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Understanding Family–School Engagement Across and Within Elementary- and Middle-School Contexts

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Although family–school engagement is important across child and adolescent development, most research, programs, and policies have focused primarily on elementary students and contexts. The current study extends beyond elementary settings by exploring the unique and shared contributions of developmental context on family–school engagement (i.e., across and within elementary- and middle-school settings). Data were drawn from two randomized controlled trials that evaluated the efficacy of teacher training in universal classroom-management practices. Participants included 3,174 students and 207 teachers across 21 elementary and middle schools in the Midwest. Using hierarchical linear modeling, results revealed that family–school engagement was significantly higher in elementary than in middle schools. Student-level characteristics (i.e., identifying as White, participation in the free/reduced-price lunch program, and having lower levels of disruptive behavior) were also associated with higher levels of family–school engagement. In addition, student characteristics (i.e., race/ethnicity and level of disruptive behavior) moderated the relations between family–school engagement and developmental context. Regardless of developmental context, family–school engagement predicted positive end-of-year behavioral outcomes (i.e., increases in youth prosocial skills and decreases in youth concentration problems, disruptive behaviors, and emotional dysregulation). Last, moderation analyses revealed that these effects of family–school engagement were especially pronounced in middle school for concentration problems and emotional dysregulation. Overall, findings provide further support for the value of family–school engagement across development in fostering positive youth outcomes. However, it is evident that more steps must be taken to ensure family–school engagement practices are developed to support the unique needs of middle-school students and contexts.

Impact and Implications
Findings provide further support regarding the importance of family–school engagement across child and adolescent development. Further, results indicate that more attention must be provided to support family–school engagement during middle school.

Keywords: family–school engagement, parent involvement, family–school partnership, child and adolescent development, middle school

Family–school engagement practices (e.g., family–school partnerships and parental involvement) are empirically supported across elementary and secondary students' academic (Fan & Chen, 2001) and social/behavioral domains (Sheridan et al., 2014). When parents support children's learning and development, students experience increased socioemotional competencies and academic achievement, have positive gains in reading acquisition, complete homework at higher rates, and have fewer homework problems (Hill & Tyson, 2009; Jeynes, 2005; Sheridan et al., 2014).

Fostering youth academic, behavioral, and socioemotional development involves multiple stakeholders. Uniquely and together, families and schools play seminal and essential roles (Coutts, Sheridan, Sjuts, & Smith, 2014). Families serve as a lifelong resource and form the first foundational system within which children and youth learn to form relationships, follow routines, and access opportunities for nurturance and early stimulation. Schools provide the setting for children and youth to gain knowledge, navigate social interactions, and solve academic and interpersonal problems. When families and schools work collaboratively and are mutually supportive, a foundation is set upon which children and youth learn key academic and problem-solving skills, appropriate behaviors, and socioemotional competencies.

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In general, family–school engagement across the schooling years, including elementary and middle school, is considered an important component of youth development. However, research is limited with regard to understanding family engagement *across* and *within* elementary- and middle-school contexts. Previous research has identified that family engagement is associated with positive outcomes for both elementary- and middle-school students in isolation. However, limited work has been done empirically comparing elementary- and middle-school students within the same study. Thus, the purpose of this study was to evaluate and understand family–school engagement in the context of elementary- and middle-school samples.

Conceptualizing Family-School Engagement

According to ecological systems theory, children's development is directly and indirectly impacted by experiences and interactions within and across home and school settings (Bronfenbrenner, 1977). Broad systems include the exosystem (i.e., influences and interactions in which children do not directly participate) and macrosystem (i.e., cultural, social, and political environments in which children and their various settings exist). Considering family–school engagement, however, children's development is particularly impacted by the micro- and mesosystems. The microsystems (e.g., home and school) include direct interactions within settings that are most proximal, and thus have an immediate and profound impact on development. The mesosystem serves as the interface between home and school, and involves interactions and experiences across and within home and school systems (e.g., the relationship between a child's parent and teacher).

The family–school interface is often used interchangeably with several other terms (e.g., family–school partnerships, parental involvement, home–school collaboration, family participation; Sheridan, Holmes, Smith, & Moen, 2016), which is problematic, as conceptualizations of family–school engagement may be unique to practice or research context. Parent involvement includes parents' active and meaningful participation and engagement in the educational processes of their children to promote their academic and social well-being (Fantuzzo, Tighe, & Childs, 2000). This could include monitoring homework or supporting literacy practices at home. Family–school partnerships are distinct from parental involvement, and involve child-focused approaches by which families and professionals cooperate, coordinate, and collaborate to enhance opportunities and success for children and adolescents across socioemotional, behavioral, and academic domains (Albright & Weissberg, 2010; Downer & Myers, 2010). Within the current study, we have conceptualized family–school engagement as inclusive of both parental involvement and family–school partnership practices.

Empirical Support for Family–School Engagement

Family–school engagement creates a foundation for developmental trajectories throughout a child's development (Henderson & Mapp, 2002) and is associated with a host of positive student outcomes. For example, parental participation has led to increases in academic achievement and performance, improved study habits, greater propensity to complete secondary school, better homework habits and work orientation, more positive attitudes toward school, and higher educational aspirations (Fan & Chen, 2001; Masten & Coatsworth, 1998; Sénéchal, 2006; Sheridan et al., 2016; Trusty, 1999). Positive effects of family–school engagement on academic outcomes have also been noted for urban children (Jeynes, 2005), rural children (Holmes et al., 2013; Sheridan et al., 2014; Smith et al., 2013), adolescents (Hill & Tyson, 2009), and racially diverse students (Jeynes, 2003). Family–school engagement also has cumulative effects over time (Weiss, Kreider, Lopez, & Chatman-Nelson, 2014). Children who are supported by their families throughout early childhood and elementary school are much more likely to graduate from high school (Weiss et al., 2014). Further, increased parent participation in education during childhood leads to positive parent–child relationships during adolescence, and increased academic achievement in high school (Englund, Egeland, & Collins, 2008).

Although most reviews on family–school engagement have concluded that it is associated with a host of positive student outcomes, careful analyses of these reviews reveal some discrepancies. For one, many reviews have been based largely on correlational, cross-sectional, and nonrandomized experimental studies (Mancilla, 2015; Garbacz, Herman, Thompson, & Reinke, 2017). Thus, previous interpretations of the impact of family–school engagement may be based on studies that may lack methodological rigor and quality. In addition, although several meta-analyses have reported benefits on children's academic outcomes, there are currently no published meta-analyses assessing the impact of family–school engagement on children's socioemotional and behavioral outcomes (Sheridan, Smith, Kim, Beretvas, & Park, 2017). This is especially problematic considering that behavioral and emotional difficulties are among the most chronic and widespread problems children face (Pastor, Reuben, & Duran, 2012). More research is essential to filling our gaps in understanding the associations between family–school engagement and students' social, emotional, and behavioral functioning. Overwhelmingly, family–school engagement tends to support children's academic, behavioral, and socioemotional development. That said, considering and understanding shortcomings within the family–school engagement literature is essential to advancing research in this area.

The Importance of Developmental Context

Although family–school engagement has a strong theoretical foundation, empirical support, and is imperative across child and adolescent development, most family–school engagement programs and educational policies have focused on elementary students (Hill & Tyson, 2009; Smith et al., in press). Further, family–school engagement training is more likely to be provided for elementary teachers (or preservice) than middle-school teachers (Smith, 2017; Smith & Sheridan, 2018). Less is known about effective family-engagement practices in middle school. Although some family–school engagement practices are likely universally beneficial in both elementary and middle school (e.g., home-based involvement), this is not true of all practices. Thus, it is necessary to consider the benefits of family–school engagement practices across elementary- and middle-school students.

Overall, elementary schools are more conducive to family–school engagement, as families are frequently encouraged to participate in school activities and respond to school obligations (El Nokali, Bachman, & Votruba-Drzal, 2010). During elementary school,

teachers are also more likely to engage in practices with built-in opportunities for parents to support their children's learning at home (e.g., providing practice spelling words or books to read with their children). Many families also believe that supporting their children's learning is a vital parental expectation during the elementary years (Green, Walker, Hoover-Dempsey, & Sandler, 2007). In contrast, family–school engagement generally decreases as children transition from elementary to middle school (Hong, Yoo, You, & Wu, 2010), which may result from changing school contexts, familial relations, and academic expectations. For one, multiple teachers and classrooms make it difficult for parents to know exactly whom to communicate with regarding school-related issues. Adolescents also experience increased autonomy, which can lead to parents withdrawing or limiting previously established support systems. Regardless of cause, this decrease is problematic, as family–school engagement during this time is associated with significant improvements in school performance (Gershberg & Shatkin, 2007) and academic socialization (Hill & Tyson, 2009). To further understand this decline, more attention must be given to developmental context during both elementary and middle school.

Student-Level Characteristics and Family–School Engagement

Within a developmental framework, efforts to determine child and family variables that influence family–school engagement are also necessary. Aligned with ecological systems theory, there are many variables that can potentially impact family–school engagement. Socioeconomic status (SES) has frequently been a variable of interest in studies of family–school engagement (e.g., Fan & Chen, 2001; Green et al., 2007). In fact, one rationale for collaboration between families and schools is that positive parenting behaviors learned through family–school engagement serve as protective factors against negative influences associated with low SES (Green et al., 2007). Prior literature has used student eligibility for free or reduced-priced lunch (FRL) as a proxy for SES (see Reynolds, Ou, & Topitzes, 2004). Previous results are mixed, as some studies have indicated a positive relationship between family–school engagement and SES (e.g., Fan & Chen, 2001), whereas others have revealed that SES is a poor predictor of family engagement (e.g., Reynolds et al., 2004). Thus, further evaluation regarding the association between SES on family–school engagement is warranted.

As the United States becomes increasingly diverse, family–school engagement also needs to be considered within a multicultural framework. In particular, prior research has demonstrated that families of Black students have lower levels of school engagement (Stormont, Herman, Reinke, David, & Goel, 2013), which may be because families of Black students find it more difficult to establish trusting relationships with their children's teachers due to past experiences with institutional discrimination and inequality (Hill, 2011). This is unfortunate, given that families of Black students may hold unique perspectives regarding their roles and responsibilities in their children's educational process (Hill, 2011; Howard & Reynolds, 2008). For instance, previous research has indicated that Black families often provide greater levels of structure at home than do White families (Wang, Hill, & Hofkens, 2014). To identify conditions and contexts that support Black families and students, further investigation is necessary.

Student gender is also a necessary variable for consideration within family–school engagement, as previous results have indicated that student gender significantly interacts with family–school engagement to affect student academic achievement. For instance, girls have been found to perform better academically than boys when they had highly involved parents (Lee, Kushner, & Cho, 2007). Teachers are also more likely to indicate less engagement and poorer quality interactions with parents of boys (Izzo, Weissberg, Kasprow, & Fendrich, 1999). Therefore, understanding the association between student gender and family–school engagement is important.

Collaboration between families and schools may also be especially critical for students receiving special education services and/or students with elevated disruptive behaviors. Children with higher levels of disruptive behavior are at increased risk for academic problems, social deficits, dropping out of school, and lower academic achievement (Merikangas et al., 2010). Further, families of students in special education frequently face greater barriers to family engagement and are often less engaged than families of typically developing children in school (Coots, 1998; Fishman & Nickerson, 2015). Unfortunately, less is known about the impact of family–school engagement on special education students and/or students with significant disruptive behaviors (Goldman & Burke, 2017). Some studies have demonstrated that family–school engagement is associated with benefits for children and families (e.g., fewer disruptive behaviors, increased parent participation in the individualized educational plan (IEP) process; Sheridan et al., 2014; Jones & Gansle, 2010), whereas others have noted nonsignificant findings (e.g., Goldman & Burke, 2017). In addition, many studies focused on family–school engagement and students with disabilities lack methodological rigor and quality (Goldman & Burke, 2017). Further exploration is needed to understand how family–school engagement can support students with greater academic and behavioral needs.

In summation, family–school engagement involves complex, multifaceted interactions and relationships that are likely influenced by many variables. Although, race, SES, gender, special education, and level of student disruptive behavior have all been empirically explored and discussed in terms of their relationship to family–school engagement, previous findings are mixed and primarily limited to elementary-school samples. Thus, it is imperative to explore these key variables within a developmental framework. Further, many of these variables have been found to influence socioemotional and behavioral outcomes for both elementary- and middle-school students *in isolation*. Because of differing contexts, student abilities, and parental expectations and responsibilities, it is imperative to consider their influence on family–school engagement across elementary- and middle-school contexts. An increased understanding of the shared experiences of elementary- and middle-school students would help to increase and maintain family-engagement practices as students transition from elementary to middle school.

Study Purpose and Research Questions

The purpose of this study was to examine family–school engagement within the context of elementary- and middle-school settings. Previous research has identified that family–school engagement is associated with positive outcomes for both elementary- and

middle-school students in isolation. However, limited work has empirically compared elementary- and middle-school students within the same study. To our knowledge, this study is the first to compare elementary- and middle-school students across two large-scale trials using the same family–school engagement and behavioral outcomes. In the current study, we also aimed to further understand potential student-level influences on family–school engagement, as certain characteristics (e.g., SES, gender, race, behavior-problem severity) have previously been identified as risk factors for family–school engagement. Data were drawn from two large-scale, randomized controlled trials (RCTs) to answer the following research questions.

1. How do (a) overall family–school engagement and (b) specific family–school engagement practices/characteristics differ on the basis of elementary- or middle-school context?

2. To what degree are student-level characteristics (i.e., race, gender, SES, special education status, behavior-problem severity) associated with family–school engagement?

3. To what degree do student-level characteristics moderate the relations between developmental context (i.e., elementary or middle school) and family–school engagement?

4. When controlling for baseline levels of student behavior (i.e., prosocial, disruptive, concentration, emotion dysregulation), developmental context, and intervention status, do the effects of family–school engagement on end-of-year student outcomes differ on the basis of developmental context?

It was hypothesized that teachers report higher levels of family engagement among elementary-student parents than middle-school student parents. We predicted that Black students, boys, students who receive FRL, and students receiving special education or having more disruptive behavior problems would be rated as having lower family engagement. Student race, gender, SES, special education status, and disruptive behavior-problem severity were expected to each moderate the relationship between developmental context and family–school engagement. Specifically, we hypothesized that family engagement would be especially low in middle school for Black students, boys, students who receive FRL, and students receiving special education or having more disruptive behavior problems. Last, when controlling for baseline student behavior, developmental context would moderate the effects of family–school engagement on end-of-year student outcomes (e.g., lower family–school engagement in middle school associated with poorer outcomes).

Method

Participants and Settings

Data for this study came from two large prevention RCTs. Both trials evaluated the efficacy of teacher training in universal classroom-management practices. Student and teacher participants were recruited from a school district in the Midwest. The school district is in an urban area, serves predominately Black students, and has a slightly higher portion of students who receive FRL than other school districts in the region. The student characteristics reflect students in the district and are similar to student populations in urban settings in other large Midwestern cities.

Teacher participants consented to participate. Students within participating classrooms were recruited for participation. Parental consent and student assent were obtained for all students included in the studies. In Trial 1 (elementary sample), 85% of students provided written parental consent and student assent. Trial 2 (middle-school sample) had a 75% student consent and assent rate. The two trials took place 3 years apart; however, both trials used nearly identical research designs and data were collected on the same time schedule. Data for the present analyses were collected in the fall of the school year (baseline, preintervention), and the late spring of the school year (posttest).

The first trial included 105 teachers and 1,818 students in kindergarten through third grade from nine urban elementary schools serving primarily Black students (Reinke, Herman, & Dong, 2018). Teachers within schools were randomly assigned to receive the intervention or to a wait-list control group. Most teacher participants were women (97%) and White (75%; 22% Black). The student sample was 52% male and 76% Black (22% White); 61% of the students qualified for FRL.

The second trial included 102 teachers and 1,405 students in the sixth–eighth grades. Teachers were eligible for participation if they taught language arts or math. Teachers within schools were randomly assigned to receive the intervention or to a wait-list control group. Teacher participants were 79% women and 71% White, 26% Black, 2% Asian, and 1% other. Student participants were 51% girls and 78% Black, 18% White, 2% Hispanic/Latino(a), 1% Asian, and 0.69% other. The percentage of students in sixth, seventh, and eighth grades was equal to 35%, 39%, and 26%, respectively. Overall, 70% of students qualified for FRL.

Measures

Teacher ratings of family–school engagement and student behavior. Throughout both intervention trials, teachers provided ratings of each student's behavior and family–school engagement using the Teacher Observations of Classroom Adaptation–Checklist (TOCA-C; Koth, Bradshaw, & Leaf, 2009). The TOCA-C is a checklist version of the original TOCA-R, which has previously been used in intervention trials (e.g., Ialongo et al., 1999). The TOCA-C includes the following six child-behavior subscales: a 7-item measure of Concentration Problems (e.g., pays attention; Cronbach's $\alpha = 0.95$), a nine-item subscale assessing Disruptive Behavior (e.g., harms property, fights; $\alpha = .90$), five items measuring Emotion Dysregulation (e.g., changes mood quickly; $\alpha = .87$), a five-item measure of Prosocial Behavior (e.g., liked by classmates; $\alpha = .89$), and a five-item subscale measuring Family Involvement ($\alpha = .94$). This subscale includes items addressing both the quantity of parent involvement (e.g., the child's parent attends school functions) and the quality of family–school partnerships (e.g., "I have a good relationship with this child's parent"). One item was removed from the Family Involvement subscale because of teachers not knowing whether parents participated

in PTA activities. Teachers rated students in their classroom using a 6-point Likert scale (i.e., *never* to *almost always*). The Concentration Problems, Disruptive Behavior, and Emotion Dysregulation scales were positively scored (i.e., higher scores represented greater behavioral concerns), whereas the Prosocial Behavior and Family Involvement subscales were negatively scored (i.e., higher scores represented positive behaviors). Previous studies have provided evidence of criterion validity for the TOCA-C when compared with the original TOCA (Koth et al., 2009), in addition to demonstrating predictive validity (e.g., the Disruptive Behavior subscale predicting violence among adolescents; Petras, Chilcoat, Leaf, Ialongo, & Kellam, 2004).

Student- and teacher/classroom-level variables. All student-level variables were collected from the school district's records. Student-level data included gender (i.e., coded 0 = female, 1 = male) and race (i.e., Asian/Pacific Islander, Black, Hispanic/Latino, biracial, and other). Race was converted to a dichotomous variable (i.e., coded 0 = White; 1 = Black) because of a minimal number of students of other race/ethnicities. Student participation in FRL was used as a proxy for SES (i.e., coded 0 = not receiving FRL, 1 = receiving FRL). Information on student special education status (i.e., coded 0 = not receiving special education services, 1 = receiving special education services) was also collected. Teacher/classroom characteristics were collected from a brief self-report measure. The teacher demographic measure included gender (i.e., coded 0 = female, 1 = male), race, teaching experience (i.e., less experienced [5 years or fewer] = 0, more experienced [more than 5 years] = 1), and education level (i.e., 0 = bachelor's degree, 1 = master's degree). Developmental context was determined by the type of classroom in which the teacher worked (i.e., coded 0 = elementary, 1 = middle).

Data-Analysis Plan

We conducted a series of two-level hierarchical linear models (HLM) using Windows HLM software, Version 7.03 (Raudenbush, Bryk, & Congdon, 2017) to address all research questions. HLM is a preferred method of analysis for addressing nested data (Raudenbush & Bryk, 2002). Table 1 provides an overview of all HLMs, including predictor variables and outcomes used for each research question. All variables and outcomes included in our HLMs came from baseline, except for those used to answer Research Question 4. Teacher-report data were treated as scale-level means or item-level observed data in the analyses. First, the null model was conducted to confirm the use of HLM procedures and to determine the appropriate level of data analysis. Next, the model included developmental context (i.e., middle = 1, elementary = 0) as a Level-2 predictor of family engagement (i.e., the TOCA-C family-engagement mean; Koth et al., 2009) to assess how family–school engagement differed across elementary- and middle-school contexts (i.e., Research Question 1a). For Research Question 1b, the same model was used with each family–school engagement practice/characteristic (e.g., parent–teacher relationship) analyzed as a separate outcome.

The next stage of analyses involved a two-step process to assess main effects of student-level characteristics (Research Question 2) and to test the hypothesis that student-level characteristics would moderate the relationship between developmental context and family–school engagement (Research Question 3). At this point, all continuous variables were standardized to control for potential collinearity effects and to assess for moderation between continuous variables. In Step 1, the model included developmental context at the classroom level plus the student-level variables of race/ethnicity (Black = 1, non-Black = 0), gender (male = 1, female = 0), special education status (1 = receiving special ed. services, 0 = not receiving special ed.services), FRL (1 = receiving FRL, 0 = not received FRL), and level of disruptive behavior (TOCA-C Disruptive Behavior subscale mean). In Step 2, a cross-level interaction was added between each student-level characteristic and developmental context, completed separately for each interaction. For example, the model equation for race was as follows.

$$E[Y]\ \text{Middle, Black} = \beta 0 + \beta 1\text{Middle} + \beta 2\text{Black} + \beta 3\text{Middle} \times \text{Black}$$

Finally, to address Research Question 4, a second set of HLM analyses were conducted to assess the association between family–school engagement at the beginning of the school year and the same behaviors at the end of the school year. Contrary to Research Questions 1 through 3, these analyses included baseline family–school engagement as a predictor variable, with each postintervention student behavior (i.e., TOCA-C Concentration Problems, Disruptive Behavior, Prosocial Behavior, and Emotion Dysregulation subscales) analyzed separately. Further, these analyses controlled for intervention status, baseline student behaviors, and developmental context by including these predictors in the model and involved a two-step process in which all variables were first entered into the model, followed by subsequent moderation interactions being explored in Step 2 (i.e., the cross-level interaction between family–school engagement and developmental context for each student outcome).

We also calculated effect sizes for significant relationships revealed through HLM analyses. Cohen's *d* was used to assess the magnitude of effects based on standardized mean differences of groups (i.e., developmental context, whether or not students received FRL). Reported Cohen's *d* effect sizes can be interpreted according to Cohen's (1992) subjective guidelines (i.e., 0.20 = small, 0.50 = medium, and 0.80 = high). Cohen's f^2 (Cohen, 1988) was used as an effect-size measure for Research Question 4, as the f^2 metric is preferred when the independent and dependent variables are both continuous (Selya, Rose, Dierker, Hedeker, & Mermelstein, 2012). Reported Cohen's f^2 effects sizes can be interpreted based on Cohen's (1992) subjective guidelines (i.e., 0.02 = small, 0.15 = medium, 0.35 = large).

Results

As is standard practice for HLM, the null model was first run to investigate if the variability in reported family–school engagement was significant based on Level-2 grouping (i.e., teacher/classroom). Results revealed significant variation, $\chi^2(205) = 2{,}177.93$, $p < .01$, with an intraclass correlation of .33, thus supporting the use of HLM procedures. Because teachers/classrooms were also nested within schools, the null model was additionally conducted at a third level to account for possible school-level variation (i.e., students [Level 1] nested within teachers/classrooms [Level 2] nested within schools [Level 3]). However, only a small and

Table 1
Description of Hierarchical Linear Models and Variables Included

Model	Description/research question (RQ)	Classroom-level variable(s)	Student-level variable(s)	Cross-level interaction	Outcome assessed
Model 0	Null model	DC	—	—	Family–school engagement (overall)
Model 1	Family-school engagement overall by DC (RQ1a)	DC	—	—	Family–school engagement (overall)
Model 1a	Parent–teacher relationship by DC (RQ1b)	DC	—	—	Parent–teacher relationship
Model 1b	Parent(s) involved/supportive by DC (RQ1b)	DC	—	—	Parent(s) involved/supportive
Model 1c	Parent(s) attend school functions by DC (RQ1b)	DC	—	—	Parent(s) attend school functions
Model 1d	Ability to contact parent(s) by DC (RQ1b)	DC	—	—	Ability to contact parent(s)
Model 2					
Step 1	Main effects of student-level variables (RQ2)	DC	Race Gender SPED status FRL Disruptive behavior	—	Family–school engagement (overall)
Step 2	Moderation effects (RQ3)	DC	Race Gender SPED status FRL Disruptive behavior	Race × DC Gender × DC SPED status × DC FRL × DC Disruptive behavior × DC	Family-school engagement (overall)
Model 3					
Step 1	Family-school engagement (overall) as a predictor of concentration problems (RQ4)	DC Intervention status	Concentration problems (baseline) Family-school engagement (overall)	—	Concentration problems (postintervention)
Step 2	Moderation effects of DC and family–school engagement (overall)	DC Intervention status	Concentration problems (baseline) Family-school engagement (overall)	Family-school engagement (overall) × DC	Concentration problems (postintervention)
Model 3a					
Step 1	Family-school engagement (overall) as a predictor of disruptive behavior (RQ4)	DC Intervention status	Disruptive behavior (baseline) Family-school engagement (overall)	—	Disruptive behavior (postintervention)
Step 2	Moderation effects of DC and family–school engagement (overall)	DC Intervention status	Disruptive behavior (baseline) Family-school engagement (overall)	Family-school engagement (overall) × DC	Disruptive behavior (postintervention)
Model 3b					
Step 1	Family-school engagement (overall) as a predictor of prosocial behavior (RQ4)	DC Intervention status	Prosocial behavior (baseline) Family-school engagement (overall)	—	Prosocial behavior (postintervention)
Step 2	Moderation effects of DC and family–school engagement (overall)	DC Intervention status	Prosocial behavior (baseline) Family-school engagement (overall)	Family-school engagement (overall) × DC	Prosocial behavior (postintervention)
Model 3c					
Step 1	Family-school engagement (overall) as a predictor of emotion dysregulation (RQ4)	DC Intervention status	Emotion dysregulation (baseline) Family-school engagement (overall)	—	Emotion dysregulation (postintervention)
Step 2	Moderation effects of DC and family–school engagement (overall)	DC Intervention status	Emotion dysregulation (baseline) Family-school engagement (overall)	Family-school engagement (overall) × DC	Emotion dysregulation (postintervention)

Note. FRL = free/reduced-price lunch; SPED = special education; DC = developmental context (0 = elementary, 1 = middle school).

nonstatistically significant amount of variance (i.e., 0.0003) could be explained at Level 3, $\chi^2(17) = 17.81$, $p = .31$). These results confirmed the use of a two-level model to address research questions. Throughout the series of two-level models conducted, missing data were handled by performing listwise deletion at the analysis stage based on the student-level variables included in each model, which led to between 5% and 8% of cases being deleted per model.

In addition, to account for multiple comparisons, we used the Benjamini–Hochberg method (Benjamini & Hochberg, 1995). This method is considered a conservative approach that decreases the false-discovery rate. A new adjusted α threshold for each p value was computed based on: ($i \times 0.05/M$, where i is the rank order of the p value (i.e., lowest p value is 1, next is 2, and so forth) and M is the total number of multiple comparisons made. With these adjusted p values, the largest i rank in which the p value was less than the corresponding adjusted threshold was identified. However, even with this adjustment, using more conservative p values, all our results remained statistically significant. Thus, we provided the original p values when displaying our results.

Descriptive information for student and teacher variables used within the current study are presented in Table 2. Overall, students included in the sample were predominantly Black, receiving FRL, and did not qualify for special education services. Gender was very similar, with only a 2% difference in favor of males. Elementary classrooms outnumbered middle school by approximately 1.4%. Teachers were predominantly White and female, although nearly a quarter of teachers were Black. Teaching years reported varied across participants, in addition to approximately 60% of teachers having a master's degree and 40% holding a bachelor's degree.

Family-School Engagement Comparison by Developmental Context

Family–school engagement (overall). Results revealed a significant relationship between family–school engagement (overall) and developmental context (i.e., elementary compared with middle; $b = -0.62$, $SE = 0.11$, $p < .001$; see Table 3). Specifically, teachers reported higher levels of overall family engagement in elementary schools ($M = 4.57$, $SD = 1.18$) thank in middle schools ($M = 3.97$, $SD = 1.40$). In terms of effect size, this difference translates to a Cohen's d of 0.47 (95% CI [0.40, 0.54]), which is considered a moderate effect.

Family–school engagement practices/characteristics. When comparing individual family–school engagement practices/characteristics across elementary- and middle-school contexts, all outcomes were higher for elementary-school than for middle school teachers (see Table 4). Results revealed statistical significance for parent–teacher relationship ($b = -0.57$, $SE = 0.12$, $p < .001$), parents being involved/supportive ($b = -0.64$, $SE = 0.12$, $p < .001$), parents attending school functions ($b = -0.69$, $SE = 0.18$, $p < .001$), and ability to contact parents ($b = -0.51$, $SE = 0.11$, $p < .001$), which indicates that elementary school teachers are significantly more likely to have positive relationships with parents ($d = 0.41$; 95% CI [0.34, 0.48]), view parents as involved and supportive ($d = 0.43$; 95% CI [0.36, 0.50]), have parents present for school functions ($d = 0.35$; 95% CI [0.28, 0.42]), and report increased abilities to contact parents ($d = 0.39$; 95% CI [0.32, 0.46]).

Student-level characteristics associated with family–school engagement. When student-level variables were added to the model, results revealed main effects for race/ethnicity, FRL, and disruptive behavior (see Table 4). Specifically, family–school engagement was lower for Black/African American students ($b = -0.28$, $SE = 0.05$, $p < .001$; $d = 0.34$; 95% CI [0.25, 0.42]), received FRL ($b = -0.31$, $SE = 0.03$, $p < .001$; $d = 0.40$; 95% CI [0.32, 0.48]), or had higher levels of disruptive behaviors ($b = -0.20$, $SE = 0.01$, $p < .001$). No significant main effects were found for gender or special education status.

Cross-level moderation. Results of cross-level moderation effects between developmental level and each student characteristic are also reported in Table 4. Significant moderation effects were found for race by developmental level ($\beta = 0.31$, $SE = 0.10$, $p < .001$, $\Delta R^2 = .02$) and disruptive behavior by developmental level ($\beta = -0.14$, $SE = 0.04$, $p < .001$, $\Delta R^2 = .04$). These significant interactions are graphically displayed in Figures 1 and 2. Regarding race, results revealed that family–school engagement was highest for White students in elementary school and lowest among Black students in middle school. Regardless of race, family–school engagement was higher for students in elementary than those in middle school. Regarding disruptive behavior, higher levels of disruptive behavior were associated with lower levels of family–school engagement. This negative relationship was consistent across elementary and middle school. However, the association was stronger for students in middle school, indicating that higher levels of disruptive behaviors are especially associated with lower family engagement in middle school than in elementary.

Family-School Engagement as a Predictor of Student Outcomes

Additional analyses explored the impact of family–school engagement at baseline as a predictor of student outcomes at the end of the school year, controlling for intervention status at Level 2, and baseline behavior at Level 1 (see Table 5). A positive significant relationship was found for prosocial behavior ($\beta = 0.03$, $SE = 0.01$, $p < .01$; $f^2 = 0.17$), indicating that higher levels of family–school engagement at baseline contributed to increased prosocial behaviors at the end of the school year. Significant negative relationships were revealed for concentration problems ($\beta = -0.20$, $SE = 0.03$, $p < .001$; $f^2 = 0.32$), disruptive behaviors ($\beta = -0.03$, $SE = 0.01$, $p < .01$; $f^2 = 0.19$), and emotion dysregulation ($\beta = -0.05$, $SE = 0.01$, $p < .001$; $f^2 = 0.24$), indicating that lower family–school engagement at baseline was predictive of increased concentration problems, disruptive behaviors, and emotion dysregulation at the end of the school year.

Further, results revealed that end-of-year concentration problems ($\beta = 0.15$, $SE = 0.03$, $p < .001$; $f^2 = 0.21$) and emotion dysregulation ($\beta = 0.06$, $SE = 0.03$, $p = .04$; $f^2 = 0.17$) were moderated by the interaction between family–school engagement and developmental context. Regarding concentration problems, increased family–school engagement was associated with decreased concentration problems across both elementary- and middle-school contexts (see Figure 3). However, the association was greater for elementary contexts than middle-school contexts.

Table 2
Descriptions of Student and Teacher Sample

Student characteristics	Frequency (*n*)	Percentage
Gender		
Male	1,505	51.0
Female	1,446	49.0
Race/ethnicity		
White	593	20.1
Black	2,300	79.9
FRL		
Yes	1,941	65.8
No	1,010	34.2
Special education status		
Yes	232	7.9
No	2,719	92.1
Teacher/classroom characteristics		
Classroom type		
Elementary	105	50.7
Middle	102	49.3
Gender		
Male	34	12.7
Female	234	87.3
Race/ethnicity		
Asian/Pacific Islander	4	1.9
Black	49	23.7
Hispanic/Latino	1	.5
White	149	72.0
Other	4	1.9
Educational level		
Bachelor's degree	83	40.1
Master's degree	124	59.9
Years teaching		
0–5	55	26.6
6–10	51	24.6
11–15	48	23.2
16–20	36	17.4
21+	17	8.2

Note. Total numbers and percentages based on reported sample.

Across both elementary- and middle-school contexts, increased family–school engagement was also associated with lower emotion dysregulation, although this association was considerably greater for middle-school than elementary contexts (see Figure 4).

Discussion

The purpose of this study was to evaluate the developmental context of family–school engagement in schools. As expected, family–school engagement was significantly higher in elementary versus middle school. Student-level characteristics were also associated with higher levels of family–school engagement, including identifying as White, having higher SES, and having lower levels of disruptive behavior. In addition, student-level characteristics moderated the relations between family–school engagement and developmental context. Finally, regardless of developmental context, parent engagement predicted important end-of-year student outcomes, suggesting that family–school engagement is comparably important in middle and elementary school.

Teachers in this study reported less family–school engagement among families with middle-school than elementary-school students, both as a global rating and also for each subtype of family–school engagement. In other words, elementary teachers rated both the quantity and quality of family–school engagement higher than middle-school teachers. Understanding that families are less engaged in middle school is important, particularly given prior research (Fan & Chen, 2001; Masten & Coatsworth, 1998; Sénéchal, 2006) and current the findings, which indicate that family–school engagement plays a critical role in youth development.

Higher levels of family–school engagement in elementary school are likely for a number of reasons. First, elementary students tend to have one primary teacher; parents may find connecting to elementary-school teachers and becoming more involved in school to be easier. Elementary schools have also been shown to readily encourage families to become active in their child's schooling (El Nokali et al., 2010). As students transition to middle school, they typically have many teachers and rotate across academic subjects. The differences in school context between elementary and middle school (i.e., less clarity of point of contact, fewer opportunities for becoming involved) likely account for the significant decrease in family–school engagement in middle school. These contexts across school level should be taken in to consideration toward working to improve family–middle-school engagement.

We found it interesting that, regardless of developmental context, several student-level characteristics were associated with the level of family–school engagement. For instance, parents of Black students and students who qualify for FRL were reported to be less engaged regardless of whether they were in elementary or middle school. This is consistent with earlier research (Stormont et al., 2013) conducted in elementary-school settings. Thus, the present findings extend the literature and further suggest that these engagement patterns persist into middle school. Barriers to family–school engagement for families of diverse backgrounds have been well-documented (Herman, Reinke, Frey, & Shepard, 2014). These include structural (e.g., challenges taking time off work, getting transportation or child care to attend school meetings) and perceptual barriers (e.g., prior negative experiences with school,

Table 3
Family Engagement Overall and Family Engagement Practices/Characteristics Across Developmental Context

	Family engagement overall		Parent–teacher relationship		Parent(s) involved/ supportive		Parent(s) attend school functions		Ability to contact parent(s)	
Middle school	*b*	*SE*	*b*	*SE*	*b*	*SE*	*b*	*SE*	*b*	*SE*
	−.62***	.11	−.57***	.12	−.64***	.12	−.69***	.18	−.51***	.11

Note. Results represent the final estimation of fixed effects with robust standard errors (elementary = 0, middle school = 1). *b* = unstandardized coefficient; *SE* = standard error.
*** $p < .001$.

Table 4
Main Effects and Cross-Level Interactions of Variables Associated With Family–School Engagement

Variable	Family–school engagement (overall)				
	R^2	ΔR^2	*b*	*SE*	β
Step 1	.35***				
Developmental context (middle)			−.62***	.12	−.63***
Race (Black)			−.28***	.05	−.31***
Gender			.03	.08	.02
Special education status (receiving SPED services)			−.05	.08	.02
Free/reduced lunch (receiving FRL)			−.31***	.03	−.30***
Disruptive behavior			−.19***	.01	−.22***
Step 2	Significant cross−level interactions associated with family engagement (overall)				
Race × Developmental Context	.37	.02***	.31***	.10	.31***
Disruptive Behavior × Developmental Context	.39	.04***	−.16***	.04	−.14***

Note. Results represent the final estimation of fixed effects with robust standard errors.
*** $p < .001$. *b* = unstandardized coefficient, *SE* = standard error, β = standardized coefficient.

experiences of discrimination, unclear expectations for involvement). Moderation analyses revealed that although being a Black student was associated with lower family–school engagement, this was especially true in elementary school. Given the low rates of family–school engagement observed in middle school regardless of student race, this drop for Black students in elementary school is especially concerning, as they are less likely to accrue the benefits of family–school engagement during this critical developmental period.

In addition, student disruptive behaviors were associated with lower levels of parent engagement across developmental contexts. This is problematic, given the well-documented deleterious outcomes associated with persistent disruptive behaviors, in addition to corollary research demonstrating the importance of family–school engagement in averting these outcomes (Thompson, Herman, Stormont, Reinke, & Webster-Stratton, 2017). Although family–school engagement was low for families of students with disruptive behaviors across developmental contexts, relations were most pronounced in middle school. Thus, efforts to reduce the family–school engagement gap for youth with disruptive behaviors need to be focused on the precipitous decline that occurs in middle school.

Notably, we did not find main effects of student gender or special education status on family–school engagement practices, suggesting that the disruptive behaviors alone, regardless of student gender or participation in special education, was most predictive of low family–school engagement. Although previous studies have noted that levels of family–school engagement may be lower for boys (Lee et al., 2007) and students in special education (Jones & Gansle, 2010), our results suggest that family–school engagement may be equally valued and used by teachers and families regardless of gender or special education status.

The final set of analyses examined the link between family–school engagement and youth end-of-year outcomes, controlling for intervention status and baseline values of targeted outcomes. Results revealed that, regardless of developmental context, family–school engagement at the beginning of the year predicted increases in youth prosocial skills and decreases in youth concentration problems, disruptive behaviors, and emotional dysregulation by the end of the school year. These findings provide further support for the value of family–school engagement across development in

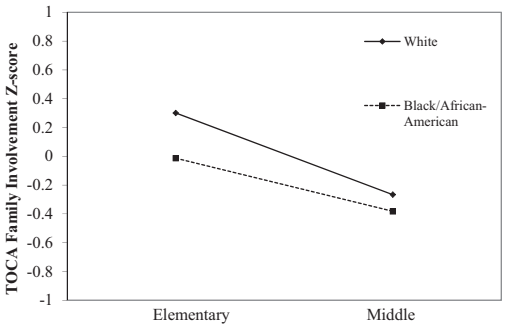

Figure 1. Cross-level moderation of race and developmental context on family–school engagement.

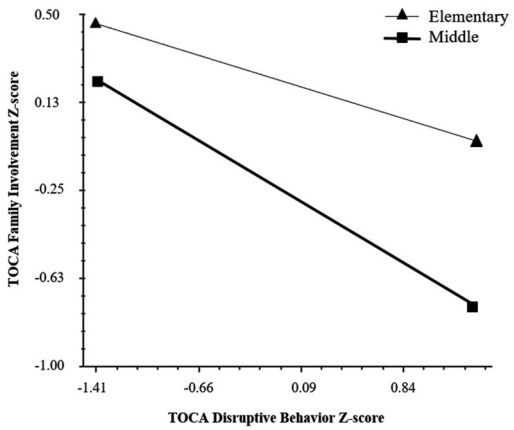

Figure 2. Cross-level moderation of disruptive behavior and developmental context on family–school engagement.

Table 5
Family–School Engagement as a Predictor of Student Outcomes

Fixed effect	β	*SE*	*p* value
Concentration problems (CP)			
Step 1			
Family–school engagement	−.20	.03	<.001***
Baseline CP	.50	.04	<.001***
Intervention status	−.11	.07	.11
Developmental context	.30	.06	<.001***
Step 2			
Developmental Context × Family–School Engagement	.15	.03	<.001***
Disruptive behavior (DB)			
Step 1			
Family–school engagement	−.03	.01	.003**
Baseline DB	.77	.02	<.001***
Intervention status	−.05	.03	.11
Developmental context	.03	.03	.34
Step 2			
Developmental Context × Family–School Engagement	−.01	.01	.84
Prosocial behavior (PB)			
Step 1			
Family–school engagement	.03	.01	.02*
Baseline PB	.77	.02	<.001***
Intervention status	.10	.05	.07
Developmental context	−.27	.05	<.001***
Step 2			
Developmental Context × Family–School Engagement	−.01	.03	.68
Emotion dysregulation (ED)			
Step 1			
Family–school engagement	−.05	.01	<.001***
Baseline ED	.75	.01	<.001***
Intervention status	−.11	.04	.01*
Developmental context	.19	.04	<.001***
Step 2			
Developmental Context × Family-School Engagement	.06	.03	.04*

Note. β = standardized coefficient; *SE* = standard error. Analyses controlled for each student outcome at baseline along with intervention status and developmental context at the teacher/classroom level. Results represent the final estimation of fixed effects with robust standard errors.
* $p < .05$. ** $p < .01$. *** $p < .001$.

fostering positive youth outcomes. Giving additional credence to the particular importance of family–school engagement in middle school, subsequent moderator analyses revealed that these effects of family–school engagement were especially pronounced in middle school for emotional dysregulation. That is, higher levels of family–school engagement predicted especially strong decreases in student emotion dysregulation in middle school than in elementary school, whereas higher levels of family–school engagement

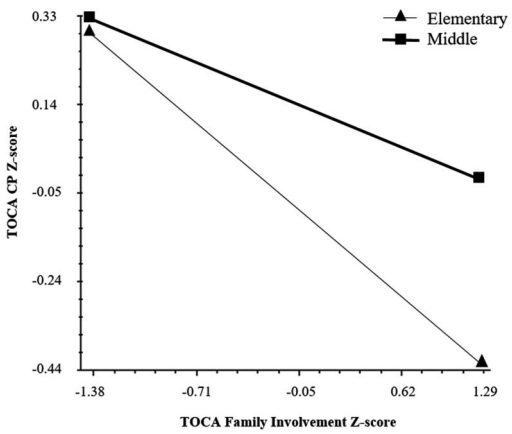

Figure 3. Cross-level moderation of family–school engagement and developmental problems.

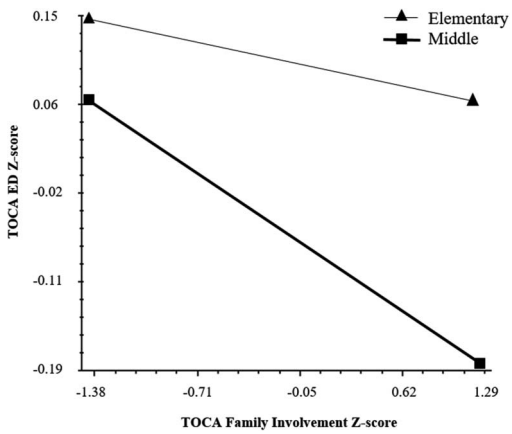

Figure 4. Cross-level moderation of family–school engagement and developmental context on emotional dysregulation.

predicted decreases in student concentration problems in elementary relative to middle schools. Perhaps a reason for this difference is that teachers in elementary school feel that teaching emotion regulation is very much part of learning to be an elementary student, but are more likely to seek family involvement for concentration problems, whereas exhibiting emotion-regulation problems in middle school is seen as problematic, requiring family involvement.

Study Limitations

Although these findings are interesting and important, this study is not without some limitations. First, the findings from the study were based on measures of teacher report. Although teacher ratings of need are not equivalent to an assessment made by a clinician or a diagnostic assessment, teachers are the most common source of information used to assess social behavior and determine special education evaluations (Zima et al., 2005). Moreover, several studies have found that teacher ratings of family–school engagement are especially powerful predictors of youth outcomes (Stormont et al., 2013; Herman & Reinke, 2017; Thompson et al., 2017). In addition, teacher reports for middle school were taken from language arts and math teachers. Compared with elementary teachers, who often have more opportunities to interact with parents and observe family–school engagement, it is possible that these middle-school teachers were not the best reporters of family–school engagement.

This study relied on a sample composed of youth in an urban setting in a particular region of the country. It is unclear how these findings will generalize to other youth in other parts of the country. On the other hand, the sample included a diverse group of students, many representing understudied youth, thus the findings contribute to understanding family–school engagement in urban contexts, where many students come from low SES households. In addition, a study strength was that the elementary- and middle-school samples came from youth in the same sociocontextual contexts (i.e., the same school district). Further, it is important to note that no experimental manipulations of family–school engagement occurred in this study, thus causal inferences are not warranted. However, the findings are consistent with theory and prior studies. It is also worth noting that the two RCTs included in the study occurred 3 years apart. The longitudinal design, including controls for a wide range of covariates, is also a strength of this study and findings add to the growing body of evidence supporting the value of family–school engagement across contexts.

Implications

Two parallel findings from the present study that may be of most importance for school psychologists, school-leadership teams, policymakers, and scientists: (a) Family–school engagement predicts the improvements in youth outcomes over time equally well in middle and elementary school, and (b) family–school engagement in education plummets as students enter middle school. Together, these findings highlight an area of need and opportunity to shape youth development in positive ways. Finding ways to foster family–school engagement in education during the middle-school years holds promise as a key leverage point in shaping youth outcomes. Not surprisingly, entry to middle school is also associated with other indicators of youth malaise regarding their own engagement in education (e.g., student engagement has a parallel decrease during middle school).

Some basic next steps to develop programs and practices salient to the middle-school setting, including specifying what active family–school engagement in education looks like in middle school, identifying ways to communicate to parents about how they can be involved and expectations about what effective involvement looks like, and working within school buildings to identify and remove barriers to involvement in middle school. The unified theory of behavior change could provide a useful framework for guiding these next steps, particularly in specifying key points of access and intervention to change intentions to improve parent engagement in education (Holmes, Reinke, Herman, Thompson, & Danforth, in press).

It will be essential to include the perspectives of teachers and parents in these conversations and plans to promote family–school engagement in middle school. For instance, one potential barrier is that teachers may find it burdensome to include parents in middle-school education and prefer to work directly through the student, given that youth become increasingly autonomous during this period of development. Overcoming such a barrier would require attending to these perceptions and introducing new norms and expectations for teachers, including identifying concrete benefits for teachers to engage in these efforts (e.g., likelihood of reducing disruptive behaviors). Parents would be valuable partners in these conversations for identifying their own barriers, including their own beliefs and expectations about engaging in schools, as well as messages teachers and school leaders send about if and how school participating can occur. One potential innovative method may be for schools to include middle-school youth as advocates in increasing family engagement with school. Middle school students are developmentally more autonomous and could be key individuals in guiding efforts to increase family engagement in schooling. This is an area for intervention development and future research.

School psychologists can play important roles in shaping school practices that foster or interfere with family–school engagement in education. By keeping family–school engagement practices at the forefront of school efforts, both in middle- and elementary-school settings, school psychologists can help school leaders and behavior-support teams develop effective problem-solving strategies. An important part of these conversations at the middle-school level would be communicating the importance of family–school engagement in education beyond the elementary-school years.

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