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Parental Involvement and African American and European American Adolescents' Academic, Behavioral, and Emotional Development in Secondary School

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This study examined longitudinal trajectories of parental involvement across middle and high school, and how these trajectories related to adolescents' academic, behavioral, and emotional adjustment. In addition, ethnic and socioeconomic status differences in longitudinal associations and the potential moderating role of parental warmth were assessed. Longitudinal growth modeling technique was used to describe trajectories of different types of parental involvement and adolescent outcomes over 7th, 9th, and 11th grades (mean ages = 12.9, 14.3, and 17.2 years, respectively) on an ethnically and economically diverse sample of 1,400 adolescents (51% female, 56% African American, 39% European American, 5% others). Each aspect of parental involvement contributed differentially but significantly to adolescent outcomes. Finally, parental warmth moderated the associations between providing structure at home and adolescent grade point average and problem behavior.

For many youth, the secondary school years are marked by declines in academic performance and motivation, along with increases in problem behaviors and depressive symptoms (Eccles, 2007; Wang & Eccles, 2012). Characterized as "lost talent," such declines in adjustment are more prevalent among ethnic minority youth and among youth from economically disadvantaged backgrounds (Trusty & Harris, 1999). Parenting and parental involvement in education have been shown to buffer these declines (Catsambis, 2001; Ratelle, Guay, Larose, & Senecal, 2004) and, as a result, have been touted as powerful tools for improving academic achievement and narrowing achievement gaps (Dearing, Kreider, Simpkins, & Weiss, 2006). However, parents' involvement in education has also been shown to decline between elementary and secondary school (Eccles & Harold, 1996), and many argue that maintaining or increasing parental involvement over this time period may forestall the trend toward student declines. While parental involvement in education still matters during adolescence (Hill et al., 2004; Hill & Tyson, 2009; Wang & Sheikh-Khalil, 2014), the frequency and quality of parents' involvement are likely linked to adolescent outcomes in complex and dynamic ways. Declines in some types of parental involvement may be developmentally appropriate and increases in some types of parental involvement may have deleterious effects.

Parenting and parent–child relationships undergo renegotiations during adolescence (Collins & Laursen, 2004). Indeed, parenting and adolescent outcomes are on a paired journey. Parents modulate and adapt their parenting practices as they discern when their teens are ready for greater autonomy, endure greater conflict as teens press for independence, and reevaluate the strength and breadth of their influence (Smetana, 2000). Despite indications that parenting during adolescence is dynamic, most studies have not addressed the developmental complexity of changes in parental involvement and have simply treated parental involvement in education as a static baseline predictor of adolescent outcomes, either concurrently or prospectively. Instead of being static, parents may change their involvement in education over time in response to youth outcomes (Dotterer, Hoffman, Crouter, & McHale, 2008; Zhang, Haddad,

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Torres, & Chen, 2011) or changes in the school context. Moreover, instead of directly affecting adolescent outcomes, parental involvement in education unfolds in the context of the parent–adolescent relationship. Qualities like warmth and supportiveness in the parent–adolescent relationship are likely to have a significant impact on the effectiveness of parental involvement in education. As adolescents enter secondary school, they experience interactions and settings increasingly characterized by change, conflict, and emotional volatility—all while being tasked with meeting more and higher academic demands in the context of real-world consequences for success and failure. A warm and supportive parent–adolescent relationship provides a productive context in which to tackle the academic and psychological challenges of secondary school (Allen & Land, 1999; Darling & Steinberg, 1993). For many adolescents, parenting that balances emotional closeness with provision of structure and support for autonomy can enhance academic and mental health outcomes (Papini & Roggman, 1992; Wang & Sheikh-Khalil, 2014). Teens also tend to be more receptive to their parents' beliefs and values in the context of a supportive parent–child relationship (Grolnick & Farkas, 2002; Wang, Dishion, Stormshak, & Willett, 2011). Parenting practices function in synergy, rather than in isolation or in an additive way. Thus, it is important to examine how parental involvement interacts with parents' emotional supportiveness to influence their youth throughout secondary school.

In addition to considering the relational context in which parental involvement occurs, it is also important to weigh in the cultural and socioeconomic background of adolescents and their families. Well-established differences in parenting practices and adolescent outcomes suggest that the trajectories and impact of certain types of parental involvement may vary depending on the parents' ethnic background or socioeconomic status (SES). Authoritative parenting practices have been found to be more effective in supporting middle-class European American youth (Steinberg, Lamborn, Darling, Mounts, & Dornbusch, 1994). In contrast, more "no nonsense" and directive parenting practices have been shown to be more effective than authoritative or democratic parenting practices for supporting a wide range of positive youth outcomes in ethnic minority families (Brody & Flor, 1998; Garcia Coll, Meyer, & Brillon, 1995; Smetana, 2000). Directive parenting practices are consistent with community-oriented, interdependent cultural beliefs that address the concerns and challenges facing families who live in unsafe neighborhoods. Families who believe that the life opportunities for their children are threatened tend to be more strict and directive in their parenting practices across ethnic and economic backgrounds (Gurland & Grolnick, 2005; Wang & Kenny, 2014). Indeed, low-income families and families who reside in unsafe neighborhoods often find that there are significant challenges and threats to their children's well-being (Hill, 2011; Hill & Torres, 2010; Hill, Witherspoon, & Bartz, 2012). Therefore, they are more directive, strict, and "no nonsense" in their parenting practices. These directive and "no-nonsense" types of parenting practices are associated with positive academic and mental health outcomes (Furstenberg et al., 1999; Hill & Herman-Stahl, 2002; Pinderhughes, Dodge, Bates, Pettit, & Zelli, 2002). As it relates to parental involvement in education, African American and other ethnic minority parents also experience significant barriers to initiating and maintaining a high level of productive school-based involvement. Minority families find it more difficult to establish trusting relationships with their children's teachers (Bartz, Hill, & Witherspoon, 2013; Hill & Torres, 2010). African American parents are more likely to monitor teachers and other school personnel than to collaborate with them because of a lack of trust (Gutman & McLoyd, 2002; Wang & Sheikh-Khalil, 2014). Taken together, ethnic and SES differences in parenting practices paired with differential barriers to becoming productively involved in schools could influence the effectiveness of parents' involvement in youth's education, with potentially differential effects on academic, behavioral, and mental health outcomes.

This study examined the trajectories of parental involvement in education across middle and high school in order to better understand how parents modulate their practices to effectively support their youth and move beyond a static conceptualization of parental involvement in education. This study also tested the extent to which trajectories of parental involvement were related to trajectories of academic achievement, behavioral problems, and depression, and how these longitudinal associations varied by ethnicity and SES. Finally, the role of parental warmth as a moderator of these relations was examined, in order to better understand the relational context in which parents engage in supporting their youth.

Parental Involvement and Adolescent Development

Parental involvement in education has been defined as "parents' interactions with school and with their children to benefit their children's

educational outcomes and future success" (Hill et al., 2004, p. 25). Theory and practice consistently conceptualize parental involvement in education to include home- and school-based strategies (Epstein & Sanders, 2002). School-based involvement includes activities such as communication with schools, volunteering at school, and participation in school governance. Home-based involvement includes strategies such as engaging in educational activities at home, reinforcing learning at home, helping with homework, and provision of structure at home to support schoolwork. However, these conceptions of home- and school-based involvement have been developed and validated in elementary school models and some have been found to be less effective for adolescents in middle and high school (Ratelle et al., 2004). Effective parental involvement in education is different during adolescence than during elementary school because of youth's changing developmental needs and changes in the school structure (Hill & Tyson, 2009). In a comprehensive meta-analysis of parental involvement in middle school, home-based involvement in the way of parental help with homework was negatively associated with achievement (Hill & Tyson, 2009). Furthermore, a third type of involvement described as "academic socialization" was more strongly related to academic outcomes than home- and school-based involvement. Academic socialization includes communicating parental expectations for achievement and the value or utility of education to youth, linking schoolwork to future success, fostering aspirations and goals with youth, and making preparations and plans for the future (Hill & Tyson, 2009). This type of involvement in education is more centrally located within the parent–adolescent relationship, rather than between the home and school—a relationship that is being renegotiated.

Academic socialization is particularly aligned with the developmental needs and assets of teens. Cognitively, adolescents experience advances in abstract reasoning, the ability to anticipate outcomes from behaviors and decisions, the ability to learn from experience, and the ability to simultaneously contemplate multiple viewpoints in problem solving (Keating, 2004). Adolescents also become increasingly oriented to honing a sense of autonomy, self-efficacy, and self-identity (Bandura, Barbaranelli, Caprara, & Pastorelli, 2001; Erikson, 1968). While adolescents develop an increasing capacity for internalizing academic beliefs and values, vacillations in emotional expressiveness as a result of normative hormonal fluctuations associated with pubertal development put youth at risk for increases in depressive symptoms and behavioral problems (Susman & Rogol, 2004; Wang & Kenny, 2013). Adolescent development is optimized and risks are minimized when adolescents' burgeoning developmental skills are put to practice, and when adolescents' needs for competence, autonomy, and relatedness are fulfilled (Deci & Ryan, 2008; Skinner, Kindermann, & Furrer, 2009). Thus, it is not surprising that the types of parental involvement in education demonstrated to have the most positive impact are those that actively include teens in their own development, scaffold their effective decision making and problem solving, and help them see their schoolwork as related to their particular aspirations and goals.

To capture involvement that reflects academic socialization, we assessed parental involvement that (a) scaffolds independence around education and (b) links what the adolescent is learning in school to their future success. In addition to academic socialization, we also examined home- and school-based involvement. For home-based involvement we focused on parents' provision of structure at home. Whereas some types of home involvement are negatively associated with achievement (e.g., homework help; Cooper, 2007), the provision of structure, including creating guidelines and a space for doing homework, may be more consistent with adolescents' developmental needs. Providing structure could potentially scaffold adolescents' needs to feel competent to succeed, to experience relatedness in the context of the adolescent–parent relationship, and to have opportunities to fulfill goals (Skinner et al., 2009). With regard to parents' school-based involvement, we investigated parents' communication with the school (e.g., sharing ideas about how a child can improve). Although many aspects of school-based involvement are less effective and more difficult to implement in secondary school (e.g., volunteering at school), parents' communication with the school remains essential. However, it is unclear whether the quality of communication with the school changes over the course of middle and high school. Because problem-focused communication may be reactive, this study focused on parents' preventive communication (e.g., sharing ideas about how a child can improve).

Moderation Effect of Parental Warmth, Ethnicity, and SES

Warm and supportive parents buffer the challenges of adolescent–parent relationships and increase the effectiveness of parents' efforts to direct the adolescent's behavior in a manner acceptable to

the parent (Allen & Land, 1999). Parent–adolescent relationships that balance emotional closeness with providing structure and supporting autonomy may meet adolescents' developmental needs in ways that scaffold adolescents' progress from dependence to independence (Papini & Roggman, 1992). Parental warmth is positively associated with adolescents' motivation to take on the educational values and behaviors endorsed by their parents (Grolnick & Farkas, 2002) and receptiveness to parental involvement in their daily life. Indeed, studies found that parental rule enforcement was more effective in reducing adolescent problem behavior in the context of greater parental warmth (Wang et al., 2011). Therefore, the effect of parental involvement on achievement, behavioral problems, and depressive symptoms may vary by levels of emotional supportiveness from parents.

Although the benefits of parental involvement for academic adjustment is well established (Fan & Chen, 2001; Hill & Tyson, 2009; Jeynes, 2005, 2009), the levels and type of parental involvement and the strength of associations with outcomes vary across demographic backgrounds. To start, parental goals and beliefs about how they should be involved vary by ethnicity and SES (Green, Walker, Hoover-Dempsey, & Sandler, 2007; Hoover-Dempsey & Sandler, 1997; Wang & Huguley, 2012). Families from higher SES levels tend to be more involved in their children's education, and such involvement is often more strongly related to achievement (Hill et al., 2004; Lareau & Horvat, 1999) and positive school behavior (McNeal, 2001). Better educated, higher SES parents also draw upon greater schooling experience, and consequently may be more efficacious and entitled in their interactions with schools, yielding larger impacts from their involvement (Lareau, 1996). On the other hand, inflexible work schedules and less knowledge of how to connect to and navigate the school system create significant barriers for low-SES parents to be effectively involved in their teens' education (Bartz et al., 2013; Lareau & Horvat, 1999).

African American and European American parents have also been shown to participate in their adolescents' education in different ways. European American parents tend to participate in school-based activities more often than African American parents, who tend to be involved more at home (Eccles & Harold, 1996; Fan & Chen, 2001; Hill, 2001). Some suggest that European Americans may be involved at school at higher levels because their greater comfort with and knowledge of the education system makes them feel more welcome and understood by school personnel (Gutman & McLoyd, 2002). In contrast, because of legacies of current and past discrimination and mistreatment, African American parents feel less welcome and find that they struggle with schools to secure resources and fair treatment for their youth (Cross, 2011; Hill, 2011). By middle school, African American parents locate their involvement in their youth's education within their relationship with their child, more so than with the school directly (Bartz et al., 2013). If these ethnic and economic variations are more than single time-point occurrences and are based on developmentally appropriate changes in involvement, then increases and decreases in these types of involvement will be related to trajectories of achievement, problem behavior, and depression.

Prior research on trajectories of parental involvement shows that while European American families had higher involvement at the beginning of sixth grade, their participation declined more sharply through the beginning of high school compared to African American families (Simons-Morton & Chen, 2009). However, that study did not examine the associations of parental involvement with youth's academic, behavioral, and emotional adjustment. Extant research on parental involvement in education primarily focuses on achievement outcomes, but parents function holistically, focusing on and responding to their adolescents' behavioral, emotional, and cognitive development in addition to their academic functioning. This study extends prior research by focusing on how parental involvement in education influences the development of the whole child. Parental involvement in education has been shown to improve social and emotional functioning (Pomerantz, Moorman, & Litwack, 2007). School-based involvement, including family–school communication, has been associated with lower levels of problem behaviors among students (Grolnick, Kurowski, Dunlap, & Hevey, 2000; Hoeve et al., 2009). Furthermore, developmentally appropriate parental involvement in education, such as the types associated with academic socialization, supports adolescents' feelings of competency, self-esteem, and efficacy (Barber & Olsen, 2004; Shumow & Lomax, 2002; Wang & Sheikh-Khalil, 2014) and may reduce emotional stress and depressive symptoms (Newman, Newman, Griffen, O'Connor, & Spas, 2007; Pomerantz & Rudolph, 2003).

Taken together, the current study aims to examine trajectories across middle and high school, linking the trajectories to adolescent outcomes, and determining how ethnicity, SES, and parental warmth moderate these relations. Addressing these

questions leads to a better understanding of how parental involvement in education evolves as students progress through middle and high school, and how these trajectories relate to adolescents' academic, behavioral, and emotional adjustment.

Method

Participants

The sample was part of the Maryland Adolescent Development in Context Study that was designed to examine the influence of social contexts on adolescent development. Participants were recruited from 23 public schools in a single large county in Maryland. Among the 1,961 who expressed interest in participating in the study, a sample of 1,452 families were selected to participate based on a stratified sampling procedure designed to obtain a representative sample of families from each of the 23 middle schools. In this study, we examined three waves of data: Wave 1, collected when the adolescents were in 7th grade (n = 1,452, M_{age} = 12.9 years); Wave 2, collected when the adolescents were in 9th grade (n = 1,157, M_{age} = 14.3 years); and Wave 3, collected when most of the adolescents were in 11th grade (n = 1,091, M_{age} = 17.2 years). Waves 2 and 3 retained 85% and 78% of the sample, respectively, from Wave 1. To ascertain whether the students who started the study differed from those who dropped out at Waves 2 or 3, a series of independent-samples contingency table analyses and t tests were conducted with the key variables at Wave 1. Results revealed that those who dropped out of the study did not differ from those who started the study.

The sample is approximately 56% African American, 39% European American, and 5% biracial or other ethnic minorities. Approximately 51% of the students are females. The sample is broadly representative of different SES levels, with the mean pretax, family annual income between $45,000 and $49,999 (range = $5,000 to > $75,000), and 86% of primary caregivers reported being employed. Fifty-four percent of primary caregivers were high school graduates and 40% were college graduates. Ninety-five percent of primary caregivers were mothers, 3% were grandmothers, and 2% were fathers. To eliminate the usual confound between ethnicity and social class found in many parenting studies, and to better understand the unique roles of ethnicity and SES, it is important for the African American and European American samples to have similar economic backgrounds and reside in similar communities (Hill, 2006). The sample was unique in that the socioeconomic distribution is nearly equivalent for the African American and European American families (Cook, Herman, Phillips, & Setterstein, 2002).

Procedures

Seventh graders were recruited through letters to their families. Families interested in participating in the study were asked to sign and return a consent form. The investigators used a mixture of self-administered questionnaires, face-to-face interviews, and school records to collect the data. In this study, we used school records and reports from the target youth and the primary caregiver, who was most often the youth's mother. Face-to-face interviews were conducted in the home by ethnically matched interviewers in approximately 1 hr, and the self-administered questionnaire took approximately 30 min to complete. A review conducted by the Institutional Review Board approved the study to be consistent with the protection of the rights and welfare of human subjects.

Measures

Grade Point Average

Adolescents' academic grade point averages (GPA) in 7th, 9th, and 11th grades were collected from their school records and youth self-reports. GPA was an average of adolescents' grades in the core academic subjects (English, mathematics, science, and social sciences). Letter grades were converted into numerical values (A = 4, B = 3, C = 2, D = 1, Failing = 0), with higher scores reflecting higher grades.

Problem Behavior

Adolescents' problem behaviors were assessed in 7th, 9th, and 11th grades through adolescent self-reports on five items based on the work of Elliot, Huizinga, and Menard (1989). Items included skipping school, stealing, fighting, getting in trouble with police, and vandalism during the past 3 months. The response format ranged from 1 (*never*) to 5 (*ten or more times*). The scores from the five items were averaged to form the construct of behavioral problems, with higher scores reflecting higher levels of misconduct. The measure has good estimated internal consistency reliability (αs = .74–.76) and has been used in previous research to measure youth's problem behavior (Gutman, Sameroff, & Eccles, 2002).

Depressive Symptoms

Adolescents' depressive symptoms were assessed in 7th, 9th, and 11th grades based on the 12 items from the Children's Depression Inventory (CDI; Kovacs, 1992). Adolescents were presented with 12 sets of three-response choices (increasing in symptom frequency) and asked to select the one that best described their feelings during the previous 2 weeks. This scale began with the phrase, "In the past 2 weeks, how often have you had these feelings?" Example items include: "I am sad," "I feel like crying," "I feel like I hate myself," "I feel like nothing will ever work out for me," and "I am worthless." All items were rated on a 3-point scale ranging from 1 (*once in a while*) to 3 (*all the time*). The 12 items were averaged to measure adolescents' depressive symptoms, with higher scores reflecting more depressive symptoms. The CDI has been used extensively with adolescents, and reliability (αs = .80–.83) and validity with populations in secondary school have been established (Kovacs, 1992).

Parental Involvement in Education

The five underlying constructs of parental involvement were assessed by parent-reported items in the Family Management Study (Furstenberg, Cook, Eccles, Elder, & Sameroff, 1999). All items were rated on a 5-point scale, ranging from 1 (*never*) to 5 (*very often*). Individual items were averaged to create the composite for each construct in 7th, 9th, and 11th grades and each composite demonstrated good internal consistency reliability in previous studies (αs = .69–.82; Gutman & Eccles, 2007; Gutman et al., 2002).

Preventive communication. Four items were used to assess the frequency of parents' communication with schoolteachers to prevent children's academic or behavioral problems. Example items were: "How often do you ask your child's teacher to suggest ways for your child to improve his/her performance in school?" and "How often do you ask your child's teacher about your child's homework assignments?"

Quality of communication. Three items were used to assess the quality of communication between parents and teachers. Example items were: "How often do you feel comfortable meeting with your child's current teachers?" and "How well do you get along with your child's teachers?"

Scaffolding independence. Three items were used to assess the extent to which parents provide opportunities for their child to take responsibility for schoolwork and to develop solutions to problems on their own. Example items were: "How often do you encourage your child to give his/her ideas and opinions even if you might disagree?" and "How often do you encourage your child to come up with solutions before asking for help?"

Providing structure at home. Three items were used to assess the extent to which parents create schedules and guidelines for studying and provide academically enriching materials and events at home. Example items were: "How regularly do you enforce the family rules or expectations for your child about doing homework?" and "How regularly do you enforce the family rules or expectations for your child about leisure activities?"

Linking education to future success. Four items were used to assess how often parents teach their child about the importance and utility of education and about the link between their child's education and future educational or career goals. Example items were: "How often do you and your child talk about his/her educational plans for the future?" and "How often do you and your child talk about what courses he/she should take in school and how these courses will prepare him/her for these future jobs?"

Parental Warmth

Four items from the Family Management Study (Furstenberg et al., 1999) that involved the degree of love, warmth, emotional support, and care between parents and adolescents in the past 3 months were used to measure parental warmth in 7th, 9th, and 11th grades. Example items were: "How often do you let your child know you really care about him/her?" and "How often do you say something funny to get your child's mind off his/her troubles?" Items were rated on a 5-point scale ranging from 1 (*never*) to 5 (*always*). Responses to these four items were averaged to create the construct of parental warmth, with higher scores reflecting more expression of warmth (αs = .77–.80).

Demographic Variables

We included the adolescents' gender, ethnicity, family SES, and prior academic achievement in the model. Each of these variables has been associated with parental involvement indicators and with adolescent development in prior studies (Johnson, Crosnoe, & Elder, 2001; Wang & Eccles, 2012). We created two dummy variables for ethnicity and included two ethnicity variables (0 = White, 1 = Black; 0 = White, 1 = Others) throughout the analyses. Given our focus on the comparison of

European and African American students in this study and the sample size of the other ethnicity groups being too small for meaningful group comparison, we only included the effect of the comparison between Black and White in the tables for simplicity. The SES index included the highest family educational attainment, occupation, and combined family income reported by the primary caregiver. Parents' occupation (e.g., doctor, teacher, nurse) was first content analyzed into U.S. census code categories, and then converted into ordinal categories, ranging from 0 to 99 (e.g., 0 = not employed, 99 = doctors), using Nam and Powers (1983). To create a composite SES indicator, we standardized and averaged family education, occupation, and family income.

Data Analyses

To investigate how each type of parental involvement changed between 7th, 9th, and 11th grades and how this change differed across parents, we used hierarchical linear modeling (HLM 6.02; Raudenbush & Bryk, 2002; Singer & Willett, 2003). We dealt with the missing data through full information maximum likelihood estimation, which allowed us to include all available data and identified the parameter values that have the highest probability of producing the sample data (Baraldi & Enders, 2010). Measurement equivalence was also assessed to ensure that the content of each item in the parental involvement measure was perceived and interpreted in the same way across different groups. We found empirical support for measurement equivalence of these underlying parental involvement constructs across ethnic and SES groups via a series of nested models.

The Level 1 (within-person) models described individual change over time in parental involvement. The Level 2 (between-person) models described how these individual changes differed by demographic characteristics (e.g., ethnicity and SES). After testing a variety of possible Level 1 model specifications, we concluded that the best fitting Level 1 individual growth model for parent involvement variables included linear components only, as follows:

$$Y_{ij} = \pi_{0i} + \pi_{1i}(\text{Grade} - 7)_{ij} + \varepsilon_{ij}\,(\text{Level 1}) \qquad (1)$$

In Equation 1, Y_{ij} represents the intended outcome for parent i at time j. When the time metric is centered at Grade 7, the individual growth parameters have the following interpretations: π_{0i} represents parent i's true scores in the outcome at Grade 7 and π_{1i} represents parent i's true rate of growth over time. The residual in Equation 1, ε_{ij}, represents that portion of parent i's outcome at Grade j that is not predicted by his or her grade.

The hypothesized Level 2 models treated the individual growth parameters from Level 1 as outcomes that enabled us to examine whether parents differed in their initial status or rates of change, and if so, what predicted that variation. The initial Level 2 model specifications (Equation 2) were unconditional growth models that included no substantive time-invariant predictors and simply allowed each Level 1 individual growth parameter to differ randomly in terms of its population.

$$\begin{aligned} \pi_{0i} &= \gamma_{00} + \zeta_{0i} \\ \pi_{1i} &= \gamma_{10} + \zeta_{1i} \end{aligned} \qquad (2)$$

The two fixed effects (γ_{00} and γ_{10}) served as Level 2 intercepts, representing the average true level of parental involvement at Grade 7, and the average true rate of change, respectively. The Level 2 residuals (ζ_{0i} and ζ_{1i}) represent the deviation of each parent's growth parameters from the population average. We then fitted a series of nested multilevel models in which we tested the effect of each time-varying and time-invariant predictor on the intercept, rate of change, and acceleration in parental involvement.

Second, to examine whether changes in parental involvement predicted changes in adolescent outcomes, we treated adolescent GPA, misconduct, and depression as outcomes and fitted the following model by adding the five time-varying parental involvement variables as question predictors to the Level 1 equation of the baseline model:

$$\begin{aligned} Y_{ij} = \pi_{0i} &+ \pi_{1i}(\text{GRADE} - 7)_{ij} + \pi_{2i}(\text{PREVENTIVE})_{ij} \\ &+ \pi_{3i}(\text{QUALITY})_{ij} + \pi_{4i}(\text{INDEPENDENCE})_{ij} \\ &+ \pi_{5i}(\text{STRUCTURE})_{ij} + \pi_{6i}(\text{LINK})_{ij} + \varepsilon_{ij} \end{aligned} \qquad (3)$$

$$\begin{aligned} \pi_{0i} &= \gamma_{00} + \zeta_{0i} \\ \pi_{1i} &= \gamma_{10} + \zeta_{1i} \\ \pi_{2i} &= \gamma_{20} \\ \pi_{3i} &= \gamma_{30} \\ \pi_{4i} &= \gamma_{40} \\ \pi_{5i} &= \gamma_{50} \\ \pi_{6i} &= \gamma_{60} \end{aligned} \qquad (4)$$

The five time-varying parental involvement variables were grand mean centered, which ensured

that adding these variables did not change the meaning of the other coefficients in the model (Raudenbush & Bryk, 2002). In addition, five variables representing the mean of each parent's involvement strategy over time (7th–11th grades), centered around the grand mean, were added to the Level 2 equations. By doing so, we examined the within-person relationships between parental involvement and adolescent outcomes (Level 1), as well as the between-person differences in initial status and growth in parental involvement associated with adolescent outcomes (Level 2). We also tested cross-level interactions between the Level 2 adolescent characteristics and each of the time-varying predictors to determine whether certain characteristics of the adolescent (e.g., ethnicity and SES) moderated the associations between parental involvement and adolescent outcomes. Finally, to test whether parental warmth moderated the association between parental involvement and adolescent outcomes, all two-way interactions between the five parent involvement variables and parental warmth variable in the prediction of adolescent outcomes were examined. Because of the restriction in degrees of freedom, we did not include the residual variance components of the Level 1 parental involvement variables in the model.

Results

As preliminary analyses, the means, standard deviations, and ranges for each of the parent involvement variables, and the adolescent GPA, problem behaviors, and depressive symptoms were calculated (see Table 1). Three sets of analytic results were conducted to address the three foci of the study. The first set examines trajectories of different types of parental involvement (see Table 2). For the first set of analyses, we describe trajectories for Grades 7, 9, and 11, and further examine how trajectories differ by ethnicity and by SES. The second set of analyses shows longitudinal associations between parental involvement and adolescent outcomes over time, and whether these associations differ by ethnicity or SES (see Tables 3–5). The third set of analyses examines whether parental warmth moderates the associations between parental involvement and adolescent outcomes.

Trajectories of Parental Involvement

Model 1 in Table 2 is the resulting fitted unconditional growth model. Model 2 shows the effects of covariates. Overall, the slope (rate of change) showed that the average parent reported declines in both preventive and quality of communication between school and home from Grades 7 to 11. In contrast, there were increases in providing structure at home, scaffolding independence, and linking education to the future. There were some ethnicity and SES differences in intercept, reflecting differences in mean levels of involvement at Grade 7. With regard to communication at school, African American parents and parents from lower SES backgrounds reported less preventive communication than did European American parents and parents from higher SES backgrounds at Grade 7. However, there were no ethnic or SES differences in quality of communication. In addition, African American parents reported more provision of structure at home, higher levels of linking education to the future, and lower levels of scaffolding independence in Grade 7 than did European American parents. Furthermore, parents from higher SES backgrounds reported providing more opportunities for scaffolding independence. There were no

Table 1
Means, Standard Deviations, Range, and Reliabilities for Measures

Scale	Grade	*M*	*SD*	Min	Max	α
Grade point average	7	3.69	0.90	0.00	4.00	.78
	9	3.61	0.87	0.00	4.00	.78
	11	3.18	0.74	0.00	4.00	.79
Problem behaviors	7	1.71	0.61	1.00	5.00	.75
	9	1.73	0.70	1.00	5.00	.76
	11	1.42	0.55	1.00	5.00	.74
Depressive symptoms	7	1.29	0.61	1.00	3.00	.80
	9	1.54	0.57	1.00	3.00	.83
	11	1.87	0.49	1.00	3.00	.81
Preventive communication	7	2.92	1.25	1.00	5.00	.72
	9	2.03	1.13	1.00	5.00	.74
	11	1.61	1.19	1.00	5.00	.73
Quality of communication	7	3.75	0.61	1.00	5.00	.80
	9	3.68	0.69	1.00	5.00	.82
	11	3.64	0.70	1.00	5.00	.82
Providing structure at home	7	4.39	0.71	1.00	5.00	.69
	9	4.51	0.72	1.00	5.00	.71
	11	4.72	0.92	1.00	5.00	.70
Scaffolding independence	7	3.96	0.67	1.00	5.00	.78
	9	4.03	0.63	1.00	5.00	.79
	11	4.05	0.63	1.00	5.00	.75
Linking education to future success	7	3.13	1.21	1.00	6.00	.78
	9	3.36	1.25	1.00	6.00	.80
	11	3.40	1.22	1.00	6.00	.81
Parental warmth	7	3.95	0.82	1.00	5.00	.77
	9	3.65	0.89	1.00	5.00	.78
	11	3.40	0.94	1.00	5.00	.80

Table 2
Fixed Effects, Variance Components, and Fit Statistics for the Growth Models of Parental Involvement Strategies

	Preventive communication		Quality of communication		Providing structure at home		Scaffolding independence		Linking education to future success	
	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
Fixed effects										
For initial status										
Intercept	0.341***	0.293***	3.749***	3.653***	4.361***	4.280***	3.967***	4.008**	3.161**	2.890***
	(.038)	(.059)	(.017)	(.032)	(.020)	(.039)	(.018)	(.040)	(.033)	(.073)
Male	—	−0.120	—	0.010	—	0.035	—	0.029	—	0.008
		(.090)		(.031)		(.047)		(.041)		(.073)
Black	—	−0.052*	—	0.050	—	0.199***	—	−0.094*	—	0.371***
		(.026)		(.035)		(.052)		(.045)		(.081)
SES	—	0.137***	—	0.002	—	0.030	—	0.060*	—	0.033
		(.090)		(.021)		(.031)		(.027)		(.049)
Prior grade	—	0.240*	—	0.045**	—	0.141*	—	0.047*	—	0.077*
		(.118)		(.018)		(.071)		(.023)		(.031)
For linear slope										
Intercept	−0.099**	−0.099**	−0.073**	−0.070**	0.082***	0.083***	0.050***	0.047***	0.101***	0.105**
	(.036)	(.041)	(.026)	(.027)	(.009)	(.011)	(.005)	(.012)	(.026)	(.027)
Male	—	0.041	—	0.005	—	−0.015	—	−0.014	—	−0.054*
		(.088)		(.014)		(.022)		(.013)		(.023)
Black	—	0.021	—	−0.004	—	0.017	—	−0.007	—	−0.017
		(.019)		(.016)		(.025)		(.014)		(.026)
SES	—	0.045	—	−0.009	—	−0.001	—	0.005	—	−0.008
		(.085)		(.009)		(.015)		(.008)		(.016)
Prior grade	—	−0.207*	—	−0.010	—	0.014	—	0.002	—	0.017
		(.105)		(.008)		(.013)		(.007)		(.013)
Random effects										
Initial status	0.014***	0.012***	0.107***	0.094***	0.101***	0.089***	0.250***	0.242***	0.710***	0.630***
Linear slope	0.008***	0.007***	0.043***	0.040***	0.031***	0.025***	0.006***	0.006***	0.038***	0.023***
Level 1 residual	0.048***	0.047***	0.191***	0.180***	0.206***	0.197***	0.201***	0.196***	0.511***	0.502***
Goodness of fit										
−2LL	535.3	439.9	5,921.5	4,513.7	6,061.7	4,357.1	5,699.7	4,403.8	6,703.4	5,497.2
AIC	565.2	461.9	5,933.5	4,533.7	6,071.7	4,375.1	5,711.7	4,431.8	6,715.4	5,525.2

Note. Model 1 is an unconditional growth model. Model 2 adds the controlling variables. Standard errors in parentheses. SES = socioeconomic status; −2LL = −2 log-likelihood; AIC = Akaike information criterion.
*$p < .05$. **$p < .01$. ***$p < .001$.

Table 3
Fixed Effects, Variance Components, and Fit Statistics for the Growth Models of Grade Point Average (GPA)

	GPA				
	Model 1	Model 2	Model 3	Model 4	Model 5
Fixed effects					
For initial status					
Intercept	3.685*** (.026)	3.798*** (.047)	3.768*** (.147)	3.912*** (.313)	3.987*** (.313)
Male	—	−0.465*** (.047)	−0.436*** (.048)	−0.437*** (.048)	−0.431*** (.047)
Black	—	−0.166** (.052)	−0.156** (.052)	−0.171** (.045)	−0.177** (.047)
SES	—	0.238*** (.032)	0.229*** (.032)	0.228*** (.032)	0.222** (.032)
Prior grade	—	0.350*** (.027)	0.328*** (.027)	0.328*** (.027)	0.327*** (.027)
For linear slope					
Intercept	−0.174*** (.010)	−0.208*** (.014)	−0.211*** (.015)	−0.210*** (.016)	−0.200*** (.016)
Male	—	−0.034* (.015)	−0.043** (.015)	−0.043** (.015)	−0.041** (.015)
Black	—	−0.028† (.016)	−0.030 (.017)	−0.027 (.017)	−0.031 (.017)
SES	—	0.030** (.009)	0.029* (.011)	0.029* (.011)	0.031* (.011)
Prior grade	—	0.030*** (.008)	0.032*** (.009)	0.032*** (.009)	0.029** (.009)
Mean preventive communication	—	—	0.012 (.015)	0.011 (.015)	0.011 (.015)
Mean communication quality	—	—	0.033* (.014)	0.032* (.014)	0.032* (.014)
Mean providing structure	—	—	0.031* (.012)	0.031* (.012)	0.031* (.012)
Mean scaffolding independence	—	—	0.008 (.014)	0.007 (.014)	0.008 (.014)
Mean linking education	—	—	0.004 (.010)	0.004 (.009)	0.004 (.010)
Preventive communication	—	—	0.112*** (.013)	0.112*** (.013)	0.113*** (.003)
Quality of communication	—	—	0.184*** (.024)	0.180*** (.023)	0.173*** (.027)
Providing home structure	—	—	0.199*** (.016)	0.135*** (.025)	0.111* (.046)
Scaffolding independence	—	—	0.189*** (.026)	0.184*** (.025)	0.141*** (.026)
Linking education to future success	—	—	0.130*** (.023)	0.128*** (.013)	0.115*** (.014)
Parental warmth	—	—	0.197*** (.045)	0.196*** (.045)	0.177** (.058)
Structure × Black	—	—	—	0.080* (.033)	0.057* (.022)
Structure × Warmth	—	—	—	—	0.041* (.018)
Random effects					
Initial status	0.614***	0.291***	0.286***	0.285***	0.273***
Linear slope	0.019***	0.007***	0.005*	0.005***	0.002***
Level 1 residual	0.294***	0.237***	0.215***	0.213***	0.200***
Goodness of fit					
−2LL	6,070.6	5,100.6	4,438.2	4,435.2	4,345.6
AIC	6,082.6	5,128.6	4,476.2	4,475.2	4,387.6

Note. Model 1 is an unconditional growth model. Model 2 adds the covariates. Model 3 adds parental involvement variables. Model 4 adds interaction effect of parental involvement with covariates. Model 5 adds interaction effect of parental involvement with parental warmth. In Models 4 and 5, only significant interaction effect was included in the model for parsimony. Standard errors in parentheses. SES = socioeconomic status; −2LL = −2 log-likelihood; AIC = Akaike information criterion.
†$p < .10$. *$p < .05$. **$p < .01$. ***$p < .001$.

mean-level differences across SES for linking education to future success. Parents whose teens had higher prior grades reported higher levels of all parental involvement types at seventh grade.

Longitudinal Relations Between Parental Involvement and Adolescent Outcomes

Grade Point Average

As shown in Table 3, there was a linear decline in GPA from 7th to 11th grades. The slope was steeper for males, those from lower SES backgrounds, and those with lower GPAs at 7th grade. As seen in Model 3, the statistically significant Level 1 coefficients indicated that all five aspects of parental involvement were associated with improvements in GPA from 7th to 11th grades. Specifically, a 1 *SD* increase in preventive communication, quality of communication, providing structure at home, scaffolding independence, and linking education to future success was linked to a reduced rate of decline of 0.11, 0.18, 0.20, 0.19, and 0.13 *SD* in adolescents' GPA, respectively. Therefore, these parental involve-

Table 4
Fixed Effects, Variance Components, and Fit Statistics for the Growth Models of Problem Behavior

	Problem behavior				
	Model 1	Model 2	Model 3	Model 4	Model 5
Fixed effects					
For initial status					
Intercept	1.677*** (.018)	1.551*** (.039)	1.883*** (.125)	1.654*** (.252)	1.654*** (.252)
Male	—	0.219*** (.039)	0.221*** (.040)	0.223*** (.040)	0.223*** (.040)
Black	—	0.013 (.043)	0.035 (.049)	0.037 (.043)	0.037 (.043)
SES	—	−0.043 (.026)	−0.040 (.027)	0.034 (.027)	0.034 (.027)
Prior grade	—	−0.062** (.022)	−0.048* (.023)	−0.057* (.023)	−0.057* (.023)
For linear slope					
Intercept	−0.072*** (.006)	−0.069*** (.012)	−0.058*** (.013)	−0.049*** (.013)	−0.049*** (.013)
Male	—	0.007 (.013)	0.003 (.013)	0.006 (.015)	0.006 (.015)
Black	—	0.018 (.014)	0.025 (.015)	0.026 (.015)	0.026 (.015)
SES	—	−0.013 (.009)	−0.014 (.009)	−0.013 (.009)	−0.013 (.009)
Prior grade	—	−0.004 (.007)	−0.001 (.009)	−0.002 (.008)	−0.002 (.008)
Mean preventive communication	—	—	−0.002 (.010)	−0.002 (.010)	−0.002 (.010)
Mean communication quality	—	—	0.001 (.012)	0.001 (.012)	0.001 (.012)
Mean providing structure	—	—	−0.006 (.013)	−0.005 (.013)	−0.005 (.013)
Mean scaffolding independence	—	—	0.001 (.010)	0.001 (.010)	0.001 (.010)
Mean linking education	—	—	−0.006 (.014)	−0.006 (.014)	−0.006 (.014)
Preventive communication	—	—	−0.062*** (.019)	−0.060*** (.019)	−0.060*** (.019)
Quality of communication	—	—	−0.025 (.021)	−0.025 (.020)	−0.025 (.020)
Providing home structure	—	—	−0.130*** (.014)	−0.068 (.051)	−0.068 (.051)
Scaffolding independence	—	—	−0.021 (.022)	−0.012 (.022)	−0.012 (.022)
Linking education to future success	—	—	−0.123*** (.012)	−0.119*** (.011)	−0.119*** (.011)
Parental warmth	—	—	−0.135*** (.031)	−0.135*** (.032)	−0.098* (.041)
Structure × Warmth	—	—	—	—	−0.047*** (.013)
Random effects					
Initial status	0.159***	0.148***	0.144***	0.144***	0.142***
Linear slope	0.055***	0.053***	0.030***	0.029***	0.028***
Level 1 residual	0.277***	0.273***	0.256***	0.255***	0.249***
Goodness of fit					
−2LL	5,847.0	4,512.4	3,912.4	3,904.4	3,882.8
AIC	5,857.0	4,538.4	3,948.4	3,944.8	3,914.8

Note. Model 1 is an unconditional growth model. Model 2 adds the covariates. Model 3 adds parental involvement variables. Model 4 adds interaction effect of parental involvement with covariates. Model 5 adds interaction effect of parental involvement with parental warmth. In Models 4 and 5, only significant interaction effect was included in the model for parsimony. Standard errors in parentheses. SES = socioeconomic status; −2LL = −2 log-likelihood; AIC = Akaike information criterion.
*$p < .05$. **$p < .01$. ***$p < .001$.

ment strategies protected against the normative rate of decline in adolescent GPA. In addition, the two-way interaction of ethnicity with providing structure at home indicated that the positive effect of providing structure at home on GPA was stronger for African American adolescents than for European American adolescents (see Table 3, Model 4). According to the pseudo-R^2 (Singer & Willett, 2003), parental involvement predictors explained 24% of the previously unexplained residual variance for the intercept in GPA and 30% of the variance in change over time in the form of individual differences in the slope.

Problem Behavior

Parents' increased preventive communication, providing structure at home, and linking education to future success were associated with decreased problem behaviors for adolescents (see Table 4, Model 3). A 1 *SD* increase in preventive communication, providing structure at home, and linking education to future success was associated with a greater decrease of 0.06, 0.13, and 0.13 *SD* in adolescent problem behaviors, respectively. Thus, these parental involvement strategies protected adolescents from engaging in problem behaviors over

Table 5
Fixed Effects, Variance Components, and Fit Statistics for the Growth Models of Depressive Symptoms

	Depressive symptoms				
	Model 1	Model 2	Model 3	Model 4	Model 5
Fixed effects					
For initial status					
Intercept	1.259*** (.017)	2.036*** (.039)	2.197*** (.092)	2.198*** (.092)	2.242*** (.178)
Male	—	−0.095* (.040)	−0.098* (.039)	−0.096* (.039)	−0.095* (.038)
Black	—	0.081† (.044)	0.078† (.043)	0.078† (.043)	0.079† (.042)
SES	—	−0.004 (.032)	−0.001 (.027)	−0.009 (.039)	−0.005 (.026)
Prior grade	—	−0.050* (.022)	−0.041† (.022)	−0.040† (.022)	−0.040† (.022)
For linear slope					
Intercept	0.179*** (.005)	0.159*** (.012)	0.167*** (.012)	0.165*** (.012)	0.178*** (.012)
Male	—	−0.014 (.012)	−0.013 (.012)	−0.012 (.012)	−0.014 (.012)
Black	—	0.033* (.013)	0.029* (.013)	0.029* (.013)	0.028* (.013)
SES	—	−0.001 (.008)	−0.002 (.008)	−0.001 (.008)	−0.003 (.008)
Prior grade	—	−0.001 (.007)	−0.001 (.007)	−0.001 (.007)	−0.002 (.007)
Mean preventive communication	—	—	0.001 (.009)	0.001 (.009)	0.001 (.009)
Mean communication quality	—	—	−0.047*** (.007)	−0.047*** (.007)	−0.047*** (.007)
Mean providing structure	—	—	0.002 (.007)	0.003 (.008)	0.003 (.008)
Mean scaffolding independence	—	—	−0.020* (.008)	−0.019* (.008)	−0.019* (.008)
Mean linking education	—	—	−0.017** (.004)	−0.017** (.004)	−0.017** (.004)
Preventive communication	—	—	0.002 (.002)	0.002 (.002)	0.002 (.002)
Quality of communication	—	—	−0.100*** (.015)	−0.097*** (.014)	−0.097*** (.014)
Providing home structure	—	—	0.046 (.040)	0.047 (.049)	0.044 (.066)
Scaffolding independence	—	—	−0.141*** (.016)	−0.139*** (.016)	−0.139*** (.016)
Linking education to future success	—	—	−0.121*** (.008)	−0.085*** (.008)	−0.085*** (.014)
Parental warmth	—	—	−0.128*** (.012)	−0.127*** (.012)	−0.127*** (.012)
Structure × Warmth	—	—	—	—	−0.02 (.015)
Link × SES	—	—	—	0.032* (.009)	0.031* (.009)
Random effects					
Initial status	0.162***	0.155***	0.149***	0.147***	0.143***
Linear slope	0.047***	0.043***	0.029**	0.028***	0.026***
Level 1 residual	0.267***	0.262***	0.236***	0.235***	0.227***
Goodness of fit					
−2LL	4,685.0	3,542.8	3,382.8	3,371.0	3,268.4
AIC	4,695.0	3,568.8	3,410.8	3,409.0	3,298.4

Note. Model 1 is an unconditional growth model. Model 2 adds the covariates. Model 3 adds parental involvement variables. Model 4 adds interaction effect of parental involvement with covariates. Model 5 adds interaction effect of parental involvement with parental warmth. Standard errors in parentheses. SES = socioeconomic status; −2LL = −2 log-likelihood; AIC = Akaike information criterion. †$p < .10$. *$p < .05$. **$p < .01$. ***$p < .001$.

time. There were no ethnic or SES differences in the association between parental involvement and adolescent problem behavior. The pseudo R^2 indicates that the residual variance was reduced by 29% for the intercept and by 25% for the slope.

Depressive Symptoms

As shown in Table 5, Model 3, increases in quality of communication, scaffolding independence, and linking education to future success were associated with reduced depressive symptoms. A 1 *SD* increase in communication quality, scaffolding independence, and linking education to future success reduced the increase of adolescents' depressive symptoms by 0.10, 0.14, and 0.12 *SD*, respectively. Thus, these parental involvement strategies protected against the increases in adolescent depression. Moreover, the significant interaction of SES with linking education to future success indicated that the positive impact of linking education to future success on depressive symptoms was stronger for low-SES adolescents than for high-SES adolescents (see Table 5, Model 4). The parental

involvement predictors explained 25% and 17% of the unexplained variance in the intercept and slope, respectively.

Moderation Effect of Parental Warmth

We found two moderation effects (see Tables 3 and 4, Model 5). First, the interaction effect of providing structure at home and parental warmth suggests that the positive effect of providing structure at home on GPA was stronger for adolescents who experienced more parental warmth than less parental warmth. Furthermore, parental warmth moderated the relation between home structure and problem behaviors. The provision of structure at home was associated with less problem behavior as adolescents experienced more parental warmth, whereas more provision of structure at home was associated with more problem behavior as adolescents experienced less parental warmth. There were no ethnic or SES differences regarding the moderating role of parental warmth in these associations.

Discussion

Trajectories of Parental Involvement

In moving beyond static conceptualizations of parental involvement in education, parental involvement does, indeed, change over the course of secondary school. Whether it is because parents feel marginalized from school or are attempting to include their teens as active agents in their own academic development and mental health, communication between home and school (quality and prevention focused) declined across the middle and high school levels. Such declines are consistent with prior research that documents increased barriers to involvement in the secondary school years (Bartz et al., 2013; Eccles, 2007). Maintaining effective communication between home and school is especially challenging during adolescence. The increased bureaucratic complexity of middle and high schools, especially the increase in school size and the number of teachers that students have over the course of the day, makes it difficult for parents to know whom to contact and for teachers to initiate interactions with the parents of all of the children they teach (Hill & Chao, 2009a, 2009b). While this study focused on "preventive communication," in order to assess more normative, or even positive, communication between home and school, it is this very type of communication that is hard to implement in middle and high schools. Because establishing lines of communication between home and school is so challenging in secondary schools, it is likely that fewer parents engage and only do so when problems are on the horizon.

As expected, not all types of involvement showed declines—there were increasing trajectories for parental involvement characterized as "academic socialization" (i.e., linking education to future success and scaffolding independence) and parents' provision of home structure. These types of parental involvement are more consistent with the developmental needs of youth in that they enable youth to actively engage in their own schoolwork in ways that meet their needs for competence, autonomy, and relatedness (Deci & Ryan, 2008; Grolnick, Farkas, Sohmer, Michaels, & Valsiner, 2007). Furthermore, these types of parental involvement strategies are more centrally located in the context of the parent–adolescent relationship—a context where parents have more sustained access and commitment.

Implied in the construct of scaffolding independence, many parents are looking for ways that their youth are ready to handle greater responsibility, thereby strengthening teens' emerging self-efficacy and sense of competence (Bandura et al., 2001). Scaffolding independence and enabling greater autonomy, responsibility, and decision making are central parts of the renegotiation of the parent–adolescent relationship (Collins & Laursen, 2004). As such, scaffolding independence is consistent with the changes that parents make as their adolescents' developmental needs shift. In addition, it is widely recognized that teens develop at different paces and that development during adolescence is less "age graded" than other developmental stages. Two 13-year-old adolescents may be at vastly different levels of maturity and cognitive capacity. This construct, in a small way, captures the dynamic and negotiated process of parenting adolescents.

Similarly, linking education to future success, a core component of academic socialization, also increased across middle and high school. As a parental involvement strategy, it also capitalizes on teens' emerging cognitive capabilities. As brain structures develop over the course of adolescence, teens are better able to manipulate multiple viewpoints simultaneously, learn from their own and others' mistakes, and envision the future outcomes of current decisions (Keating, 2004). This means that parental involvement that communicates the value and utility of schoolwork and links it to youth's future success and goals serves to bolster emerging self-identities (Bandura et al., 2001) and gives purpose to their work. Teens are developmentally ready to receive

this type of involvement. Indeed, in this study, increasing trajectories of linking education to future success were associated with increased GPAs and decreased behavioral problems.

Finally, the provision of structure at home increased over the course of middle and high school, and the increase was positively associated with adolescent outcomes. The provision of home structure essentially means that parents provided time, place, and supplies for teens to manage their own schoolwork at home. Similar to scaffolding independence, this type of involvement is not intrusive in the ways that homework help can undermine achievement, but provides opportunity for teens to begin to manage their schoolwork independently and within boundaries.

Trajectories of Parental Involvement and Adolescent Development

These five types of involvement enable teens to take an active role in their own education, with the support of their parents as needed. For all five types of involvement, increases in involvement were associated with increases in GPA. Prior research on the relation between parental involvement and achievement during adolescence has been mixed. Some research shows a positive association, whereas others show no direct effect (Hoover-Dempsey, Ice, & Whitaker, 2009; Schneider & Jones, 2009). Countering the notion that parental involvement is unrelated to achievement, this study showed that parental involvement staved off declines in GPA across middle and high school by examining trajectories of involvement and of GPA. In the context of precipitous and widespread declines in GPAs, the potential benefits of parental involvement for GPA are masked in studies that test the relations between a single indicator of parental involvement at one time point and GPA at a later time point.

Three of the five types of parental involvement (preventive communication, home structure, and linking to the future) were associated with improved problem behaviors. Extending prior research to demonstrate that increased parental involvement is associated with decreased behavioral problems (Grolnick et al., 2000) and delinquency (Hoeve et al., 2009), the present study specifies that communication with schools about how youth can improve understanding of the long-term implications of their behaviors are key to mitigating behavioral problems. Although trajectories for communication declined overall, when parents did communicate with the school, it had a positive influence on adolescents' behaviors. While further research may identify the underlying mechanism of these relations, it is plausible that preventive communication with school personnel provides the essential monitoring that teens need to stay on track (Annunziata, Hogue, Faw, & Liddle, 2006; Fulton & Turner, 2008).

In addition, three types of involvement (quality of communication between school and home, linking education to future success, and scaffolding independence) were associated with decreasing depressive symptoms. These parenting practices, in part and whole, reflect general concern and support from parents to adolescents. While there is significant evidence on the positive associations between some parenting practices (such as warmth) and depressive symptoms (Sheeber & Sorensen, 1998), this is among the first studies to specify the types of parental involvement in education that may reduce depressive symptoms. It is plausible that appropriate levels of responsibility and autonomy, along with discussions about future aspirations, provide significance and meaning to youth's day-to-day activities, which could be a source of emotional resilience. In this vein, the relation between linking education to future success and decreased depressive symptoms was stronger for those from lower SES backgrounds—those for whom future success and stability are more tenuous. For these adolescents, having more explicit emphasis on the value of their education and its association with their future goals may help them feel that their time spent at school is meaningful and may stimulate more positive attitudes about education and their future, which may lead to improved mental health and hope for the future (Savitz-Romer & Bouffard, 2012).

Moderation Effect

While trajectories in involvement were largely similar across demographic background, there were some noteworthy mean-level differences across ethnicity and SES. African Americans reported providing greater levels of structure at home and making greater efforts to link students' educational pursuits to their future success, while reporting lower levels of scaffolding independence than did their European American counterparts. In addition, the benefit of increasing the provision of home structure and grades was stronger for African Americans than for European Americans. These findings are consistent with prior research that has shown that African American parents tend to be stricter and value independence less than European Americans, and African American youth benefit more from

structure and more "no-nonsense" parenting than do European Americans (Brody & Flor, 1998; Smetana, 2000; Smetana & Chuang, 2001).

However, the greater emphasis on future success extends our understanding of the concerns and goals held by African American parents. Some research has shown that parents exercise greater control when they believe that their children's future opportunities may be foreclosed or that there are threats to their children reaching their potential (Gurland & Grolnick, 2005) and that this control (e.g., higher structure and lower independence granting) is more effective in improving achievement and mental health outcomes for African Americans than it is for European Americans. This is true in our study for the provision of home structure. The emphasis on the costs of mistakes for the future (i.e., part of linking education to success) may indeed be part of African American parents' ensuring that their youth stay on track.

There were two significant interaction effects between parental warmth and home structure, such that the relations between increasing trajectories of structure and GPA as well as problem behaviors were stronger in the context of higher levels of warmth. Parental warmth is foundational to how "structure" is delivered and interpreted by adolescents. Providing structure may be interpreted as infringing on and limiting freedoms, which is antithetical to adolescents' independence seeking. However, a warm parent–adolescent relationship provides a trusting and empathic backdrop for "receiving" the benefits of structure (Allen & Land, 1999; Grolnick & Farkas, 2002). A warm parent–adolescent relationship also supports the transformation of external controls and the internalization of social values and goals (Wang et al., 2011). While adolescents pursue increased independence and autonomy, the benefits of providing structure at home are best realized in the context of warm parent–adolescent relationships.

Limitations, Strengths, and Conclusions

While this study adds to our understanding of changes in parental involvement in education over the course of middle and high school and how these changes are related to academic, behavioral, and emotional development, it is limited in some important ways. First, we solely focus on African Americans and European Americans. This is a significant limitation in light of the significant increase in diversity among the American school-aged population. Because the sample size of the other ethnic minority groups in our study was too small to conduct group comparisons, it is difficult to determine whether the few ethnic differences reported are due to differences in ethnically based parental ideologies or due to the stratifying effects of being an ethnic minority (Hill, 2006). Some prior research suggests many similarities in how Latinos and African Americans experience parental involvement in education and their interactions with schools (Hill, 2011; Hill & Torres, 2010), and that parents from many Asian American ethnic groups also endorse and benefit from high-level control and structure and lower levels of autonomy support (Fan, Williams, & Wolters, 2012). To fully understand the extent of the generalizability of these findings, more purposeful studies of ethnic and community variations are necessary.

In addition, the results are based on findings from a community-based sample in a single county in Maryland, which has unique characteristics in terms of socioeconomic diversity. Although we expect the basic associations to hold across demographic groups, it is important to note that there are other areas of Maryland that do not share a similar distribution of SES as our sample; therefore, we cannot generalize the results to the overall population. Rather, we should generalize the results to subgroups within the general population that conform to the parameters specified in the models we tested. Finally, although this study adds to our understanding of how parental involvement changes over the course of middle and high school, it did not examine the underlying mechanisms that drive such changes and explain their relationship with outcomes. Future studies that identify the precise mechanisms—especially mechanisms specific to certain ethnic and SES groups—can inform the development of interventions intended to improve specific types of adolescent outcomes.

Despite these limitations, this study expands our understanding of parental involvement in education during adolescence, and provides a heuristic to guide both future research and informing policies that guide parental involvement at the secondary school level. Adolescents' lives become increasingly complex and compartmentalized as they move through secondary school and begin to experience declines in school engagement, mental health, and parental involvement in education. Understanding how to support youth and their parents during these years is essential. Federal policies, such as the No Child Left Behind Act, require that all schools and school districts develop policies to govern parental involvement in education. However, families and school

personnel alike are perplexed about how to develop effective working relationships during adolescence. This study, among the growing body of literature on parental involvement in adolescence, provides insight into the kinds of involvement strategies that may increase, decrease, and ultimately improve academic, behavioral, and mental health outcomes. The findings affirm the notion that parental involvement in education still matters for teenagers, but that the types of involvement parents utilize should change to match the developmental needs of teens and respond to the increased barriers for school involvement (Catsambis, 2001; Hill et al., 2004; Wang & Sheikh-Khalil, 2014).

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