Social Support as a Moderator Between Maternal Mental Health and Child School Engagement Among Families Exposed to Adversity

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Social Support as a Moderator Between Maternal Mental Health and Child School Engagement Among Families Exposed to Adversity

by

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Abstract

School engagement is a positive, malleable aspect of youth functioning. The present study examined the direct and interactive relations between social-ecological factors (i.e., maternal depression, maternal anxiety, youth social support) and youth school engagement among families exposed to adversity. Participants were 117 youths ($M_{age} = 9.96, SD = 1.40$; 51% female; 88.89% Black), and their female primary caregivers. Hierarchical linear regression modeling revealed a direct, positive relation between child social support and child school engagement. No direct relations were found between maternal anxiety or maternal depression and child school engagement. Social support moderated the relation between maternal anxiety and school engagement; among individuals with extremely low social support, higher maternal anxiety was related to lower school engagement. Results illustrate the importance of a contextual approach to exploring maternal and youth factors. Findings also may inform intervention development by highlighting the importance of social support among families exposed to adversity.

Keywords: Social ecological systems; intergenerational transmission; strengths-based
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Social Support as a Moderator Between Maternal Mental Health and Child School Engagement Among Families Exposed to Adversity

Exposure to adverse events increases the risk for individuals to develop mental health difficulties, including internalizing problems (e.g., anxiety, depression; Thoma et al., 2021). Additionally, evidence is mounting that the effects of adversity do not remain within the individual; indeed, intergenerational transmission of risk is evident, such that children of parents who have experienced adversity have more psychosocial functioning challenges (McFarlane et al., 2014). One point of transmission of risk may be parental mental health difficulties. McFarlane and colleagues (2014) found that among mothers exposed to intimate partner violence (IPV), their psychopathology was directly associated with children’s mental health symptomatology. Notably, individuals with marginalized identities (e.g., Black, Indigenous, Persons of Color; BIPOC) are at higher risk for the negative consequences of adverse events, and much of the research regarding adversity exposure among minoritized groups has focused on problematic effects across the family system (e.g., Assari, 2020), with limited work examining well-being or positive functioning. Thus, the current study took a strengths-based approach to examine positive aspects of youth functioning (i.e., child school engagement) within the context of adversity exposure and mental health among BIPOC families.

School Engagement

One developmentally relevant aspect of positive youth functioning is school engagement, which is a multifaceted construct characterized by behavioral, emotional, and cognitive components of academic achievement (Fredricks et al., 2004). Behavioral school engagement refers to participation in academic, social, or extracurricular activities. Emotional school engagement represents positive and negative reactions to aspects of school, such as teachers,
classmates, and academics. The cognitive component refers to the investment and effort one is willing to put towards school. Fredricks and colleagues (2004) state that these three factors of school engagement do not exist in isolation and are instead embedded processes. In a review of the literature, Jimerson and colleagues (2003) described academic performance, classroom behavior, extracurricular involvement, interpersonal relationships, and the school community as being additional aspects of school engagement.

School engagement is a component of positive child functioning and well-being. Previous research has shown school engagement to be a part of academic achievement (Lei et al., 2018). A positive feedback loop has been posited in that continued school engagement contributes to academic success which reinforces future engagement (Finn, 1989). Additionally, school engagement can be considered a facet of healthy functioning as it is associated with increased investment in healthy behaviors (Carter et al., 2007) and decreased substance use (Bugbee et al., 2019). Further, Hirschfield and Gasper (2011) showed that higher school engagement was related to decreased risk of delinquency. Fredricks (2011) also cites the malleability of school engagement as further reason for empirical interest. Exploring mutable variables that can promote school engagement may provide tangible directions for systemic change to bolster positive functioning among youth (e.g., National Research Council, 2004).

A variety of factors (e.g., family interactions, peer relationships, school policies) may influence children’s school engagement. Multiple studies investigating school engagement have utilized an ecological approach to explore factors within a child’s environment that may affect this outcome (Garcia-Reid, 2007; Perdue et al., 2009). Sinclair and colleagues (2003) describe how school engagement should not be considered a sole attribute of the student, but instead viewed within the context of highly influential factors such as academic and motivational
support from the family, social networks amongst peers, and school policies and practices that promote social and emotional learning and mental health. This perspective takes the previously held notion that youth are “at risk” for having low school engagement and changes it to “placed at risk” due to various contextual circumstances (Sinclair et al., 2003).

**Ecological Systems Theoretical Framework**

Bronfenbrenner’s (1979) ecological systems framework theorizes how one’s environment, captured across different systems (e.g., microsystem, mesosystem, exosystem, macrosystem), may influence a child’s development. Specifically, this theory posits that development should be conceptualized within the context of the unique settings in which children are situated. The microsystem is the most proximal setting; this system involves settings and characteristics that a developing person interacts with in a face-to-face manner (e.g., home, childcare; Rosa & Tudge, 2013). The mesosystem is considered a “system of microsystems” representing the relations and interactions among two or more microsystems (Rosa & Tudge, 2013). The exosystem reflects an ecological setting or characteristic that the developing person is not situated in, and does not actively participate within, but nonetheless experiences the influence of, and may influence, the system (e.g., a parent’s workplace influencing the family’s home; Rosa & Tudge, 2013). The macrosystem captures the institutional systems of cultures and subcultures that may affect how the lower systems function (e.g., economic systems, social systems, educational systems; Rosa & Tudge, 2013).

Although Bronfenbrenner’s theory is central to research on youth functioning, it was formulated and consistently tested within white, homogenous samples. Stern and colleagues (2021) recently adapted this widely used theory to focus on African American/Black youth development and attachment processes within context. This adapted theory accounts for how
racialized experiences may influence parent-child relationships and behaviors to adapt to classism- and racism-related threats prevalent for marginalized groups. Stern and colleague’s (2021) theory is comprised of the same systems as Bronfenbrenner’s theory, including the microsystem (e.g., peer relations), mesosystem (e.g., interactions within the microsystem), exosystem (e.g., physical and mental health systems), and macrosystem (e.g., structural racism, cultural strength).

Within Stern and colleague’s theory, close relationships are thought to influence developmental outcomes via internal working models, which are experience-based cognitive and affective models of self and others that guide how an individual interacts with their social world. Additionally, this theory captures interactions between the various systems, and how these interactions influence the parent-child relationship, which contributes to a child’s functioning across development. There has been a call for researchers to explore how the settings in which an individual spends time, and the relations with others in those settings, may directly or indirectly influence development (Rosa & Tudge, 2013). Stern and colleagues (2021) have further emphasized the importance of utilizing this framework while accounting for structural racism, and its influence on Black youth and families. It would be beneficial to explore this adapted theory among other minoritized groups (i.e., BIPOC youth and their families) who also experience the ramifications of systemic racism. BIPOC youth and families have been vastly underrepresented in research, and most of the work that has been conducted with diverse samples primarily focuses on negative developmental consequences (e.g., Assari, 2020; Njoroge et al., 2021). Thus, it is imperative to explore how various factors across these different theoretically driven systems may interact to facilitate positive development (i.e., school engagement) among BIPOC youth and families to bring light to their many strengths and assets.
Factors within a Child’s Social Ecology

Child social support. The microsystem of Stern and colleagues (2021) adapted ecological systems theory is characterized by the direct relations children have within their environment. Social support is conceptualized as a relational transaction between people, which can include family members, friends, and non-parent adults within a child’s immediate network (Zimet et al., 1988). Based on this conceptualization, social support is viewed as a factor within the child’s microsystem. Social support is a valuable factor within a child’s life both within (Cohen & McKay, 1984) and without the context of stress exposure (Broadhead et al., 1983). The beneficial quality of social support has continued to be evident in more recent work; Triana and colleagues (2019) found social support to be positively associated with youth mental health.

Social support is often noted for its protective qualities. Among school-aged children, social support moderated the relation between positive life events and child behavioral outcomes, such that high levels of social support were protective against the negative influence of experiencing few positive life events (Jackson & Warren, 2000). Calheiro and colleagues (2020) showed that adolescents’ perceptions of their social image were positively associated with their self-representation, and social support moderated this relation by acting as a protective factor against negative self-representations. Social support has demonstrated direct and mechanistic influences on various facets of child functioning; however, there is also evidence documenting the limitations of social support’s protective role. Turner and colleagues (2017) did not find evidence that social support influenced the relation between polyvictimization and child distress; the authors suggested that the protective qualities of social support may have been captured through other mechanisms (e.g., self-esteem).
Notably, more social support has been associated with increased school engagement (Perdue et al., 2009). Perdue and colleagues (2009) showed that social support was predictive of school engagement for a sample of predominantly white 5th grade students, while accounting for other relevant variables, including quality of the child-parent relationship. Similarly, a direct relation between social support and school engagement was found in a sample of Hispanic adolescent girls while also assessing other ecological factors (i.e., neighborhood dangerousness; Garcia-Reid, 2007). These findings demonstrate a direct association between more social support and higher school engagement within the context of other ecological variables, but these studies did not assess potential moderating effects of social support in relation to school engagement.

Social support has also been examined as a protective factor in the context of stressful childhood experiences (e.g., Collishaw et al, 2007; Moses & Villodas, 2017). Collishaw and colleagues (2007) noted adolescent peer relationships to be important for promoting psychological well-being following childhood adversity. Notably, Moses and Villodas (2017) found that social support moderated the relation between child adversity and school engagement. Specifically, the authors showed that positive peer relationships protected against the negative impacts of child adversity on adolescents’ school engagement. This study offers valuable information on social support and school engagement in the context of childhood adversity; however, it is unknown how social support acts as a protective factor between variables across one’s social ecology, including factors within the family system (i.e., maternal mental health).

**Caregiver mental health.** The exosystem comprises environments and factors that the developing individual does not directly or actively interact with, but nonetheless, will still be influenced by their effects. Caregiver mental health, including depression and anxiety, can be conceptualized within the exosystem because their mental health indirectly influences child
developmental outcomes and the parent-child relationship (Bodeker et al., 2019; Cooke et al., 2019). Notably, past research has found caregiver anxiety to be associated with children’s internalizing symptoms (e.g., Burstein et al., 2010). Ginsburg and colleagues (2005) showed that, among anxious parents, certain parenting behaviors (i.e., criticism) were associated with child anxiety symptoms over time, while other parenting behaviors (i.e., granting of autonomy) were associated with child externalizing symptoms over time. Maternal mental health, specifically, has been considered one of the earliest modifiable influences on children’s functioning (Kingston & Tough, 2014). Considering the latent nature of maternal mental health, an argument could be made for placing it within the microsystem, as a child may experience the effects of maternal psychopathology within the home setting. The present study, however, conceptualizes maternal mental health within the exosystem due to the indirect role it plays on child development and on the parent-child relationship. From this perspective, maternal mental health is viewed as a more distal factor that has downward influences on other systems (i.e., the microsystem), which impact a child’s development.

The context of maternal mental health may also be important to consider. More specifically, evidence has demonstrated that parenting practices are negatively impacted by depression, and this is exacerbated when mothers have also experienced adverse events (Kluczniok, et al., 2016). Maternal mental health acting as a pathway of intergenerational risk for child functioning has been posited previously (McFarlane et al., 2014). For example, Cooke and colleagues (2019) assessed the relation between different facets of maternal mental health and child behavioral outcomes within the context of maternal adversity exposure. These authors found that maternal depression mediated the relation between maternal childhood adverse experiences and children’s internalizing and externalizing symptoms, while maternal anxiety did
not act as a mediator. Knowing that individuals who have been exposed to adversity are at a higher risk of experiencing depressive and anxiety symptoms throughout their life (Lindert et al., 2013) further emphasizes the importance of accounting for this aspect of maternal context.

Regarding school engagement, previous work has only examined related constructs, such as academic performance, within the context of parent mental health. Silverstein and colleagues (2006) found a negative association between parental depression and school performance amongst a sample of kindergarten students. In a sample of Swedish adolescents, diagnoses of parental depression were associated with poorer school performance (Shen et al., 2016); however, this study did not assess caregiver mental health and child school outcomes within the context of caregiver adversity exposure. Thus, while past research has underscored the impact of caregiver depression on school performance, there is a dearth of literature on the relation between caregiver mental health and broader child school outcomes (e.g., cognitive, behavioral, and emotional school engagement) examined through a trauma-informed lens. Further, other facets of caregiver mental health, specifically caregiver anxiety, have not been explored in relation to child school engagement. The literature has demonstrated how caregiver anxiety can influence factors such as parenting practices (e.g., laxness, lack of warmth; Harvey et al., 2011), and further that parental support can influence school engagement (Veiga et al., 2012). This work is valuable, but it is also necessary to explore if distinct collections of clinical symptoms (i.e., depression vs. anxiety), specifically among maternal caregivers with a history of experiencing adversity, uniquely relate to children’s school engagement. Such research will provide critical data on the contextual, ecological relation between caregiver adversity, caregiver mental health, and positive indicators of child functioning, specifically among BIPOC families.
Additional Factors for Consideration

Maternal adversity exposure. Maternal exposure to adverse events can influence a child’s social-emotional development across the lifespan (e.g., McDonnel & Valentino, 2016; Briggs et al., 2014; Babcock Fernerci et al., 2016). Babcock Fernerci and colleagues (2016) demonstrated this intergenerational transmission of risk by highlighting the relation between maternal adversity (assessed categorically) and increased risk for internalizing and externalizing symptoms amongst adolescents. This study did not assess for exposure to multiple adversities, and instead examined whether the maternal figure had a history of high, low, or no betrayal trauma exposure (i.e., accounts for how close the victim was in relation to the perpetrator). It has become well known that with increased exposure to adversity comes increased risk of deleterious health and psychological outcomes (e.g., Cromer & Smith, 2010; Felitti et al., 1998). Thus, it is imperative to account for maternal cumulative adversity exposure when examining factors across the family system in relation to child developmental outcomes.

Caregiver education. School engagement may be influenced by other caregiver-related factors, including maternal education level (Chevalier, 2004). Chevalier (2004) discussed how parental education may influence a child’s educational achievement; specifically, the authors found that each extra year of education within the parental generation increased the probability of the child to pursue more years of education. Research has also documented that for young, less-educated mothers, increases in their completed education after their child was born were associated with improvements in their children’s reading achievement (Magnuson, 2007). Notably, Magnuson and colleagues (2009) found that improvements in young children’s language related to maternal education were partially influenced by changes in the quality of the home environment. However, research is lacking on how caregiver education may relate to other
academic outcomes, such as school engagement, among diverse families with varying educational histories.

**Current Study**

The current study used Stern and colleague’s (2021) adapted ecological systems framework to examine the relations between maternal mental health difficulties (i.e., anxiety, depression), child’s social support, and child’s school engagement. Within ecological systems theory, the present study focused on the microsystem (child social support) and exosystem (maternal mental health); factors within these two systems may be more readily modifiable considering their proximity to the developing child, relative to the macrosystem and mesosystem, which tend to include more complex constructs and sociopolitical relationships. Additionally, the moderating role of child’s social support on the relation between maternal mental health and child’s school engagement was explored. Based on previous research regarding the association between maternal mental health and child functioning, it was hypothesized that more maternal mental health difficulties (i.e., anxiety, depression) would be associated with lower child’s school engagement; further, it was expected that higher child’s social support would be associated with higher child’s school engagement. It was also hypothesized that child’s social support would buffer against the negative relation between maternal mental health (i.e., anxiety, depression) and child’s school engagement, such that there would be weaker associations between each type of maternal psychopathology and school engagement for children with higher levels of social support. Analyses controlled for maternal cumulative adversity exposure and maternal education level.
Method

Participants

Participants included 117 dyads of children and their female primary caregiver (henceforth referred to as maternal/mother). Each dyad was independent such that there were no mothers who were the caregiver of multiple children participating in the study. Children ranged in age from 8 to 13 years ($M_{\text{age}} = 9.96, SD = 1.40$) and reported being in grades 1st through 8th. Approximately half (48.72%) of children were male and 51.28% were female. Children were predominantly Black or African American (88.89%), while 5.13% identified as Multiracial, 1.71% American Indian/Alaska Native, and 4.27% identified as another minoritized race. Caregivers were all female and all endorsed being the child’s primary day-to-day caretaker. Mothers were predominantly the child’s birth or biological mother (91.45%); 5.13% were the child’s grandmother, 1.71% the child’s stepmother, and 1.71% the child’s aunt. Mothers ranged in age from 25-64 years old ($M_{\text{age}} = 35.15, SD = 7.46$). Approximately 52.14% of mothers completed high school, 36.75% completed some college, 5.98% completed a 4-year college degree, and 5.18% completed graduate education. The modal years of education was 12, indicating most women had completed high school (i.e., 12th grade). Regarding income, 71.30% of the sample reported an annual household income of $20,000 or less, 23.47% reported earning $20,000-$50,000 yearly, and 5.22% earned over $50,000.

Procedures

Participants were drawn from two projects conducted in the Midsouth region of the United States. One project examined the impact of family violence on youth functioning among caregivers and children who were presenting for services at a family justice center. Families were eligible for this project if the parent was 18 years or older, the child was between the ages
of 7 and 12 years, the family spoke English, and the family sought services at the family justice center. The second project assessed how family engagement in community programming for trauma-exposed individuals affected youth psychosocial outcomes. Families were eligible if the parent was 18 years or older, the child was between 6 and 12 years of age, the family spoke English, and the family sought services in the local community. Both projects were reviewed and approved by the institutional review board (IRB) at The University of Memphis. The current study utilized baseline data from both larger projects and limited the sample to maternal-child dyads in which the mothers endorsed at least one adversity. Further, the sample was limited to children who were 8 years of age or older and identified by their mothers as BIPOC. While both samples were help-seeking, none of the participants had engaged in project-related services at the baseline assessment. Informed consent from the mother, mother’s permission for child participation, and assent from the child were obtained prior to survey administration. Both projects followed the same survey administration procedures, including separate child and mother interviewer-administered surveys assessing psychosocial functioning, mental health, adversity exposure, and social supports. During survey administration, the interviewer read aloud each question, the participant responded, and the interviewer recorded the response verbatim in an online survey software platform (i.e., Qualtrics). Assessments lasted approximately one hour, and participants were compensated with a $40 gift card. Only two participants (.02%) completed study protocol after March, 2020, when the COVID-19 pandemic began.

Measures

**Maternal and child demographics.** A demographics questionnaire was administered to each child and mother. These questions examined background information such as annual income and child and mother age, sex, race, ethnicity, and years of education.
Maternal adversity exposure. Maternal exposure to adversity was assessed with the Life Events Checklist (LEC; Gray et al., 2004) and the Adverse Childhood Experiences (ACE) Questionnaire (Felitti et al., 1998). The LEC is a 17-item self-report measure of lifetime exposure to stressful experiences (e.g., “life-threatening illness or injury;” “sudden violent death”). Mothers endorsed whether these experiences did (“1”) or did not (“0”) directly happen to them. A cumulative adversity exposure score is calculated by summing all items, with scores ranging from 0-17. The ACE Questionnaire is a 10-item self-report measure of child maltreatment and household dysfunction. It assesses adverse experiences endured before the age of 18, with participants reporting whether they experienced (“1”) or did not experience (“0”) each adversity (e.g., “Did a parent or other adult in the household often push, grab, or throw something at you or ever hit you so hard that you had marks or were injured?” “Did you often feel that no one in your family loved you or thought you were important or special? Or your family didn’t look out for each other, feel close to each other, or support each other?”). Regarding inclusion criteria, the current study only included families in which the mother had a score of 1 or more on either the LEC or the ACE Questionnaire. In study analyses, the total score derived from the LEC was used to assess mother’s cumulative lifetime adversity. The LEC has demonstrated adequate psychometric properties in diverse samples (Gray et al., 2004), and has also been used in samples of young adults with minoritized racial/ethnic identities (Auguste et al., 2021). Due to the independence of traumatic events, reliability was not calculated.

Child school engagement. Children completed the School Engagement Measure (SEM; Fredricks et al., 2004), which is a 19-item measure that assesses behavioral (e.g., “I follow the rules at school”), emotional (e.g., “I feel excited by my work at school”), and cognitive (e.g., “I check my schoolwork for mistakes”) school engagement. Items are scored on a 5-point Likert
scale from 1 = “Never” or “Not true at all” to 5 = “All of the time” or “Very true”. All items are summed to create a total school engagement score ranging from 19-95, with higher scores indicating more school engagement. The SEM has demonstrated adequate reliability in previous studies (α = .55-.86), as well as good construct validity and criterion-related validity (Fredricks & McColskey, 2012). The psychometric properties of the SEM have been examined in a primarily BIPOC sample, which found adequate reliability (α = .50-.82; Fredricks et al., 2005). In the present sample, Cronbach’s alpha was .82.

Maternal mental health. Mothers completed the Depression Anxiety Stress Scale (DASS-21; Lovibond & Lovibond, 1995), which is a 21-item measure that examines clinical emotional states over the past week, including 7 items assessing depression (e.g., “I couldn’t seem to experience any positive feeling at all”), 7 items assessing anxiety (e.g., “I experienced breathing difficulty [e.g., excessively rapid breathing, breathlessness in the absence of physical exertion]”), and 7 items assessing stress (e.g., “I tended to over-react to situations”). Mothers reported on these symptoms using a 4-point Likert scale (0 = “Does not apply to me” to 3 = “Applied to me very much, or most of the time”). There is no total score for the DASS-21, rather three subscales are generated that represent each emotional state (i.e., depression, anxiety, stress). To calculate a total subscale score, the respective items are summed and then multiplied by 2, with higher scores indicating higher levels of symptoms. Scores on each subscale range from 0-56. The present study used the Anxiety and Depression subscales. The Anxiety and Depression subscales have strong psychometric properties, including evidence of adequate reliability (i.e., α = .88 for Depression scale, α = .82 for Anxiety scale) and convergent and discriminant validity when compared with other validated measures of anxiety and depression (Henry & Crawford, 2005). Past work has suggested the DASS-21’s internal consistency,
convergent validity, and divergent validity are comparable across racial groups (Norton, 2007).

In a fully BIPOC sample, the DASS-21 demonstrated strong reliability ($\alpha = .89$ for Depression scale, $\alpha = .82$ for Anxiety scale; Williams et al., 2021). In the present study, Cronbach’s alpha was .87 for the Anxiety subscale and .93 for the Depression subscale.

**Child social support.** Children completed the *Social Support – Friends and Adults* (SSFA; Hamby et al., 2015) survey. This 6-item survey was adapted from a well-established social support scale (Zimet et al., 1988) and assesses children’s relationships with friends and adults other than their caregivers (e.g., “I can count on my friends when things go wrong;” “In my life right now, there are adults other than my parents who care about my feelings and what happens to me”). The SSFA utilizes a 4-point Likert scale (1 = “Not true about me” to 4 = “Mostly true about me”). A total score is computed by summing all items and ranges from 6-24; higher scores indicate higher levels of social support. The SSFA has demonstrated adequate reliability ($\alpha = .90$; Banyard et al., 2017). The original scale from which the SSFA was adapted has demonstrated adequate reliability in a diverse adolescent sample ($\alpha = .89-.91$) and good discriminant validity (Canty-Mitchell & Zimet, 2000). In the present sample, Cronbach’s alpha was .65.

**Data Analytic Plan**

All analyses were conducted in SPSS version 27. Prior to conducting the primary analyses, data were screened for missingness, multicollinearity, outliers, and non-normality (Tabachnick & Fidell, 2013). There was a negligible amount of missing data at the item level (0.12%); therefore, missingness was addressed via mean imputation at the item level to allow maximum retention of individual responses and participants. Two hierarchical linear regression models were conducted to examine the direct effects of child social support and maternal mental...
health (i.e., independent variables) on child school engagement, as well as the moderating effect of child social support on the relation between maternal mental health and child school engagement, while accounting for maternal adversity exposure and maternal education level (i.e., covariates). One model included maternal anxiety (i.e., Anxiety Model) and one included maternal depression (i.e., Depression Model) to capture maternal mental health. In the first block, the independent variables and covariates were entered. The second block added the interaction term (i.e., maternal mental health x child social support). To interpret the nature and direction of any significant moderating effects, simple slopes testing was conducted. G*Power 3.1 was utilized to calculate post-hoc power based on the study’s sample size ($N = 117$) and 5 predictor variables (linear multiple regression: fixed model, $R^2$ increase). The power analysis indicated that the study was adequately powered ($f^2 = 0.15$, $\alpha = .05$, $n = 117$, $1-\beta = .95$).

**Results**

Correlations and descriptive statistics for study variables are displayed in Table 1. Children reported moderate but varying levels of school engagement ($M = 65.83$, $SD = 12.57$; $Range = 34-91$), and most children reported levels of social support within the upper end of the measure’s range ($M = 20.14$, $SD = 3.46$; $Range = 11-24$). Regarding maternal mental health, mothers reported a wide range of anxiety symptoms ($M = 10.36$, $SD = 10.98$; $Range = 0-42$), with the mean of the sample falling within the moderate range of anxiety symptoms. Regarding depressive symptoms ($M = 10.27$, $SD = 12.50$; $Range = 0-42$), the mean of the sample fell within the “mild” range. All mothers endorsed exposure to at least one adverse event in their lifetime ($M = 4.32$ adverse events). The most frequently endorsed events were physical assault (68.38%), transportation accident (64.10%), sexual assault (42.74%), other unwanted sexual experience (37.61%), and assault with a weapon (35.04%).
**Anxiety Model**

Findings for the hierarchical regression model that included anxiety are presented in Table 2. In this model, maternal anxiety, child social support, maternal history of adversity, and maternal education level were entered in Block 1. This block was significant \( F(4, 112) = 9.00, p < .001 \) and accounted for 24.32% of the variance in child school engagement. In this model, study hypotheses were partially supported, with more child social support \( (\beta = 1.67, p < .001) \) being associated with higher child school engagement. Maternal education attainment was inversely associated with child school engagement \( (\beta = -1.07, p = .018) \). Contrary to study hypotheses, maternal anxiety was not directly related to child school engagement. Block 2 added the interaction term of maternal anxiety by social support. Block 2 was significant \( F(5, 112) = 8.229, p < .001 \) and accounted for 27.04% of the variance in child school engagement. This was a significant change in \( R^2 \) \( (p = .044) \) from Block 1 to Block 2. In line with what was hypothesized, the interaction term was significant \( (\beta = .06, p = .044) \) and is graphed in Figure 1. The interaction was probed via simple slopes analyses to determine levels of the moderator (i.e., child social support) at which the relation between maternal anxiety and child school engagement was significant. Results showed that at four standard deviations below the mean of child social support, the relation between maternal anxiety and child school engagement was significant \( (\beta = -1.94, p = .043) \). These findings indicate that at extremely low levels of child social support, more maternal anxiety was significantly associated with lower levels of child school engagement.

**Depression Model**

Findings for the hierarchical regression model that included depression are presented in Table 3. For this model, maternal depression, child social support, maternal history of adversity,
and maternal education were entered in Block 1. This block was significant \( F(4, 112) = 9.53, p < .001 \), and accounted for 25.39% of the variance in school engagement. In line with study hypotheses, more child social support \( (\beta = 1.70, p < .001) \) was associated with more child school engagement. Additionally, maternal adversity exposure \( (\beta = .90, p = .02) \) was positively associated with school engagement, and maternal education attainment \( (\beta = -1.20, p = .008) \) was negatively associated with school engagement. Maternal depression was not associated with child school engagement, contrary to study hypotheses. Block 2 added the interaction term of maternal depression by social support; this block was significant \( F(5, 111) = 8.23, p < .001 \) and accounted for 27.03% of the variance in child school engagement. This was not a significant change in R-squared and the interaction term was not significant, which was in contrast to what was expected.

**Discussion**

The present study utilized a strengths-based approach to examine linkages between different components of youth’s social ecology and their school engagement. By assessing a positive indicator of child development (i.e., school engagement), this study brings attention to ways in which BIPOC families may thrive in the midst of adversity. Such work is critical given that BIPOC individuals have historically been pathologized and marginalized in clinical research (Assari, 2020). Grounded in Stern and colleague’s (2021) adapted ecological systems theory framework, the present study took a contextual view of positive BIPOC youth development to explore the direct and interactive effects of variables across the microsystem and exosystem. Findings underscore the importance of assessing factors outside of the individual, and in particular the key role of social support in child school engagement.
The current sample consisted of trauma-exposed and relatively low-income BIPOC families, a group that has historically been deemed “high risk,” with much of the past research focusing on solely negative outcomes (e.g., Assari, 2020). This deficits-based framing inevitably contributes to stigma that pathologizes BIPOC individuals and precludes the identification of pathways towards resilience. Notably, participants in the present study showcased many strengths. Despite having a history of adversity, caregivers predominantly reported mild to moderate depressive and anxiety symptoms. Child participants also endorsed predominantly normative levels of school engagement, with several children falling within the higher end of the measure range. Additionally, most children endorsed high levels of perceived social support. Thus, despite experiencing trauma and adversity in the family system, both youth and their caregivers reported functioning relatively well and had access to protective resources, such as social support, that individuals of minoritized identities may utilize to achieve and maintain resilience amongst the adverse experiences and structural inequities they regularly endure.

Regarding study hypotheses, it was expected that caregiver depression would be negatively associated with child school engagement; however, this hypothesis was not supported. Contrary to past findings that have shown caregiver depression to be related to poorer school outcomes amongst youth (Shen et al., 2016; Silverstein et al., 2006), results from the current study indicated no significant direct relation between caregiver depressive symptoms and school engagement. These unexpected findings may be explained by several unique characteristics of the present study. Past research documenting associations between caregiver depression and child school outcomes did not specifically examine school engagement and instead assessed school performance or academic abilities (Shen et al., 2016; Silverstein et al., 2006). Given that school engagement is a distinct construct from other aspects of school abilities, it may be related
to different youth characteristics that are influenced by other factors in a child’s ecology, such as parental involvement in school activities, teacher characteristics, or features of the school. Additionally, past studies have not specifically examined BIPOC students’ experiences; thus, our unique findings may be explained by varying experiences of minoritized youth compared to white youth. It should also be noted that most of the maternal caregivers reported mild depressive symptoms. It could be that caregiver depression is not as influential on child functioning at these lower rates. Future studies should include caregivers exhibiting a wider range of depressive symptoms to determine if a significant relation emerges with school engagement at higher symptom levels.

It was also hypothesized that caregiver anxiety symptoms would be negatively related to child school engagement. This hypothesis was also not supported, as no direct associations were identified. To the author’s knowledge, past research has not explored direct relations between caregiver anxiety and child school engagement. Past work, however, has found maternal anxiety to relate to other facets of child functioning (e.g., emotional outcomes, Rees et al., 2018) and parenting practices that may impact school engagement (Harvey et al., 2011; Veiga et al., 2012); thus, these findings were unexpected. Notably, a significant relation emerged between maternal anxiety and child school engagement in the context of social support. Specifically, social support moderated the relation between caregiver anxiety and school engagement such that at very low levels of social support, more maternal anxiety was associated with worse school engagement. Thus, a relation between maternal anxiety and school engagement was evident within the context of low social support from peers and non-parental adults.

Consistent with study hypotheses, child social support was also found to be directly and positively associated with child school engagement. This is in line with previous research
documenting the positive relation between child social support and school engagement (Garcia-Reid et al., 2007; Perdue et al., 2009), and furthers this body of work by identifying this relation amongst BIPOC youth. Notably, the measure employed in the present study assessed social support beyond the family system (i.e., peer and non-parental adult support), and the effect of social support from these sources was strong, expanding upon past research that has primarily assessed social support from family members. Evidence that relationships outside of the family can be central to positive youth development, particularly among BIPOC children, has potential benefits for clinical intervention efforts.

Considering Stern and colleague’s (2021) adapted ecological systems framework, results lend support to the importance of a child’s microsystem in the promotion of school engagement. Operationalized in the current study as children’s non-familial social supports, the microsystem demonstrated direct and positive associations with school engagement, even in the context of maternal mental health difficulties and maternal adversity exposure. Additionally, the negative impact of maternal anxiety was only evident among individuals who endorsed extremely low levels of social support, contributing additional evidence to the importance of social support in the development of child school engagement. Although these results emphasize the value of factors within the microsystem, it is still important to consider other variables beyond the microsystem that may impact positive youth functioning. Past research has highlighted factors such as neighborhood environment (Garcia-Reid, 2007) and characteristics of the school (Sinclair et al., 2003) as potentially relating to school outcomes. Thus, future work should examine these variables alongside ecological factors identified in the present study. Additionally, factors within the macrosystem (e.g., vicarious racism) that may specifically relate to the development of BIPOC youth need to be examined (for a review see Heard-Garris et al., 2018).
Findings from the current study can launch this future research, which will allow for a more thorough understanding of how various contextual factors across the social ecology may directly or indirectly relate to positive youth development.

**Clinical Implications**

By exploring how maternal and youth factors interact and are related to child functioning in BIPOC families, this study contributes valuable information about areas to target in individual and family-based interventions. Findings highlight the importance of broadly assessing children’s social ecologies to identify strengths and challenges that they face across systems. It is also critical to evaluate intergenerational factors when developing treatment plans for youth, including caregiver mental health symptoms that may be prominent and inform the case conceptualization. Given the central role of social support identified in this study, clinicians should assess the availability and quality of social supports and consider utilizing behavioral activation strategies to promote engagement with peers and adults outside the family setting (e.g., coaches, mentors, pastors) who may help foster positive youth functioning. School-based mental health services should also consider employing strategies that promote socialization amongst students, teachers, and other notable adults to allow opportunities for children to develop a stronger sense of social support from individuals outside their home.

**Strengths and Limitations**

The current study has many strengths, including its contextual approach and theory-informed framework, which allowed for the exploration of how key factors function independently and interactively in relation to school engagement. Additionally, the focus on BIPOC families provides valuable insight into their unique experiences that have historically been absent from the literature. Along with these strengths exist some limitations that should be
considered when interpreting results. First, the data are cross-sectional, which prohibits conclusions regarding temporality or directionality among study variables. Relatedly, maternal mental health symptoms were reported in reference to the past week, which is consistent with many measures of mental health symptoms (e.g., Beck Depression Inventory-II; Beck et al., 1996); however, this does not provide information regarding history of depressive or anxiety symptoms, how this history may have influenced child school engagement, nor the episodic nature of mental health symptoms. Additionally, the reliability of the SSFA was relatively low. This may be due to the small number of items included in this measure. Another methodological limitation is that all measures were self-report which introduces potential for reporting bias. The current study combined two different samples pooled into one. Both samples were recruited from the same city, but participants in each study were recruited from different sites and for different project goals. Further, the current study assessed for maternal history of adversity exposure and did not assess for child’s own exposure to adversity. The child’s own experiences may have important implications for school engagement and the relation among ecological factors. Finally, the sample in the present study was relatively small, which limits the complexity of statistical analyses that could be performed.

**Future Research Directions**

The present study offers clear directions for future research to expand the examination of ecological variables associated with youth school engagement. A child’s social ecology encompasses many systems, and it would be beneficial to explore proximal and distal factors across these systems that may impact school engagement. More specifically, factors such as parental involvement in school activities (mesosystem), school system characteristics (exosystem), and cultural strengths (macrosystem) are all relevant variables that could be
evaluated in future work. Additionally, longitudinal examination of study variables would
provide insight into how these factors may be influential as children move through different
developmental stages and academic grade levels. Gathering data across multiple time points
would also allow for exploration of the directionality of study variables, including any
bidirectional relations. Future researchers should also consider assessing the separate emotional,
behavioral, and cognitive components of school engagement to determine if ecological factors
may differentially relate to each facet of this construct. Similarly, it would be important for
future researchers to assess support from family members in addition to peers and non-familial
adults to examine how different sources of support are related to school engagement. It could
also be beneficial to study maternal samples with clinical levels of anxiety and depression to
assess how more severe psychopathology may influence child school engagement. Additionally,
while no hypotheses were made regarding the relation between maternal years of education and
child school engagement, the direction of the findings was unexpected. A majority of the sample
reported completing high school, with few women reporting college or graduate level education
and even fewer reporting less than a high school degree. Thus, it may be that this sample’s
educational distribution did not align with past research, as less women in our study have
completed higher education compared to other samples. Future research should disentangle the
relation between maternal education attainment and child’s school engagement. Further,
retrieving data from additional informants (e.g., father figures, teachers) may also provide a more
thorough perspective on a child’s ecology. Further, utilizing a larger sample, as well as
accounting for additional variables documenting the child’s experience (e.g., child trauma
history, child mental health) would provide a more complex understanding of how ecological
factors influence a child’s development.
Conclusions

This study examined theoretically driven factors associated with school engagement in a historically marginalized and underrepresented group. Results underscore the value of social support in relation to school engagement, as well as the negative effects of maternal anxiety on child school engagement when social support is extremely low. Exploring adaptive functioning among a BIPOC sample, and specifically school engagement, advances the field given that much of the previous research has focused on problematic functioning among BIPOC youth and families.
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https://doi.org/10.1080/10615800701309279


https://doi.org/10.1002/pits.20446


Appendix A

Table 1

*Correlations, Means, and Standard Deviations of Study Variables*

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*Note.* *indicates significance at the .05 level; **indicates significance at the .01 level*
### Appendix B

Table 2

*Hierarchical Linear Regression Model: Anxiety*

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*Note. *indicates significance at the .05 level; **indicates significance at the .01 level*
### Appendix C

Table 3

*Hierarchical Linear Regression Model: Depression*

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<tr>
<td>Child Social Support x Maternal Depression</td>
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*Note.* * indicates significance at the .05 level; ** indicates significance at the .01 level
Figure 1. The moderating effect of child social support on the relation between maternal anxiety symptoms and child school engagement.