and children’s behavior problems (Lambert et al., 2002). These findings suggest that teachers who create an emotionally supportive classroom environment can help compensate for emotion dysfunction that children experience in other realms, such as the risk posed by the emotion dysfunction of the parent and the home environment.

**Current Study**

The first goal of the current study was to improve our understanding of the risk for poor social development (low levels of adaptive behavior and high levels of maladaptive behavior) that is associated with the emotion dysfunction of the child, parent, and home. Emotion dysfunction is broadly viewed as a combination of problems in controlling one’s emotions. In order to examine the emotion dysfunction in the various domains, different aspects of emotion dysfunction were assessed (and are described below). These aspects of emotion dysfunction were theoretically chosen based on previous research that demonstrated their predictive relationship with one another and with social behavior outcomes (Denham et al., 2003; Eisenberg et al., 1993; Trentacosta & Izard, 2007). The second goal was to assess whether emotional support in the classroom acts as a protective factor, curbing the negative ramifications of the aforementioned emotion dysfunction risk factors for poor social behavior development.

First, we hypothesized that emotion dysfunction in all three domains (child, parent, and the home) would predict lower levels of prosocial behavior and higher levels of disruptive behavior at the start of the school year. Second, we
hypothesized that emotional support in the classroom during the school year would alter the trajectory for children who are at risk for social behavior difficulties. Specifically, we predicted that classroom emotional support would reduce the harmful effect of child, parent, and home emotion dysfunction. Emotional support therefore would interact with the emotion dysfunction variables predicting an increase in prosocial behavior and a decrease in disruptive behavior over the school year.
Chapter 2

METHOD

The current study was part of a larger long-term project assessing the effectiveness of the Emotions Course (EC), an emotions-based preventive intervention, in helping Head Start children understand and regulate their emotions (Izard et al., 2008). The Head Start system serves a small inner-city area in a Mid-Atlantic state. The seven participating Head Start centers were randomly assigned to one of the two treatments: EC or a social-cognitive program called I Can Problem Solve (ICPS, Shure, 1992). Data collection for the current study occurred from September 2009 through May 2010.

Participants

From the 28 classrooms of the seven centers, we received consent from 355 children and their parents. Due to constraints on time and resources, a random sample of children was selected and teachers and parents completed measures for 194 of the children in the fall. As a result of attrition, data were collected on 185 children in the winter and 177 children in the spring. Children ranged in age from 3.03 years to 5.18 years ($M = 4.39; SD = .60$) and 57% were male. Parent-reported race and ethnicity indicated that 36% of the children were Hispanic and 60% were African American. Of the parents interviewed, 87% were the child’s mother, 5% were the child’s father, 4% were the child’s grandmother, and 4% were unknown. Parents
ranged in age from 20 years to 69 years ($M = 29.50; SD = 7.73$). As a Head Start community, 90% of the participants have an income level at or below the poverty line. Up to 10% of the children could be admitted if they had a special need, whether or not they met the economic criterion.

**Procedure**

Data collection began approximately one month after the Head Start school year began to allow children to acclimate and teachers to become acquainted with the children in their classroom. Data collection included rating forms completed by teachers, individual verbal ability assessments of the children, and individual parent interviews, as well as classroom climate observations. Teacher data were collected at three time points: before the interventions, halfway through the interventions, and at the conclusion of the interventions. Parent data and children’s verbal ability were collected at the beginning of the school year before the interventions started. The classroom climate was evaluated before and halfway through the interventions.

**Measures**

**Child Maladaptive and Adaptive Social Behavior**

The Adaptive Social Behavior Inventory (ASBI; Hogan, Scott, & Bauer, 1992, for use in Head Start) has 30 Likert-scale items that are used by teachers to rate prosocial and disruptive behavior. This instrument was developed for a high-risk population, and it has shown good psychometric properties in several high-risk preschool populations, including ethnically-diverse Head Start samples (Greenfield,
Iruka, & Munis, 2004; Greenfield, Wasserstein, Gold, & Jorden, 1997). In the current study, subscale α’s ranged from .75 to .91.

**Emotion Dysfunction of Young Children**

A theoretically derived and empirically substantiated aggregate variable for child emotion dysfunction was created from three different measures that reflect a struggle with controlling one’s emotion expression and regulation. The Emotion Regulation Checklist (ERC; Shields & Cicchetti, 1997, 1998) is a 24-item instrument designed for parents to indicate how the child is able to regulate his/her emotions on a scale of 1 (rarely/never) to 4 (almost always). The ERC yields a total emotion regulation score (current, study, α = .74). The Emotion Expression Rating Scale (EERS; Izard, 2000) is completed by parents using a seven-point Likert scale to rate the frequency with which the child expresses five negative emotions (sadness, anger, fear, shame, and guilt). The EERS yields a negative emotion expression score (current study, α = .80). The Child Behavior Checklist (CBCL; Achenbach & Rescorla, 2000) is a standardized 100-item measure requiring parents to read a brief description of a behavior or characteristic and rate how true this was of the child on a 3-point Likert scale. The CBCL yields an Internalizing Behavior Scale (current study, α = .84). The child emotion dysfunction composite was created by standardizing the three scales as z-scores and aggregating them. Inter-correlations between these three variables ranged from $r = .36$ to $r = .59$, with all significant at $p < .05$.  

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**Emotion Dysfunction of Parents**

A theoretically derived and empirically substantiated aggregate variable for parent emotion dysfunction was created from three different measures in a similar manner as the child emotion dysfunction aggregate. The Difficulties in Emotion Regulation Scale (DERS-Adapted; Gratz & Roemer, 2004) is a 36-item, self-report measure designed to assess clinically relevant difficulties in emotion regulation, including impulse control difficulties and lack of emotional awareness. Participants are asked to indicate how often the items apply to themselves on a scale of 1 (*almost never*) to 5 (*almost always*). The DERS yields a total emotion regulation score (current study, $\alpha = .81$). The Differential Emotions Scale (DES-IV; Izard, Libero, Putnam, & Haynes, 1993) consists of 36 items that asks the individual to report on a Likert scale from 1 (*rarely or never*) to 5 (*very often*) the frequency with which s/he experiences each of 11 emotions (interest, enjoyment, surprise, sadness, anger, disgust, contempt, fear, guilt, shame, shyness) and hostility directed inward. The DES-IV yields a negative emotionality score (current study, $\alpha = .94$). The Quick Inventory of Depressive Symptoms – Self Report (QIDS-SR 16; Rush et al., 2003) is a 16-item self-report measure of depressive symptoms which focuses only on the nine DSM IV criterion symptom domains. The item relating to suicide was omitted. The seven day period prior to assessment is the usual time frame for assessing symptom severity. The QIDS yields a total depressive symptoms score (current study, $\alpha = .74$). The parent emotion dysfunction composite was created by standardizing the three scales as z-scores and aggregating them. Inter-correlations between these three variables ranged from $r = .58$ to $r = .61$, with all significant at $p < .05$. 

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**Emotion Dysfunction of the Home Environment**

The emotion dysfunction in the household was estimated by the Family Environment Scale (FES). The FES (Moos & Moos, 1994) measures peoples’ perceptions of their environment. The original scale is comprised of 90 true-false items designed to assess three dimensions of the family environment: relationship dimension, personal growth dimension, and system maintenance dimension. For the purposes of the current project, only the items relating to the relationship dimension were used. The relationship dimension is comprised of three subscales: cohesion, expressiveness, and conflict (reverse coded). These aspects of the home environment all reflect an environment that is supportive of family members through encouragement of discussion about emotions with low levels of expressed anger. The response format was changed from true-false to a 6-point scale ranging from 1 (*Definitely False*) to 6 (*Definitely True*). Previous research has demonstrated the beneficial effects of this change, for instance increasing the sensitivity of the scale (Kline, Wood, & Moorephd, 2003). The FES has been widely used in research examining the influence of the home on child outcomes in school (DuBois, Eitel, & Felner, 1994). For this sample, the $\alpha$ of the relationship dimension subscale was .79. Inter-correlations between the three subscales ranged from $r = .40$ to $r = .64$, with all significant at $p < .05$.

**Classroom Emotional Support**

The level of emotional support in the classroom was estimated by the Classroom Assessment Scoring System (CLASS; Pianta, La Paro, & Hamre, 2006). Undergraduate research assistants were trained on the use of the structured classroom
observation system using a standardized manual that provided extensive descriptions of codes and standardized video clips. They were required to reach 80% agreement on the global ratings before the end of the training period. Over two separate periods during the beginning and middle of the school year, coders observed each classroom for a 2-hour period at the start of the day. Observers made global ratings of classroom quality and teacher behavior using a set of ten 7-point rating scales in three dimensions: Emotional Support ($\alpha = .91$), Classroom Organization ($\alpha = .87$), and Instructional Support ($\alpha = .86$). The classroom climate was observed before the interventions and halfway through the interventions. This allowed for the examination of changes in classroom climate due to the intervention and also due to natural changes in the classroom climate. Previous research has demonstrated that the classroom climate changes over the school year due to shifting dynamics between the teacher and the students (Buyse, Verschueren, Doumen, Van Damme, & Maes, 2008; Houts, Caspi, Pianta, Areseneault, & Moffitt, in press; Pianta & Hamre, 2009). The emotional support in the classrooms was not significantly different between the two treatments at either time point (time 1: $t(26) = -0.01$, ns; time 2: $t(26) = -1.41$, ns), nor did the emotional support significantly change between time points in either condition (EC: $t(12) = -0.03$, ns; ICPS: $t(14) = 1.79$, ns).

**Verbal Ability**

The Peabody Picture Vocabulary Test—Third Edition (PPVT-III; Dunn & Dunn, 1997) and Test de Vocabulario en Imágenes Peabody—Adaptación Hispanoamericana (TVIP; Dunn, Padilla, Lugo, & Dunn, 1986) provided a measure
of receptive vocabulary and an estimate of cognitive ability. The TVIP is a Spanish
translation of the PPVT-R (Dunn & Dunn, 1981) that was standardized in Mexico.
Children classified by the schools and parents as Hispanic were tested on both the
TVIP and PPVT-III. The test resulting in a higher standardized score determined the
verbal ability. The measures are individually administered, norm-referenced
assessments for which raw scores can be standardized. The PPVT-III (reported $\alpha = .94$) correlates .90 with a measure of general intelligence in children (Dunn & Dunn, 1997). Each page of the PPVT-III and TVIP test booklets has four pictures on it. The
examiner says a word and asks the child to point to the picture that represents that
word. Verbal ability is a known correlate of social behavior (Fine, Izard, Mostow,
Trentacosta, & Ackerman, 2003; Smith & Walden, 1998) and therefore it was
included in analyses as a control variable for evaluating changes in children’s social
behavior.
Chapter 3

RESULTS

Overview of Analyses

When examining outcomes in educational settings, the nesting of children in classrooms and classrooms in centers can lead to biased standard errors. The bias is usually in the direction of reduced standard errors (Murray, 1998) and can lead to inflated estimates of effects and increased Type I errors. Therefore, we performed analyses on the two outcome variables (prosocial and disruptive behavior) using Hierarchical Linear Modeling (HLM; Raudenbush & Bryk, 2002). HLM provides corrected standard errors for tests of inference, taking into account interdependence in the data due to clustering. Our data has a three-level structure with individual measures (clustered within children) represented at Level 1, child characteristics represented at Level 2, and classrooms at Level 3. The intraclass correlation for prosocial behavior at the child level was .51 and at the classroom level was .18, which means that 18% of the variance in prosocial behavior can be attributed to the clustering at the classroom level. The intraclass correlation for disruptive behavior at the child level was .43 and at the classroom level was .15, which means that 15% of the variance in disruptive behavior can be attributed to the clustering at the classroom level.

We estimated nine models in HLM, six testing the first hypothesis (emotion dysfunction predicting less prosocial and more disruptive behavior) and
three testing the second hypothesis (classroom emotional support would protect against the risk presented by the emotion dysfunction) with either prosocial behavior or disruptive behavior as the outcome. For all models, sex of child, ethnicity, and treatment were entered as uncentered variables such that 0 was equal to females, non-Hispanics, and children receiving EC. Age, verbal ability, the emotion dysfunction variables, and emotional support were grand-mean centered. To test the first hypothesis, prosocial behavior or disruptive behavior and time were entered in each model at Level 1, sex of child, ethnicity, age, verbal ability, and one of the three emotion dysfunction variables were in each model at Level 2, and treatment was entered on Level 3. Individual differences (i.e., variance components) were estimated only when \( p < .50 \). The Level 1 (within-subject) regression equation for the relationship between time and prosocial behavior (Pro) is:

\[
\text{Pro}_{ij} = \pi_{0ij} + \pi_{1ij}(\text{time})_{ij} + e_{ij}
\]

where \( \text{Pro}_{ij} \) is prosocial behavior at time point \( t \) for child \( i \) in school \( j \), \( \pi_{0ij} \) is the intercept representing the level of prosocial behavior at the start of the school year, \( \pi_{1ij} \) is the slope coefficient of time for prosocial behavior (that is, the number of units higher the prosocial behavior score is for each additional time point \( t \)), and \( e_{ij} \) is the error term, or random component of prosocial behavior for child \( i \) in school \( j \) at time point \( t \). We evaluated five Level 2 potential covariates or moderators of prosocial behavior or disruptive behavior: sex of child, ethnicity, age, verbal ability, and the emotion dysfunction variable. For illustrative purposes, we present the equation for the Level 2 (between-subject) regression equation for the relationship between prosocial behavior and parent emotion dysfunction:
\[ \pi_{0ij} = \beta_{00j} + \beta_{01j}(\text{Sex}) + \beta_{02j}(\text{Ethnicity}) + \beta_{03j}(\text{Age}) + \beta_{04j}(\text{Verbal Ability}) + \beta_{05j}(\text{Parent Emotion Dysfunction}) + r_{0ij} \] (2)

where \( \pi_{0ij} \) is the intercept representing the level of prosocial behavior at the start of the school year and \( \beta_{00j} \) is the intercept representing the level of prosocial behavior for children who are females, non-Hispanics, of average age, of average verbal ability, and of parents with average levels of emotion dysfunction. \( \beta_{01j} \) is the slope coefficient for sex of child, \( \beta_{02j} \) is the slope coefficient for ethnicity, \( \beta_{03j} \) is the slope coefficient for age, \( \beta_{04j} \) is the slope coefficient for verbal ability, \( \beta_{05j} \) is the slope coefficient for parent emotion dysfunction, and \( r_{0ij} \) is the error term.

The second hypothesis was only tested when the emotion dysfunction variable significantly related to either prosocial or disruptive behavior at the start of the school year. To test the second hypothesis, the original HLM models from the first hypothesis were expanded to examine whether emotional support protected against the risk of emotion dysfunction. Therefore, it was first necessary to include the relationship between the emotion dysfunction variable and social behavior over time. The Level 1 and 2 regression equations remained the same; however, the following equation is an example of what was added at Level 2 to examine the relationship of parental emotion dysfunctional to prosocial behavior across the school year:

\[ \pi(\text{time})_{1ij} = \beta_{10j} + \beta_{11j}(\text{Parent Emotion Dysfunction}) + r_{1ij} \] (3)

where \( \pi_{1ij} \) is the slope coefficient of time for prosocial behavior and \( \beta_{10j} \) is the intercept representing the level of change over time in prosocial behavior for children of parents with average levels of emotion dysfunction. \( \beta_{11j} \) is the slope coefficient of parent emotion dysfunction and \( r_{1ij} \) as the error term. At Level 3, we then evaluated whether emotional support moderated the relationship between emotion dysfunction
and social behavior. For illustrative purposes, we present the equations for the Level 3 (between-classroom) regression equations for the relationship between emotional support and parent emotion dysfunction on prosocial behavior over the course of the school year:

\[
\beta_{10j} = \gamma_{100} + \gamma_{101}(\text{Treatment}) + \gamma_{102}(\text{Emotional Support T1}) + \gamma_{103}(\text{Emotional Support T2}) + u_{10j} \\
\beta_{11j}(\text{Parent Emotion Dysfunction}) = \gamma_{110} + \gamma_{111}(\text{Emotional Support T1}) + \gamma_{112}(\text{Emotional Support T2}) + u_{11j}
\]  (4)  (5)

where \( \beta_{10j} \) is the intercept representing the level of change over time in prosocial behavior for children of parents with average levels of emotion dysfunction and \( \gamma_{100} \) is the intercept of the slope representing the level of change in prosocial behavior over the course of the school year for children in EC receiving average levels of emotional support at both the start and middle of the school year. \( \gamma_{101} \) is the slope coefficient for treatment, \( \gamma_{102} \) is the slope coefficient for emotional support at the start of the school year, \( \gamma_{103} \) is the slope coefficient for emotional support at the middle of the school year, and \( u_{10j} \) is the error term. \( \beta_{11j} \) is the slope coefficient for parent emotion dysfunction where \( \gamma_{110} \) is the intercept of the slope representing the level of change in prosocial behavior for children with average levels of parent emotion dysfunction receiving average levels of emotional support at both the start and middle of the school year. \( \gamma_{111} \) is the slope coefficient for emotional support at the start of the school year, \( \gamma_{112} \) is the slope coefficient for emotional support at the middle of the school year, and \( u_{11j} \) is the error term.
Descriptive Analysis and Correlations

Descriptive statistics are presented in Table 1 for all variables in the study. Correlations among the two outcome variables (prosocial and disruptive behaviors) at all three time points and the predictors are presented in Table 2. The three emotion dysfunction risk variables significantly correlated with prosocial behavior at all three time points, but not with disruptive behavior. The correlations indicated that more emotion dysfunction in any of the three domains related to less prosocial behavior. Further exploration of the three emotion dysfunction composites demonstrated that they were all moderately correlated with one another, ranging from .38 to .52. The moderate correlations lend support to their unique contributions as individual constructs.

Table 1  Means and standard deviations of all variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>M (SD)</th>
<th>Min</th>
<th>Max</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prosocial Behavior Time 1</td>
<td>54.85 (7.85)</td>
<td>26.00</td>
<td>66.00</td>
<td>194</td>
</tr>
<tr>
<td>Prosocial Behavior Time 2</td>
<td>55.61 (7.67)</td>
<td>30.00</td>
<td>66.00</td>
<td>185</td>
</tr>
<tr>
<td>Prosocial Behavior Time 3</td>
<td>55.89 (7.49)</td>
<td>32.00</td>
<td>66.00</td>
<td>176</td>
</tr>
<tr>
<td>Disruptive Behavior Time 1</td>
<td>8.98 (2.37)</td>
<td>7.00</td>
<td>18.00</td>
<td>194</td>
</tr>
<tr>
<td>Disruptive Behavior Time 2</td>
<td>8.98 (2.47)</td>
<td>7.00</td>
<td>19.00</td>
<td>185</td>
</tr>
<tr>
<td>Disruptive Behavior Time 3</td>
<td>9.35 (2.80)</td>
<td>7.00</td>
<td>20.00</td>
<td>177</td>
</tr>
<tr>
<td>Child Emotion Dysfunction</td>
<td>0.01 (2.39)</td>
<td>-5.54</td>
<td>5.75</td>
<td>192</td>
</tr>
<tr>
<td>Parent Emotion Dysfunction</td>
<td>-0.04 (2.48)</td>
<td>-5.20</td>
<td>6.92</td>
<td>188</td>
</tr>
<tr>
<td>Home Emotion Dysfunction</td>
<td>108.86 (15.21)</td>
<td>68.00</td>
<td>142.00</td>
<td>188</td>
</tr>
<tr>
<td>Classroom Emotional Support</td>
<td>4.79 (0.73)</td>
<td>3.56</td>
<td>6.25</td>
<td>28</td>
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</tbody>
</table>
### Table 2  Correlations among study variables

<table>
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<tr>
<th>Variable</th>
<th>Prosocial T1</th>
<th>Prosocial T2</th>
<th>Prosocial T3</th>
<th>Disruptive T1</th>
<th>Disruptive T2</th>
<th>Disruptive T3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex</td>
<td>-.23**</td>
<td>-.25**</td>
<td>-.27**</td>
<td>.18*</td>
<td>.06</td>
<td>-.01</td>
</tr>
<tr>
<td>Ethnicity</td>
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<td>.12</td>
<td>.15</td>
<td>-.19**</td>
<td>-.26**</td>
<td>-.26**</td>
</tr>
<tr>
<td>Age</td>
<td>.30**</td>
<td>.26**</td>
<td>.22**</td>
<td>.09</td>
<td>.10</td>
<td>.12</td>
</tr>
<tr>
<td>Verbal Ability</td>
<td>.18*</td>
<td>.17*</td>
<td>.21**</td>
<td>.03</td>
<td>.01</td>
<td>.10</td>
</tr>
<tr>
<td>Child Emotion Dys</td>
<td>-.15*</td>
<td>-.16*</td>
<td>-.15*</td>
<td>.02</td>
<td>.01</td>
<td>.05</td>
</tr>
<tr>
<td>Parent Emotion Dys</td>
<td>-.14†</td>
<td>-.21**</td>
<td>-.23**</td>
<td>.09</td>
<td>.06</td>
<td>.11</td>
</tr>
<tr>
<td>Home Emotion Dys</td>
<td>.18*</td>
<td>.17*</td>
<td>.18*</td>
<td>.00</td>
<td>.06</td>
<td>-.05</td>
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<tr>
<td>Emotional Support</td>
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<td>.12†</td>
<td>.13†</td>
<td>-.09</td>
<td>-.05</td>
<td>-.10</td>
</tr>
</tbody>
</table>

Note. †p < .10, *p < .05, **p < .01

**Hypothesis 1: Risk Posed by Emotion Dysfunction**

Tables 3-5 provide estimates for the final HLM models for each emotion dysfunction composite. An examination of child-level characteristics revealed that older children displayed more prosocial behavior and disruptive behavior at the start of the school year. Furthermore, both males and children with lower verbal abilities were rated lower on prosocial behaviors while Hispanics were rated lower on disruptive behaviors. Lastly, children receiving EC were rated higher in prosocial behaviors at the start of the school year, however, treatment (EC or ICPS) did not relate to changes in either prosocial or disruptive behaviors over the course of the school year.
Table 3  HLM estimates of effects for emotion dysfunction of children

<table>
<thead>
<tr>
<th>Fixed Effect</th>
<th>Coefficient</th>
<th>t</th>
<th>df</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ASBI Prosocial Behavior</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intercept</td>
<td>55.10</td>
<td>51.27**</td>
<td>26</td>
</tr>
<tr>
<td>Treatment</td>
<td>3.60</td>
<td>2.63*</td>
<td>26</td>
</tr>
<tr>
<td>Sex</td>
<td>-3.31</td>
<td>-4.06**</td>
<td>21</td>
</tr>
<tr>
<td>Ethnicity</td>
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<td>0.56</td>
<td>21</td>
</tr>
<tr>
<td>Age</td>
<td>0.01</td>
<td>1.18</td>
<td>27</td>
</tr>
<tr>
<td>Verbal Ability</td>
<td>0.10</td>
<td>2.93**</td>
<td>21</td>
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<tr>
<td>Child Emotion Dysfunction</td>
<td>-0.52</td>
<td>-2.30*</td>
<td>27</td>
</tr>
<tr>
<td>Time 1</td>
<td>0.70</td>
<td>1.74</td>
<td>24</td>
</tr>
<tr>
<td>Treatment</td>
<td>-0.55</td>
<td>-0.96</td>
<td>24</td>
</tr>
<tr>
<td>Emotional Support T1</td>
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<td>24</td>
</tr>
<tr>
<td>Emotional Support T2</td>
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<td>0.77</td>
<td>24</td>
</tr>
<tr>
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<td>0.90</td>
<td>25</td>
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<tr>
<td>Emotional Support T1</td>
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<td>-0.06</td>
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<tr>
<td>Emotional Support T2</td>
<td>0.24</td>
<td>1.24</td>
<td>25</td>
</tr>
<tr>
<td><strong>ASBI Disruptive Behavior</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intercept</td>
<td>0.95</td>
<td>75.70**</td>
<td>26</td>
</tr>
<tr>
<td>Treatment</td>
<td>-0.03</td>
<td>-1.38</td>
<td>26</td>
</tr>
<tr>
<td>Sex</td>
<td>0.02</td>
<td>1.16</td>
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</tr>
<tr>
<td>Ethnicity</td>
<td>-0.04</td>
<td>-3.03**</td>
<td>158</td>
</tr>
<tr>
<td>Age</td>
<td>0.00</td>
<td>2.36*</td>
<td>27</td>
</tr>
<tr>
<td>Verbal Ability</td>
<td>-0.00</td>
<td>-0.34</td>
<td>158</td>
</tr>
<tr>
<td>Child Emotion Dysfunction</td>
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<td>0.40</td>
<td>158</td>
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<tr>
<td>Time 1</td>
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<td>1.64</td>
<td>27</td>
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</table>

Note.  *p < .05, **p < .01
### Table 4  HLM estimates of effects for emotion dysfunction of parents

<table>
<thead>
<tr>
<th>Fixed Effect</th>
<th>Coefficient</th>
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<th>df</th>
</tr>
</thead>
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<tr>
<td><strong>ASBI Prosocial Behavior</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Intercept</td>
<td>54.92</td>
<td>53.15**</td>
<td>26</td>
</tr>
<tr>
<td>Treatment</td>
<td>3.24</td>
<td>2.50*</td>
<td>26</td>
</tr>
<tr>
<td>Sex</td>
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<td>-3.43</td>
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<td>Ethnicity</td>
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<td>1.23</td>
<td>27</td>
</tr>
<tr>
<td>Age</td>
<td>0.01</td>
<td>2.57*</td>
<td>27</td>
</tr>
<tr>
<td>Verbal Ability</td>
<td>0.11</td>
<td>3.47*</td>
<td>163</td>
</tr>
<tr>
<td>Parent Emotion Dysfunction</td>
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<td>-3.02</td>
<td>25</td>
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<tr>
<td>Time 1</td>
<td>0.68</td>
<td>1.60</td>
<td>24</td>
</tr>
<tr>
<td>Treatment</td>
<td>-0.34</td>
<td>-0.57</td>
<td>24</td>
</tr>
<tr>
<td>Emotional Support T1</td>
<td>0.52</td>
<td>1.40</td>
<td>24</td>
</tr>
<tr>
<td>Emotional Support T2</td>
<td>0.11</td>
<td>0.37</td>
<td>24</td>
</tr>
<tr>
<td>Parent Emotion Dysfunction</td>
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<td>-0.53</td>
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<td>Emotional Support T1</td>
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<td>Emotional Support T2</td>
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<td><strong>ASBI Disruptive Behavior</strong></td>
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</tr>
<tr>
<td>Intercept</td>
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<td>75.67**</td>
<td>26</td>
</tr>
<tr>
<td>Treatment</td>
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<td>-1.31</td>
<td>26</td>
</tr>
<tr>
<td>Sex</td>
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<td>1.20</td>
<td>27</td>
</tr>
<tr>
<td>Ethnicity</td>
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<td>-3.36**</td>
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<tr>
<td>Age</td>
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<td>2.29*</td>
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<tr>
<td>Verbal Ability</td>
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<td>27</td>
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</table>

Note.  *p < .05, **p < .01
Table 5  HLM estimates of effects for emotion dysfunction of the home environment

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<tr>
<th>Fixed Effect</th>
<th>Coefficient</th>
<th>t</th>
<th>df</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASBI Prosocial Behavior</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intercept</td>
<td>55.33</td>
<td>52.17**</td>
<td>26</td>
</tr>
<tr>
<td>Treatment</td>
<td>3.09</td>
<td>2.34*</td>
<td>26</td>
</tr>
<tr>
<td>Sex</td>
<td>-3.39</td>
<td>-3.65</td>
<td>27</td>
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<tr>
<td>Ethnicity</td>
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<td>0.60</td>
<td>162</td>
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<tr>
<td>Age</td>
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<td>27</td>
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<td>Verbal Ability</td>
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<td>2.52**</td>
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<tr>
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<tr>
<td>Time 1</td>
<td>0.01</td>
<td>1.63</td>
<td>27</td>
</tr>
</tbody>
</table>

Note.  *p < .05, **p < .01
Analyses lend partial support to the first hypothesis that the emotion dysfunction variables predict social behavior in school. Higher levels of parent, child, and home emotion dysfunction predicted lower levels of children’s prosocial behavior at the start of the academic year. However, the emotion dysfunction variables did not relate to initial levels of disruptive behavior. Therefore, analyses for the second hypothesis were restricted to the prosocial behavior outcome only. These models explored whether emotional support in the classroom would serve as a protective factor against the three emotion dysfunction risk variables for facilitating prosocial behavior.

**Hypothesis 2: Emotional Support as a Protective Factor**

The three emotion dysfunction variables continued to predict starting levels of prosocial behavior in these models. The emotional support in the classroom during the middle of the school year significantly interacted with parent emotion dysfunction in predicting the slope of prosocial behavior over the course of the school year. Post-hoc analyses revealed that the interaction between emotional support and parent emotion dysfunction was such that for children of parents with higher levels of emotion dysfunction, emotional support acted as a protective factor, relating to an increase in prosocial behavior over the course of the year (see Figure 1). Emotional support did not interact with child or home emotion dysfunction to predict a change in prosocial behavior over time.
Figure 1  Relationship between teacher-rated prosocial behavior at the end of the school year and parent emotion dysfunction across varying levels of emotional support in the classrooms.
Chapter 4

DISCUSSION

Based on the negative outcomes associated with adaptive and maladaptive behavior development, the importance of identifying children at risk for poor social development and determining processes that protect against risk factors is unmistakable (Kokko & Pulkkinen, 2000; Kokko et al., 2006). When examining risk factors for children’s social competence, it is necessary to explore characteristics of the child, parent, and home environment (Qi & Kaiser, 2003) and to examine both adaptive and maladaptive social behaviors (Kokko et al., 2006). Emotion competence and social competence are inextricably connected (Denham et al., 2003; Izard et al., 2008). Therefore, an investigation of how emotion dysfunction of children, their parents, and the home environment predicts adaptive and maladaptive social behaviors could lend insight into the process of social development. In addition to examining risk factors for poor social development, the identification of protective factors is paramount. In recent research, aspects of the classroom environment have been targeted as a potential protective factor. The integral role that emotions play in social behavior outcomes may provide an avenue for prevention by fostering an emotionally supportive classroom climate (Lambert et al., 2002; Mashburn et al., 2008).

In the current study, emotion dysfunction experienced by the child, parent, and in the home environment was explored as potential factors in children’s prosocial
and disruptive behavior in the classroom. The first hypothesis that emotion
dysfunction in the three domains would predict social behavior was partially
supported. Emotion dysfunction in all three domains significantly related to lower
levels of prosocial behavior at the start of the school year. However, none of the
emotion dysfunction variables related to disruptive behavior. The detrimental effect of
emotion dysfunction in the three domains on children’s display of prosocial behaviors
is supported by previous literature (Eisenberg et al., 1993). Children with emotion
dysfunction are characterized as high in negative emotion expression, low in emotion
regulation, and high in internalizing symptoms including withdrawal and depression
(Eisenberg, Cumberland, et al., 2001). These factors relate to children’s ability to feel
empathy for others and to engage in positive interactions. Similarly, children who
have parents with emotion dysfunction and also children who come from home
environments characterized by conflict and poor social connections are rated as
exhibiting fewer prosocial behaviors than their other peers (Amato, 1988; Eisenberg,
Losoya, et al., 2001; Lucia & Breslau, 2006). Prosocial behaviors are perhaps not as
frequently modeled by parents with high levels of emotion dysfunction, thereby
providing fewer opportunities for these children to develop adaptive social behaviors.

The emotion dysfunction explored in the current study did not predict
disruptive behavior. The lack of relationship may be due to limitations in the study.
For example, disruptive behavior is a specific type of antisocial behavior and perhaps
other forms of maladaptive behavior such as withdrawal, aggression, or
oppositionality are more associated with emotion dysfunction. Furthermore, the
average level of disruptive behavior of the children in the current study was low and
there may not have been enough variability in the data to detect a relationship. However, in contrast, previous research does demonstrate a connection between individual components of emotion dysfunction and various forms of antisocial behaviors (Kokko et al., 2006; Rubin et al., 1995; Rudolph et al., 1994). In addition, there are other risk factors that are associated with both disruptive and prosocial behavior that were not investigated in this study, such as attachment patterns, learning difficulties, and exposure to violence (Grizenko & Pawliuk, 1994; Shaw, Owens, Vondra, Keenan, & Winslow, 1996). It is possible that other risk factors are more central for predicting disruptive behavior.

Classroom emotional support was identified as a potential protective factor against the risk for lower levels of prosocial behavior due to emotion dysfunction. In partial support of the second hypothesis, the emotional support of the classroom moderated the relationship specifically between parent emotion dysfunction and prosocial behavior by facilitating the development of prosocial behavior over the school year for at-risk children. In line with previous research, a high quality classroom climate was particularly beneficial for children at an elevated risk for developing poor social competence (O'Connor et al., in press; Rimm-Kaufman et al., 2002). The emotional support offered by the teacher and the classroom climate may compensate for the lack of modeling and nurturance a parent can provide when the parent is characterized as having emotion dysfunction. In the current study, parents who were identified as experiencing emotion dysfunction rated themselves as exhibiting frequent negative expressions, having difficulties in regulating their own emotions, and having more symptoms of depression. Negative expressions included
emotions such as shame, disgust, sadness, and anger, and emotion dysregulation included problems with impulse control, self-awareness, and availability of coping strategies. On the contrary, teachers and classrooms rated high in emotional support are characterized as sensitive, responsive, highly aware of students’ individualized needs, and as fostering healthy relationships. These are all qualities that a parent experiencing emotion dysfunction may not be able to offer to their developing children.

Emotional support, however, did not facilitate the development of prosocial behavior for children with emotion dysfunction or for children who were from homes characterized as having emotion dysfunction. It may be that the emotional support in the classroom is unable to compensate for children’s own emotion dysregulation, and instead, interventions are needed that directly teach children these skills. The EC, a preventative intervention program implemented in Head Start preschools, directly teaches children about emotions and strategies to regulate emotions. The EC has been shown to lead to increased prosocial behavior including positive emotion expression and interpersonal social abilities (Izard et al., 2008).

Emotional support also did not compensate for the emotion dysfunction of the home as it did for the parents’ emotion dysfunction. The home environment is a system of which the child is a member and where the child may be exposed to and involved in a conflictual and negative home environment. Classroom emotional support may not be able to counteract the strong influence of the dynamic interactions of the home environment. In addition, the study is limited in that both child and home emotion dysfunction were measured through parent ratings and therefore the ratings
are subject to the parents’ own emotion dysfunction, which may alter their perceptions. Future studies may consider directly observing emotion dysfunction, as the current study did in the classroom environment.

The current study demonstrates the risk posed by emotion dysfunction in the major domains related to children’s functioning—characteristics of the child, the parent, and the home environment. Preschool children who had these risks were rated lower in prosocial behavior, a facet of social competence that relates to children’s academic performance and peer acceptance (Kokko et al., 2006; Veenstra et al., 2008). More importantly, the emotional support of the preschool classroom facilitated the development of prosocial behavior for children who were placed at a higher risk for social problems due to the emotion dysfunction of their parents. These findings aid schools in identifying children that are more likely to develop social difficulties. Furthermore, these findings stress the need for preventive interventions that help parents with their emotion dysfunction and that strengthen the classroom climate, specifically the emotional support of the classroom.

Previous research has demonstrated the beneficial impact of parenting programs aimed at teaching parenting strategies and improving parents’ well-being (Havighurst et al., 2004; Sanders, 1999; Thomas & Zimmer-Gembeck, 2007), as well as teaching training programs that foster emotionally supportive classrooms (McIntosh, Rizza, & Bliss, 2000). For example, the Essential Parenting Program seeks to improve parenting skills related to children’s emotion competence, and children of parents who completed the program were rated as displaying fewer difficult behaviors (Havighurst et al., 2004). Likewise, the Triple P-Positive Parenting Program helps
parents to develop self-regulatory skills that are crucial for them to become adaptive problem solvers and allows them to model appropriate social skills for their children (Sanders, 1999). In regards to teacher training, programs such as Teacher-Child Interaction Therapy, which fosters teacher-student relationships and emotional support in the classroom, predicted decreases in problematic behaviors and increases in compliance (McIntosh et al., 2000).

The current study has some limitations that affect its generalizability and conclusions. The study included a specific sample of urban Head Start preschool children and therefore the findings may not generalize to other populations. Furthermore, there were a small number of classrooms and significant attrition across the school year, two factors that affect the validity of the findings. The three emotion dysfunction composites in the current study were created theoretically and therefore it is important to further develop these constructs by using statistical models and factor analyses. In future studies, it will be important to replicate these findings in other populations with psychometrically sounds constructs and to corroborate the findings through analyzing observational data of emotion dysfunction and children’s social behavior as opposed to relying on teacher and parent ratings.

The findings also do not address the process through which emotion dysfunction predicts social competence and likewise through which emotional support facilitates prosocial behavior development in at-risk children. Emotion dysfunction is a broad construct that influences various domains of functioning. For instance, the current study shows that parent emotion dysfunction related to lower prosocial behaviors. However, many processes such as the use of different parenting strategies,
poor attachment patterns, or the modeling of maladaptive social behaviors could potentially explain this relationship. Identifying the precise mechanism through which emotion dysfunction relates to aspects of social behavior is necessary. A comprehensive understanding would allow for the development of targeted interventions at the child, parent, and home levels. Similarly, it will be important to investigate what specific components of emotional support in the classroom facilitate prosocial behavior.

These results provide evidence that emotion dysfunction of children and their parents and the emotional climate of the home environment are important factors for preschool children’s social competence. Furthermore, emotional support in the classroom helped to facilitate social competence, specifically for children who have parents with emotion dysfunction. Therefore, children who are identified as having these risk factors should be placed in emotionally supportive classrooms. The current study demonstrates the need for interventions that aim to provide support for parents’ adaptive emotion functioning and that seek to foster emotionally supportive environments through teacher training programs. In the future, it will be important to consider the factors that determine whether a teacher creates a classroom high in emotional support, such as teachers’ education, classroom size, and teacher characteristics. Further investigation into the relationships between social and emotion competence and the protective nature of emotional support in the classroom will be beneficial for future efforts to identify children at-risk and to prevent maladaptive social behavior while facilitating prosocial behaviors.
Appendix

HUMAN SUBJECTS APPROVAL

Thank you for your submission of Continuing Review/Progress Report materials for this research study. The University of Delaware IRB has APPROVED your submission. This approval is based on an appropriate risk/benefit ratio and a study design wherein the risks have been minimized. All research must be conducted in accordance with this approved submission.

This submission has received Full Committee Review based on the applicable federal regulation.

Please remember that informed consent is a process beginning with a description of the study and assurance of participant understanding followed by a signed consent form. Informed consent must continue throughout the study via a dialogue between the researcher and research participant. Federal regulations require each participant receive a copy of the signed consent document.

Please note that any revision to previously approved materials must be approved by this office prior to initiation. Please use the appropriate revision forms for this procedure.

All SERIOUS and UNEXPECTED adverse events must be reported to this office. Please use the appropriate adverse event forms for this procedure. All sponsor reporting requirements should also be followed.

Please report all NON-COMPLIANCE issues or COMPLAINTS regarding this study to this office.

Please note that all research records must be retained for a minimum of three years.

Based on the risks, this project requires Continuing Review by this office on an annual basis. Please use the appropriate renewal forms for this procedure.
REFERENCES


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