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Depression, Control, and Climate: An Examination of Factors Impacting
Teaching Quality in Preschool Classrooms

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Abstract

This study investigated the relationship of preschool teachers' self-reported depressive symptomatology, perception of classroom control, and perception of school climate to classroom quality as measured by the Classroom Assessment Scoring System (CLASS Pre-K). The sample consisted of 59 urban preschool classrooms serving low-income and linguistically diverse students in the northeastern and southeastern United States. Results of hierarchical linear modeling revealed that teachers' individual report of depressive symptomatology was significantly and negatively predictive of their observed instructional support and classroom organization quality domains. The findings of this study have implications for increasing access to mental health supports for teachers in an effort to minimize depressive symptoms and potentially improve classroom quality.

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Depression, Control, and Climate: An Examination of Factors Impacting Teaching Quality in
Preschool Classrooms

Early childhood teachers play an important role in the development of young children's social and academic competencies (Pianta, La Paro, Payne, Cox, & Bradley, 2002; LoCasale-Crouch et al., 2007). In particular, children who are considered to be at-risk for academic difficulties, such as those coming from low socioeconomic and linguistically diverse backgrounds, stand to benefit greatly from attending higher quality preschool programs (Burchinal, Field, Howes, Lopez, & Pianta, 2012; Lamy, 2012; Magnuson, Lahaie, & Waldfogel, 2006). Nationally, more than 25% of children younger than age 6 live in a home where a language other than English is spoken, with the most common home language being Spanish (Matthews & Ewen, 2010; Capps, Fix, Ost, Reardon-Anderson, & Passel, 2005). In addition, 45% of the children living in the United States live in low-income or impoverished homes, with a disproportionate number of those children also coming from linguistically and culturally diverse backgrounds (Capps, Fix, Ost, Reardon-Anderson, & Passel, 2004; Addy, Engelhardt, & Skinner, 2013). Thus, young children who fall into these at-risk categories are prevalent in the school system, further highlighting the need for qualified and effective preschool teachers who can meet the needs of these diverse students (Parker, Martin, Colmar, & Liem, 2012).

In recent years, there has been an increased emphasis on the development of standards and means of accountability in preschool education (e.g., NAEYC DAP 2009; NCLB, 2002), as well as burgeoning scientific inquiry regarding optimal instructional techniques and interactions in diverse preschool environments (Pianta et al., 2005; Zaslow, Martinez-Beck, Tout, & Halle, 2011). Yet, while knowledge of what early childhood teachers should do to support children in the classroom continues to grow, less is known about factors that may influence teachers' ability

to engage in high quality interactions and to provide effective instructional techniques to students in their classroom (Ryan & Whitebrook, 2012). Furthermore, prior research has found that classroom quality is often lower in educational environments serving low-income students (Pianta et al., 2005), underscoring the need to explore teacher-related factors that are associated with quality in classrooms with at-risk students.

To develop a better understanding of teachers' capacity to provide high quality education, educational researchers have proposed that teachers' psychological attributes and professional experiences should be considered when exploring factors that contribute to teaching quality and teacher-child interactions (Rimm-Kaufman & Hamre, 2010). Therefore, it may be valuable to study teacher behavior within the context of their psychological and emotional state, as well as through their own experiences in, and perceptions of, the work environment. Hargreaves (2000) asserted that emotions and perceptions in the work environment can have positive or negative effects on teaching quality, particularly for educators of young children. Some emotional and perceptual factors that have been identified in the literature as potentially impacting educational quality include teachers' experience with depressive symptomatology, their perceived control regarding classroom processes, and their perception of the school climate. The purpose of this study was to examine the relationship that these factors have with classroom quality with a sample of preschool teachers whose classrooms include low-income students who are linguistically diverse.

Emotional and Perceptual Factors Affecting Teaching Quality

Previous research on classroom processes has indicated that teaching practices contributing to high quality instruction and promoting school readiness include establishing a learning environment that fosters language development from instructional and social

interactions, creating a warm and responsive classroom climate, maintaining consistent and effective behavior management strategies, and providing feedback through scaffolding and support (Pianta, 1999; Li-Grining et al., 2010; LoCasale-Crouch et al., 2007; Rimm-Kaufman, Curby, Grimm, Nathanson, & Brock, 2009). Considering the teachers' emotional well-being and experiences within the school setting may allow for a better understanding of why some teachers are able to demonstrate these high quality practices and some are not (Rimm-Kaufman & Hamre, 2010; Raver 2004). Unfortunately, literature exploring the childcare workforce has indicated that childcare professionals in low-income areas are more likely to experience reduced emotional functioning (e.g., stress, depression), a decreased sense of control over their environment, and limited resources within the school setting (Curbow, Spratt, Ungaretti, McDonnell, & Breckler, 2000; Raver, 2004), all of which can influence their instruction and interactions in the classroom. Developmental studies of teachers in preschool and early elementary classrooms suggest that one key aspect of emotional functioning is depressive symptomatology (e.g., Hamre & Pianta, 2004; Pianta et al. 2005).

Depressive Symptomatology. It has been well documented that mood disorders, such as depression, are prevalent among individuals in the workforce, and the associated symptoms can have an adverse effect on work productivity and quality (McIntyre, Liauw, & Taylor, 2011). This is due to diminished levels of energy, poor ability to concentrate and make decisions, and reduced motivation (Diagnostic and Statistical Manual of Mental Disorders-5, 2013). Previous research has also indicated that preschool teachers are among professionals in the United States who report feelings of depression and stress (Jones, Bouffard, & Weissbourd, 2013; Whitaker, Becker, Herman, & Gooze, 2013).

Clinical evidence has shown that emotionally depleted or depressed individuals are

susceptible to increased negative thoughts and attitudes, which can affect the quality of their interpersonal relationships and lead to withdrawal behaviors, such as avoiding interactions with others (American Psychiatric Association, 2013; Hamre & Pianta, 2004). Depressive symptoms can be particularly detrimental to the emotional bond formed between young children and adult caregivers (e.g., Campbell et al., 2004; Elgar, McGrath, Waschbusch, Steward, & Curtis, 2004; NICHD Early Child Care Research Network, 1999; Raver, 2003). This finding is concerning because it has been well established that early teacher-child relationships influence young children's emotional development and academic success (Burchinal, Peisner-Feinberg, Pianta, & Howes, 2002; La Paro & Pianta, 2000).

Previous investigations of teachers' psychological health found that self-report of depressive feelings and of other emotional stressors relate to lower quality classroom interactions and instruction (Kyriacou, 2001; La Paro et al., 2009; Pakarinen et al., 2010). For example, self-reported depressive symptomatology of preschool teachers has been negatively associated with teacher sensitivity during student-teacher interactions and positively associated with teacher withdrawal behaviors (Hamre & Pianta 2004) and longer periods of unstructured free time in the classroom (Pianta et al. 2005). Conversely, teachers' positive perceptions of their own social-emotional functioning have been linked to their ability to provide higher quality environments that improve student outcomes (Brown, Jones, LaRusso, & Aber, 2010). For example, Pakarinen and colleagues (2010) found lower levels of teacher psychological stress and higher ratings of classroom management to be associated with increased learning motivation on the part of the students in early childhood classrooms. It is particularly important to monitor the emotional functioning of teachers of at-risk populations because of the critical role that high quality early

childhood teachers may play in the social-emotional and academic development of these young students.

Perceived Control in the Classroom. A factor that may also contribute to classroom quality is teachers' perception of control in their classroom. The Theory of Planned Behavior posits that an individual's perception of control is affected by the level of difficulty they experience when performing actions in the environment (Ajzen 1991; Hammarberg, 2003). Perception of control is particularly applicable to early childhood teachers, as they are responsible for managing and controlling the complex classroom environment and for communicating with other educational personnel and parents. A limited number of observational studies have identified links between early childhood teachers' perceived control and classroom quality. For example, an increased rating of control was associated with preschool teachers' use of higher quality language with children, and a lower level of control was associated with an increased number of reactive verbal commands directed toward students (Hagekull & Hammarberg, 2004). Preschool teachers' ratings of control over children's behavior in the classroom was found to be significantly and positively related to ratings of job satisfaction, contentment with working conditions, and feelings of positive recognition from staff (Hammarberg, 2003).

Children in economically and linguistically diverse classrooms can present a variety of academic, behavioral, and communicative experiences, which can be attributed in part to differing environmental and cultural expectations between the home and school settings (Flores & Riojas-Cortez, 2009). However, previous research has indicated that teachers are not often provided with adequate training and resources to deliver effective and differentiated instruction to such students (Li-Grining et al., 2010; Russakoff, 2011), which could ultimately impact

teachers' sense of control over learning and behavioral outcomes in the classroom. Because little is known about the direct relationship between perceived control and classroom quality, more empirical information is needed.

Perceived School Climate. Teachers' perception of their school climate is another factor that warrants exploration. School climate has been broadly defined to include the didactic practices, physical setting and resources, shared beliefs and values, and interpersonal relationships that shape the dynamics within schools (Cohen, McCabe, Michelli, & Pickeral, 2009; Mitchell, Bradshaw, & Leaf, 2010). Key dimensions of school climate identified in previous literature include supportive and accessible administration, school-community collaboration, support for teacher learning and professional development, and enthusiastic staff (Cohen, 2006; Cohen et al., 2009). Although considerable attention has been given to student outcomes associated with school climate (Thapa, Cohen, Higgins-D'Allesandro, & Guffey, 2012), less is known about the influence of teachers' perceptions of school climate on the quality of their classroom instruction.

Some existing empirical work has identified school climate as a variable that potentially contributes to teacher behavior. Research has shown that a supportive working environment enables teachers of a variety of grade levels to be more effective in the classroom (Johnson, 2006). Conversely, teachers who work in schools that lack essential climate dimensions report higher levels of stress and lower levels of job satisfaction, which can lead to emotional exhaustion and burnout (Skaalvik & Skaalvik, 2009; Veldman, Tartwijk, Brekelmans, & Wubbles, 2013). Importantly, teachers' perceptions can directly affect their actions (Skinner, Kindermann, Connell, & Wellborn, 2009). Ransford and colleagues noted that teachers' self-reported experiences in the work environment, such as their perceptions of administrative

support, can affect their willingness and motivation to implement high quality curricula in the classroom (Ransford, Greenberg, Domitrovich, Small, & Jacobson, 2009). School climate may be particularly salient for teachers of at-risk and diverse populations because they often demonstrate added need for school-based supports, professional development opportunities, and collaboration with other educational personnel (Zepeda, Castro, & Cronin, 2011). Thus, it is reasonable to assume that teachers' perceptions of their school climate may directly affect their classroom quality, particularly in low-income and linguistically diverse early childhood classrooms.

Aim of the Current Study

Taken together, existing literature suggests that teachers' emotional state and their perceptions of their work environment may play a role in the formation of teacher-child relationships and delivery of instruction. Further research regarding these factors may deepen both researchers' and educators' understanding of the ways in which teachers can be better supported to provide high quality instruction. This research is especially crucial in classrooms with a significant enrollment of low-income children from linguistically diverse backgrounds, as these children are already at-risk for later academic difficulties and may derive great benefit from attending high quality preschools (e.g., Burchinal et al., 2012).

Therefore, the aim of this study was to investigate the relationship of preschool teachers' self-reported experiences with depressive symptomatology, perception of control, and perception of school climate to observed classroom quality as measured by the three domains (Emotional Support, Classroom Organization, and Instructional Support) of the Classroom Assessment Scoring System (CLASS Pre-K). The sample of teachers in this study served low-income students, some of whom were linguistically diverse. This investigation contributes to educational

literature by collectively examining emotional and perceptual factors that potentially affect classroom teachers' ability to carry out high quality instruction. A strength of this study is that these factors have not yet been examined together. The hypotheses were as follows: (a) teachers' experience with depressive symptomatology would be negatively related to observed classroom quality scores, (b) teachers' perceived control in the classroom would be positively related to classroom quality, and (c) teachers' perception of their school's climate would be positively related to classroom quality.

Method

The data for this study were collected during a larger longitudinal randomized control trial investigating the effects of the *Tools of the Mind* curriculum (Bodrova & Leong, 2007) in classrooms serving children from low-income and linguistically diverse backgrounds.

Participants

The original study included 68 teachers from 33 urban preschools in the northeastern and southeastern United States. Classrooms were randomized by educational center into control and intervention conditions. Because eight teachers from the original longitudinal study did not complete the questionnaire and one teacher did not have a CLASS observation, fifty-nine teachers from 31 centers participated in the current study. The majority of teachers were female (78%). Half of the teachers (45.8%) reported holding Master's degrees, and the remainder held Bachelor's degrees (33.9%) or Associate's degrees (11.9%). Half (50%) were certified in early childhood education and 11.9% also held bilingual certifications. Teachers averaged 13.5 years ($SD = 8.53$) of teaching experience, ranging from 2 to 36 years. Fifty percent of teachers identified themselves as being of Hispanic or Latino descent, primarily reporting their ethnicity as Puerto Rican ($n = 10$), Dominican ($n = 7$), or South American ($n = 6$). Teachers reported their

race as White (30.5%), Black (15.3%), American Indian (3.4%), Asian (3.4%), or Pacific Islander (3.4%).

Teachers taught in Head Start classrooms or preschool centers associated with their state's department of education, all of which served children who received free or reduced lunch. The majority of classrooms (90.9%) were full day programs. Nearly 20% or more (*range* = 17% - 100%) of the student population in each classroom was considered linguistically diverse, with children coming from Spanish-speaking homes. Children in these classrooms averaged 59 months of age (*range* = 40 - 74 months).

Measures

Teacher questionnaire. A multipart questionnaire was used to gather information about teachers' demographics, emotional health, and perceptions of their current work environment. Demographic items asked about gender, ethnicity, age, teaching experience, and language proficiency in English and Spanish. Specific questions inquiring about depressive symptomatology, perceived control in the classroom, and perceived school climate were informed from previous research.

Six items targeting depressive symptomatology asked teachers to rate how frequently they experienced particular negative emotions (i.e., nervousness, worthlessness, sadness; Kessler et al., 2003; Li-Grining et al., 2010) in the 30 days prior using a 5-point Likert type scale ranging from *none of the time* to *all of the time*. Examples of items exploring depressive symptomatology included "how often did you feel hopeless" and "how often did you feel that everything was an effort." Items targeting teachers' self-reported depressive symptoms were taken from the Kessler Psychological Distress Scale (K6; Kessler et al., 2002), which is a brief self-report measure used to screen for mental illness. The K6 has demonstrated convergent validity with other mental

health screening measures (Kessler et al., 2003). With the current sample, the six depressive symptomatology items had a Cronbach's alpha of .81.

Five items targeting teachers' perceived control in the classroom used 5-point Likert-type frequency ratings (ranging from *rarely* to *most of the time*) to indicate how often they felt in control of aspects of their job (i.e., child behavior, communication with parents, and personal time during the workday; Curbow et al., 2000; Hammarberg & Hagekull, 2002). For example, items inquired about the amount of control teachers have over "the types of activities you do", "getting parents to be consistent with how you deal with a child" and "getting children to do what you want." Items inquiring about teachers' perceived control were taken from the Job Control subscale of the Child Care Worker Job Stress Inventory (CCW-JSI), which has been validated in previous research (Curbow et al., 2000). The five items within the perceived control composite had an alpha of .68 with the current sample.

Seven items using a 4-point Likert-type scale rated teachers' agreement with statements regarding their perception of their school's climate (Li-Grining et al., 2010). Items of this type contained questions regarding support and encouragement of administration and staff, as well as teachers' feelings of acceptance and respect by colleagues. For example, statements included "staff members in this center generally have center spirit" and "teachers in this center are continually learning and seeking new ideas." Answers ranged from *strongly disagree* to *strongly agree*. School climate items were based on questions from the Administrator and Teacher Survey (ATS), which was originally developed by the National Center for Education Statistics (U.S. Department of Education, National Center for Education Statistics, 1988; Kang, Rowan, & Raudenbush, 2004). The seven perceived school climate items had an alpha of .64.

Classroom quality and Teacher-Child Interactions. The Classroom Assessment Scoring System (CLASS Pre-K; Pianta, La Paro, & Hamre, 2008) is designed to measure the quality of early education classrooms by examining teachers' interactions with their students. The three primary interactional domains consist of emotional support, classroom organization, and instructional support. Emotional support consists of ratings of positive and negative climate (e.g. positive or negative interactions with students), teacher sensitivity (e.g. responsiveness to students' problems), and regard for student perspectives (e.g. support for student autonomy and expression). Classroom organization is comprised of ratings on behavior management (e.g. redirection of misbehavior), productivity (e.g. use of routine and transitions), and instructional learning formats (e.g. clarity of learning objectives). Instructional support is made up of the dimensions of concept development (e.g. facilitating creativity and reasoning), quality of feedback (e.g. scaffolding and feedback), and language modeling (e.g. use of conversation and open-ended questions).

Classrooms can be observed for one to six cycles, which each entail 20 minutes of direct observation and 10 minutes of rating behaviors. Each of the ten dimensions making up the three domains is assigned a rating from 1 to 7, with a range of *low* (1-2), *middle* (3-5), and *high* (6-7). Summary scores are then calculated for each dimension across all cycles. Summing the scores of the aggregated dimensions and dividing by the total number of dimensions within that domain yields the three total domain scores. Authors of the measure (Pianta, La Paro, & Hamre, 2008) reported internal consistency of .89 for emotional support, .77 for classroom organization, and .83 for instructional support.

Procedures

Teachers independently completed the teacher questionnaire mid-year. CLASS Pre-K observations were completed in the spring of the preschool year by independent raters rigorously trained in its administration. Prior to data collection, classroom observers reached 80% inter-rater reliability while supervised by an expert trainer during on-site observations. Raters completed a total of five cycles for each classroom, observing interactions between adults and children for a total of 2.5 hours per classroom. Twenty percent of classrooms were double coded to get a measure of inter-rater reliability. Overall percent-within-one agreement across cycles (Pianta et al., 2008) was strong, ranging from 90.7% to 95.0% and averaging 92.3%. By interactional domain, interrater reliability within-one was approximately 96.8% for emotional support, 89.5% for classroom organization, and 89.1% for instructional support.

Analyses

Independent-sample t-tests on all variables revealed non-significant differences between teachers in control versus intervention classrooms on predictor and outcome variables. Therefore, data from both treatment groups were combined to form the sample of 59 teachers. The three predictors (depressive symptomatology, perceived control in the classroom, and perceived school climate) were composite variables created from summing selected items within the teacher questionnaire.

Multilevel Modeling. To account for the fact that teachers were nested within preschool centers, hierarchical linear modeling (HLM) was conducted using HLM 6.0 for Windows (Raudenbush, Bryk, & Congdon, 2004). An unconditional means model, within-teacher model (level-1), and within- and between-teacher model (level-2) were constructed for each of the three classroom quality outcome variables: emotional support, classroom organization, and

instructional support. All predictor variables were z-standardized to aid interpretation.

First, unconditional models absent of explanatory variables were constructed to determine the degree to which variation in classroom quality was explained by differences between schools. Next, teacher-level predictor variables were included to estimate the within-teacher effect: the association between the outcomes and individual teacher characteristics. The level-1 variables were comprised of the individual teacher composite scores on depressive symptomatology, perceived control in the classroom, and perceived school climate.

The level-2 variables were the center-wide averages of each of the three predictor variables, designed to control for possible contextual differences in preschool centers and to isolate the effect of teachers' personal functioning (Krull & MacKinnon, 2001). The final models included both the individual teacher predictors (level-1) and the aggregates of those predictors (level-2) to properly account for within- and between-teacher effects. This final model allows for the exploration of how the school averages of depressive symptomatology, perceived control in the classroom, and perceived school climate impact each outcome of classroom quality while adjusting for teachers' individual characteristics.

For all tested models, intra-class correlation coefficients (ICCs) were calculated. Proportion reduction in variance (R_1^2) and significance of nested model chi-square (χ^2) were used to determine the best fitting model for each classroom quality outcome.

Results

Multilevel Analyses

Descriptive statistics are included in Tables 1 and 2. On average, CLASS domains fell within the middle quality range. Teachers' ratings of depressive symptomatology were fairly low, while perceived classroom control and perceived school climate were rated higher on

average. Correlations among CLASS Pre-K domains and teacher questionnaire composites ranged widely from $-.08$ to $.71$. Results of all models constructed for each domain of classroom quality are presented in Tables 3, 4, and 5. ICCs for each unconditional model were above $.10$, indicating that much of the variance in classroom quality lies between classrooms and providing further support for the use of HLM (Dedrick & Greenbaum, 2011).

The effects of each predictor on the classroom quality outcomes as determined by the final models are included in Table 6. The results indicate that teachers' individual report of depressive symptomatology was found to be significantly and negatively related to their classroom organization ($p = .04$) and instructional support ($p = .04$). Teachers who were one standard deviation higher on the measure of depressive symptomatology demonstrated a decrease of $.19$ standard deviations in classroom organization and $.21$ standard deviations in instructional support, holding all else constant. The reported preschool center average of perceived school climate had a statistically significant effect on teachers' classroom organization ($p = .005$). However, after accounting for the level-2 predictors, results revealed that classroom organization was not significantly related to teachers' individual perceptions of school climate. Teachers' perceived control was not found to be significantly related to their classroom quality.

Discussion

This study investigated the relationship of teachers' self-reported experience with depressive symptomatology, their perceptions of control in the classroom, and their perceptions of school climate to their observed classroom quality. A sample of preschool teachers who served low-income and linguistically diverse students was examined. Results revealed that increased ratings of teachers' depressive symptomatology were related to lower classroom

organization and instructional support scores on the CLASS. In contrast, teachers' individual ratings of perceived control and school climate were not associated with classroom quality.

The findings provide evidence that teachers' experience with depressive symptoms can significantly affect their classroom quality. Given that some of the key characteristics of depressed individuals include lowered levels of energy, poor ability to concentrate and make decisions, and reduced motivation (American Psychiatric Association, 2013), it is reasonable to find that the dimensions of instructional support and classroom organization (i.e., productivity and preparedness, managing student behavior, scaffolding, varying instruction learning modes, etc.) are adversely affected by depressed feelings. In order for teachers to attend to the instructional and organizational demands in early childhood classrooms, teachers must have the mental and physical energy that may be depleted in individuals with depressive symptoms.

The association between higher levels of depressive symptomatology and lower classroom management has been identified in previous research, which found that depressed teachers allowed for more unstructured/less productive free time to occur (Pianta et al., 2005). In addition, teachers' self-report of increased psychological stress, which is associated with depressive symptoms, was linked to lower ratings of behavior management (Li-Grinning et al., 2010). Prior research on CLASS also supports the association between higher depressive symptomatology and lower instructional support scores (Pianta et al., 2005). Moreover, CLASS research has consistently identified instructional support as a domain in which early childhood teachers struggle to garner high scores (e.g., LoCasale-Crouch et al., 2007, Pianta, La Paro, & Hamre, 2011), so it is probable that when faced with depressive symptoms instructional quality is even further reduced.

Interestingly, teachers' ratings of depressive symptoms were not associated with the

emotional support domain, which taps into teachers' warmth, interpersonal interactions, sensitivity, and relationships with students. In previous research using an earlier version of the CLASS Pre-K, Pianta and colleagues (2005) found an association between depression and emotional support dimensions. Yet, the failure to find a significant relation in the current study may be due to notable revisions in the structure of the CLASS Pre-K. The earlier version of CLASS Pre-K contained two factors. Factor 1, emotional climate, was composed of positive climate, negative climate, teacher sensitivity, over-control (removed from revised version), and behavior management. Factor 2, instructional climate, was composed of productivity, concept development, instructional learning formats, and quality of feedback. Both factors contained dimensions that are part of the classroom organization domain (i.e., behavior management, productivity, and instructional learning formats) in the current version of CLASS Pre-K. The disparity between CLASS structures across the two studies may contribute to the differences in findings.

Moreover, the current sample of teachers demonstrated middle to high ranging scores on emotional support, in contrast to more variable (low to high) scores on classroom organization and instructional support. Early childhood teachers, regardless of their mental health status, may be investing a great deal of energy into dimensions associated with emotional support. However, the current findings reveal that when teachers are afflicted with depressive symptoms, the slightly weaker areas of organization and instruction are impacted more significantly. There is a large body of work indicating that feelings of depression can overwhelm aspects of cognitive ability, such as working memory and attention (e.g., Burt, Zembar, & Niederehe, 1995; McDermott & Ebmeier, 2009). The higher quality interactions and strategies that should occur within the classroom organization and instructional support domains (varying instructional

modalities and materials, modeling new vocabulary and elaborating on students' responses, utilizing techniques to promote students' analytical thinking skills, etc.) likely require increased cognitive focus and effortful planning from teachers, which may be taxed by their experience of these strong emotions.

Contrary to predictions, teachers' individual-level ratings of perceived control and perceived school climate did not demonstrate a significant relationship to classroom quality, after accounting for those variables at the school-level. It may be that psychological attributes (e.g., emotional health) have a more proximal effect on teachers' day-to-day behavior and interactions with students. As a result, the influence of environment-situated perceptions (e.g., classroom control and school climate) has minimal influence once teachers' current emotional functioning is taken into account. The lack of relationship between perceptions of environment and instructional outcomes also is somewhat consistent with a recent study conducted with elementary and secondary teachers that found no significant relationships between teachers' perceptions of school-level processes and children's academic outcomes (Scott, Parsely, & Frantz, 2014).

Directions for Future Research

Further investigations of teachers' emotional functioning and depressive symptoms should inquire about the potential sources of life stressors or events that may be impacting their emotional health (e.g., work vs. personal life issues). Developing a better understanding of the etiology of teachers' mental health issues may provide valuable information about the differential effects that varying triggers of depressive symptoms have on teacher behavior in the classroom setting. Additionally, the collection of qualitative interview data from teachers could afford additional insight into why depressive symptoms may be affecting indicators of classroom

organization and instructional support, rather than emotional support. Further research in this area could inform school-wide systemic changes and/or interventions. Future studies should also investigate the potential impact of depression, control, and climate variables on teacher-child interactions with a larger, more representative sample of teachers. Replicating this study with a greater number of teachers could provide added substantive support for the current findings. Utilizing a more nationally representative sample would allow for further exploration of emotional and perceptual factors in classrooms within different community settings, and potentially provide nuanced understanding of the ways in which changes in community demographics (socioeconomic status), classroom composition (cultural, linguistic), and differing instructional needs may interact with teacher functioning and ultimately affect classroom quality.

Practical Implications

The findings of this study have practical implications for the early childhood education system. Research has indicated that at-risk children make greater academic gains when they attend preschool programs, making high quality preschool experiences critical for this population (Burchinal, Field, Howes, Lopez, & Pianta, 2012; Downer et al., 2012; Magnuson, Lahaie, & Waldfogel, 2006). Thus, it is vital that teachers of these children are supported in ways to ensure that instruction can occur at an optimal level. Because teachers' emotional functioning appears to play a significant role in their observed behavior in the classroom, improvements in the classroom quality of early childhood classrooms may occur if provisions are made to improve mental health supports and interventions for teachers.

School-wide interventions and professional developmental opportunities focused on behavior change in teachers may benefit from integrating supports for teachers' socio-emotional and psychological functioning into the programming (Hamre & Pianta, 2004; Li-Grining et al.,

2010; Zhai, Raver, & Li-Grining, 2011). Given the current findings, it may be especially important to integrate mental health-based interventions with strategies for managing classrooms and planning for instruction when experiencing some degree of emotional stress. Moreover, preschool centers would be well served to convey an atmosphere of support for the emotional well-being of their educational personnel, as opposed to simply providing isolated opportunities for well-being activities. Currently, the mental health specialists available to preschool programs (e.g., school psychologists, counselors, social workers) serve the student population. Increasing awareness about mental health professionals in the community that could be made available to preschool staff would not only encourage teachers to also seek supports and advice from specialists when needed, but it would also contribute to a climate of openness to and respect for the well-being of teachers. When exploring ways to improve classroom quality and ultimately student outcomes, preschools may benefit from considering the role that mental health can play on teacher behavior and instituting greater provisions for mental health and wellness supports for the educational staff in an effort to minimize depressive symptoms.

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Table 1

Descriptive Statistics for CLASS Pre-K Domains and Questionnaire Composites (N= 59)

Variable	<i>M</i>	<i>SD</i>	Range
CLASS Pre-K Domain			
Emotional Support	5.19	.48	4.30-6.25
Classroom Organization	4.52	.61	2.67-6.00
Instructional Support	4.29	.67	1.73-6.00
Questionnaire Composite			
Depressive Symptomatology	8.20	2.92	5.00-19.00
Perceived Control	17.05	3.35	10.00-25.00
Perceived School Climate	20.49	3.28	12.00-28.00

Note. CLASS Pre-K scores for each domain are categorized as *low* (1-2), *middle* (3-5), or *high* (6-7).

Table 2

Correlations among CLASS Pre-K Domains and Teacher Questionnaire Composites

Variable	1	2	3	4	5	6
1. Emotional Support	-	.60**	.50**	-.22	.14	-.08
2. Classroom Organization		-	.71**	-.38**	.14	.19
3. Instructional Support			-	-.38**	.20	.13
4. Depressive Symptomatology				-	-.38**	-.16
5. Perceived Control in the Classroom					-	.28*
6. Perceived School Climate						-

Note. * $p < .05$. ** $p < .01$.

Table 3

Prediction of Emotional Support

	Unconditional Model	Within-Teacher Model	Within- and Between-Teacher Model
Teacher Level			
Intercept	5.19 (.07)**	5.19 (.06)**	5.19 (.06)**
Depressive Symptomatology		-.09 (.06)	-.04 (.07)
Perceived Control in the Classroom		.04 (.06)	.01 (.07)
Perceived School Climate		-.06 (.06)	-.01 (.06)
Preschool Level			
Depressive Symptomatology			-.09 (.07)
Perceived Control in the Classroom			.03 (.07)
Perceived School Climate			-.09 (.06)
Variance Components			
Teacher Level	0.19	0.21	0.21
Preschool Level	0.03	0.01	0.01
Total Variance	0.22	0.22	0.22
Goodness of Fit			
ICC	0.14	0.05	0.05
Deviance	82.00	87.52	95.90
R_I^2		0.00	0.00
χ^2	43.00	35.40	32.77

Note: The table displays standardized regression coefficients with standard errors in parentheses.

ICC = Intraclass correlation; R_I^2 = Proportion reduction in variance; χ^2 = Chi-square.

* $p < .05$, ** $p < .01$

Table 4

Prediction of Classroom Organization

	Unconditional Model	Within-Teacher Model	Within- and Between-Teacher Model
Teacher Level			
Intercept	4.54 (.09)**	4.52 (.08)**	4.53 (.08)**
Depressive Symptomatology		-.22 (.13)*	-.19 (.08)*
Perceived Control in the Classroom		-.02 (.07)	-.05 (.08)
Perceived School Climate		.06 (.06)	-.05 (.05)
Preschool Level			
Depressive Symptomatology			-.05 (.08)
Perceived Control in the Classroom			.02 (.10)
Perceived School Climate			.22 (.07)**
Variance Components			
Teacher Level	0.27	0.28	0.26
Preschool Level	0.12	0.06	0.06
Total Variance	0.39	0.34	0.32
Goodness of Fit			
ICC	0.31	0.18	0.19
Deviance	109.93	109.11	113.66
R_l^2		0.13	0.18
χ^2	57.84**	44.81*	43.18**

Note: The table displays standardized regression coefficients with standard errors in parentheses.

ICC = Intraclass correlation; R_l^2 = Proportion reduction in variance; χ^2 = Chi-square.

* $p < .05$, ** $p < .01$

Table 5

Prediction of Instructional Support

	Unconditional Model	Within-Teacher Model	Within- and Between-Teacher Model
Teacher Level			
Intercept	4.30 (.10)**	4.29 (.09)**	4.29 (.09)**
Depressive Symptomatology		-.21 (.09)*	-.15 (.07)*
Perceived Control in the Classroom		.05 (.08)	.04 (.09)
Perceived School Climate		.03 (.07)	-.006 (.08)
Preschool Level			
Depressive Symptomatology			-.13 (.11)
Perceived Control in the Classroom			-.01 (.12)
Perceived School Climate			-.07 (.09)
Variance Components			
Teacher Level	0.31	0.31	0.31
Preschool Level	0.16	0.1	0.12
Total Variance	0.47	0.41	0.43
Goodness of Fit			
ICC	0.34	0.24	0.28
Deviance	120.58	119.65	126.79
R_l^2		0.13	0.09
χ^2	59.59**	49.14*	48.47*

Note: The table displays standardized regression coefficients with standard errors in parentheses.

ICC = Intraclass correlation; R_l^2 = Proportion reduction in variance; χ^2 = Chi-square.

* $p < .05$, ** $p < .01$

Table 6

Best Fitting Teacher-Level Models for Prediction of Classroom Quality

	Emotional Support	Classroom Organization	Instructional Support
Depressive Symptomatology (z)	-.09 (.06)	-.19 (.08)*	-.21 (.09)*
Perceived Control (z)	.04 (.06)	-.05 (.08)	.05 (.08)
Perceived School Climate (z)	-.06 (.06)	-.05 (.05)	.03 (.07)

Note: The table displays standardized regression coefficients with standard errors in parentheses.

* $p < .05$