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Parental Monitoring, Association with Externalized Behavior, and Academic Outcomes in Urban African-American Youth: A Moderated Mediation Analysis

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Abstract

African-American adolescents exposed to neighborhood disadvantage are at increased risk for eng aging in problem behavior and academic underachievement. It is critical to identify the mechanisms that reduce problem behavior and promote better academic outcomes in this population. Based on social disorganization and socioecological theories, the current prospective study examined pathways from parental monitoring to academic outcomes via externalizing behavior at different levels of neighborhood disadvantage. A moderated mediation model employing maximum likelihood was conducted on 339 African-American students from 9th to 11th grade (49.3% females) with a mean age of 14.8 years ($SD \pm 0.35$). The results indicated that parental monitoring predicted low externalizing behavior, and low externalizing behavior predicted better academic outcomes after controlling for externalizing behavior in 9th grade, intervention status, and gender. Mediation was supported, as the index of mediation was significant. Conversely, neighborhood disadvantage did not moderate the path from parental monitoring to externalizing behavior. Implications for intervention at both community and individual levels and study limitations are discussed.

Keywords

Neighborhood disadvantage; Poverty; Community disadvantage; Unemployment; Parental monitoring; Externalizing behavior; Academic outcome

Introduction

Urban African-American adolescents who live in low-resource communities are at increased risk for externalizing behavior and academic underachievement (Breslau et al., 2009; Tobin & Sugai, 1999). Although national data show that high school graduation rates for African-American youth have increased over the last decade (70.7%) (National Center for Education

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Statistics, 2015), the alarming school suspension rate (24.3%) among African-American high school students increases the likelihood for drop out (Lee, Cornell, Gregory & Fan, 2011; Losen & Martinez, 2013). Specifically, African-American 9th grade students who have been suspended, even once, are 32% more likely to drop out (Losen & Martinez, 2013). Given the elevated number of urban African-American youth who receive school suspensions, it is critical to identify the factors that reduce problem behavior in the school setting and promote better academic outcomes in this population.

Despite significant advances in understanding adverse contextual factors affecting urban African-American youth (Brody et al., 2003; Simons et al., 2011), prospective research is needed to explore the contribution of protective factors in relation to academic outcomes among urban African-American youth over time (Dillon, Pantin, Robbins & Szapocznik, 2008; Hayes, 2012). Parental monitoring has been found to reduce externalizing behavior (Leventhal & Brooks-Gunn, 2011; Smetana, 2008), which, in turn, is associated with better academic outcomes (Hayes, 2012; Hill et al., 2004). Prevention science literature advocates for the examination of moderation and mediation models, not only to better understand how these processes operate (Espelage, 2014; Roosa, Jones, Tein & Cree, 2003) but to inform prevention intervention programs for urban youth (Durlak, 1997; Johnson, Berdahl, Horne, Richter & Walters, 2014; Overstreet, Devine, Bevans & Efreom, 2005). The use of the socioecological theory (Bronfenbrenner & Morris, 2006), a multilayered framework that illustrates the dynamic interaction among macrolevel contextual factors (e.g., poverty, unemployment, and crime rates), microsystems (e.g., school), and mesosystems (e.g., parental monitoring) is indicated to examine distal and proximal influences on adolescent behavior that promote academic outcomes (Dillon et al., 2008). Thus, the current investigation expands prior socioecological research by examining the contribution of parental monitoring to academic outcomes via reduced externalizing behavior in the classroom among urban African-American high school students living in low-resource communities.

Parental Monitoring

The role of parental monitoring has shown to be effective in preventing youth from engaging in problem behavior (Bailey, Hill, Oesterle & Hawkins, 2009; Brody et al., 2003; Crouter & Head, 2002; Dick et al., 2009; Dishion & McMahon, 1998; Li, Feigelman & Stanton, 2000). Parental monitoring is defined as “parenting behaviors involving attention to and track of the child’s whereabouts, activities, and adaptations” (Dishion & McMahon, 1998, p. 61). It is noted the lack of consensus on whether parental monitoring is the most accurate way to define this construct and how it is measured, leading to mixed results (Li, Feigelman, & Stanton, 2000; Kerr, Stattin & Burk, 2010; Racz & McMahon, 2011). The reconceptualization of this construct was influenced by two articles conducted by Stattin and Kerr (Kerr & Stattin, 2000; Stattin & Kerr, 2000), who called into question the way parental monitoring was often associated with parental knowledge and control. These researchers concluded that parental monitoring is a form of parental knowledge of their youth’s activities, which is gained through parents actively seeking for information and youth’s disclosure (Kerr et al., 2010).

In light of the conceptualization of parental monitoring, it is noted that some studies have employed undifferentiated measures of parental monitoring (e.g., confounding parental monitoring and parental knowledge; Cleveland, Gibbons, Gerrard, Pomery & Brody, 2005), instead of using key parenting constructs (i.e., parental knowledge, youth's disclosure, parental control, and solicitation; Laird, Marrero, & Sentse, 2010). The inconsistent results found in the literature suggest the need for further examination of key parenting constructs in relation to academic outcomes, taking into account contextual factors (Racz & McMahon, 2011). That being said, the current investigation acknowledges that the monitoring process can be initiated by the parent (i.e., parental solicitation) or the youth (youth's disclosure). As such, in this study, parental monitoring will be based only on parenting behaviors and youth's disclosure.

Parental Monitoring and Externalizing Behavior

A substantial body of research supports the association between consistent parental monitoring and reduced endorsement of externalizing behavior (Barnes, Hoffman, Welte, Farrell & Dintcheff, 2006; Pettit, Laird, Dodge, Bates & Criss, 2001; Schofield et al., 2012; Smetana, 2008). In the literature, externalizing behavior is defined as the group of antisocial features (i.e., disruptive, hyperactive, and impulsive behavior) and aggressive behavioral problems that reflect the individual's response toward others, self, and the external environment (Eisenberg et al., 2001; Hinshaw, 1987; Liu, 2004). Without parental monitoring, youth exposed to deviant peers and community disadvantage are less likely to adopt conventional norms and more likely to endorse aggressive behaviors, also referred as the "code of the street," as a survival mechanism (Anderson, 2000; Brody et al., 2003; Gutman & Midgley, 2000; Leventhal & Brooks-Gunn, 2011; Stewart & Simons, 2010).

Urban African-American youth residing in disadvantaged environments benefit from consistent parental monitoring of their activities and whereabouts (Dodge, McLoyd & Lansford, 2005; Furstenberg, Cook, Eccles, Elder & Sameroff, 1999; Gonzales, Cauce, Friedman & Mason, 1996). Developmental literature suggests that parents should implement rules about where adolescents may spend their time, with whom they may go, and when they must come home as a way to reduce problem behavior (Snyder & Patterson, 1987, p. 266). A study conducted in African-American adolescents found that the importance of parental monitoring of adolescents' daily activities is greater when there is little social support available in the neighborhood to help supervise adolescents (Rankin & Quane, 2002). Similarly, a longitudinal study found that maternal monitoring significantly predicted less delinquent behavior in African-American children and early adolescents (Brody et al., 2003). Thus, parents who set regulations at home and promote a positive parent–child relationship, even in single-parent households, serve as a protective factor against disruptive behavior (Hill & Taylor, 2004).

Externalizing Behavior as Mediator between Parental Monitoring and Academic Outcomes

A growing body of literature has investigated externalizing behavior in the classroom as a predictor of academic underachievement (Hinshaw, 1992; Malecki & Elliot, 2002; White & Kaufman, 1997; Zimmermann, Schutte, Taskinen & Koller, 2013). School misbehavior hinders the learning process and affects the student's investment in school rules and course

work (Gregory, Skiba & Noguera, 2010), leading to academic underachievement (Breslau et al., 2009; Nelson, Benner, Lane & Smith, 2004; Tobin & Sugai, 1999) and increasing the odds for school dropout (Finn, Fish & Scott, 2008; Lee et al., 2011; Losen & Martinez, 2013). Although research supports the link between consistent parental monitoring and positive academic outcomes (Bean, Barber & Crane, 2006; Bean, Bush, McKenry & Wilson, 2003; Seyfried & Chung, 2002), the role of externalizing behavior as a mediator of the above association has not been explored.

A few studies have examined the contribution of parental academic involvement on academic outcomes by increasing school engagement (Eisenberg et al., 2005; Hill et al., 2004; Malecki & Elliot, 2002; Shumow, Lyutykh & Schmidt, 2011; Topor, Keane, Shelton & Calkins, 2010). In a study using a national database of adolescents, Trusty (1999) found that monitoring youth's home activities and whereabouts was predictive of academic outcomes for those residing in low-resource neighborhoods. Although scarce, literature on parental practices pinpoints the importance of consistent parental monitoring to promote positive behavioral outcomes in urban African-American youth (Bean et al., 2006; Paulson, 1994; Rankin & Quane, 2002). A study conducted on 145 African-American parents or guardians of urban African-American high school students found that home-based parental involvement with older adolescents was associated with the fewest number of disciplinary referrals and increased academic outcomes (Hayes, 2012). Given that school misbehavior affects academic outcomes of urban African-American high school students, there is the need for moderated mediation models to inform our existing knowledge of prevention models (Fairchild & MacKinnon, 2009).

Neighborhood Disadvantage as a Moderator of the Association between Parental Monitoring and Externalizing Behavior

Historically, the lack of occupational and educational opportunities for African-Americans has contributed to the continuous deterioration of their communities. Urban African-American youth are three times more likely to live in poverty (Macartney, Bishaw & Fontenot, 2013) and witness and experience more community violence than their European American counterparts (Fitzpatrick, Piko, Wright & LaGory, 2005; Kaynak, Lepore & Kliewer, 2011). In addition, high rates of unemployment have doubled for African-Americans, from 7.6% in 2000 to 16% in 2010 (U.S. Bureau of Labor Statistics, 2012), significantly reducing resources and services available for adolescents and their families (Mello & Swanson, 2007; Wilson, 1987).

The influence of unique socioecological risk factors (i.e., poverty, community violence, unemployment) on youth behavior has been examined extensively in the literature (Leventhal & Brooks-Gunn, 2011; Schwartz & Gorman, 2003). Neighborhood disadvantage exposure (Elliott et al., 1996; Sampson, Raudenbush & Earls, 1997) increases the risk for developmental vulnerabilities in urban African-American adolescents, including proclivity to risk taking and externalizing behavior (Brenner, Zimmerman, Bauermeister & Caldwell, 2013; Gunnar, Frenn, Wewerka & Van Ryzin, 2009; Rutter, Moffitt & Caspi, 2006; Steinberg, 2005). Social disorganization theories posit that deviant peers and community violence may shape adolescents' perception that aggressive behaviors are an appropriate

response to perceived aggression (Leventhal, Dupéré & Brooks-Gunn, 2009; Schwartz & Proctor, 2000). Anderson's street culture explains that community disadvantage exposure lead youth to adopt an oppositional culture as to protect oneself, avoid exploitation, and maintain respect (Anderson, 2000; Brezina, Agnew, Cullen & Wright, 2004; Liu, 2004; Stewart & Simons, 2010). Other researchers explain this behavioral pattern as a response to despair elicited by poverty and segregation (Massey & Denton, 1993).

The ripple effect of neighborhood disadvantage not only affects adolescent behavior but also reduces social support and resources for parents (Sampson et al., 1997; Sampson, 2009). Under these circumstances, parents receive less support from neighbors to monitor their youth behavior (Brody et al., 2003). It is not uncommon for low-income parents to endure long and inconvenient work schedules, transportation issues, and lack basic resources, resulting in elevated stress levels (Santiago, Wadsworth & Stump, 2011). A study found that low-income parents were less emotionally available and less able to meet the demands of their children than their middle-class counterparts (Paulussen-Hoogeboom, Stams, Hermanns & Peetsma, 2007). Given the dearth of studies exploring the influence of neighborhood effects on parental behaviors, the examination of the link between parental monitoring and externalizing behavior at different levels of neighborhood disadvantage exposure is warranted (McBride Murry, Berkel, Gaylord-Harden, Copeland-Linder & Nation, 2011).

The Current Study

There is the need for studies that explore parenting monitoring of their youth's activities and whereabouts in relation to academic outcome via reduced school misbehavior. This study proposes a prospective moderated mediation model (Preacher, Rucker & Hayes, 2007) that examines direct and indirect effects of parental monitoring in 9th grade on academic outcomes in 11th grade, through externalizing behavior in 10th grade, at different levels of neighborhood disadvantage exposure in 9th grade. This approach emphasizes the causal effect of parental monitoring and how this effect is influenced by neighborhood disadvantage exposure (Hayes, 2012). An understanding of the role that parental involvement and monitoring plays in promoting healthy adjustment among African-American adolescents exposed to neighborhood disadvantage is at the heart of risk and resilience research.

Methods

Participants for this study were part of a longitudinal study that examined two school-based preventive intervention programs aiming to decrease early-risk behaviors and promote academic achievement (see Ialongo, Poduska, Werthamer & Kellam, 2001). Cluster sampling technique was employed to select nine elementary schools located in the eastern side of Baltimore City. The population living within this area was comparatively homogeneous with respect to type of housing, family structure, ethnicity, unemployment, crime rate, and school dropout rates. A randomized block design was employed for the parent study, with schools serving as the blocking factor. A total of 678 urban first graders (53.2% male, 86.8% African-American) were recruited from 27 classrooms and randomized

to three intervention conditions (the Family–School Partnership, the Classroom-Centered Intervention, and the control condition), whose implementation occurred during the 1st grade only. Pre- and post intervention assessments were collected from students, their parents/guardians, and teachers annually through the students' 12th year in school.

This study used data for the 9th–11th grade student participants and teachers. Of the 585 African-American students in 1st grade, 404 (69%) completed measures in the 9th grade. The sample was composed of 207 male (51.2%) and 197 female (48.8%) students ranging in age from 14.2 to 16.5 years with a mean age of 14.8 years (SD ±0.35). Participants attended schools located in Baltimore City (n =25) and Baltimore County (n =17). It is noted that most students remained in the same school for the duration of the present study (i.e., 9th grade to 11th grade), whereas others enrolled in other schools for various reasons (e.g., moved to a different location). Nearly half of the participants (47.2%) lived in a single-parent household, 27.8% lived with both parents, and 25% lived with a parent and another adult. Almost 40% (39.7%) of these youth were eligible for free or reduced lunch. Selected demographic information of the 404 participants is presented in Table 1.

Procedure

Assessments were collected during the years participants were in grades 9th to 11th. Active parental/guardian consent and child assent were required for participation. Consent forms were sent to parents or guardians through the U.S. postal service or to students and teachers. Follow-up telephone calls and home visits were conducted to respond to parents' questions about their child's participation. Assent was obtained from the youth at the time of the interview. The participants and teachers were interviewed in their school and those who were suspended or unable to attend were interviewed in a public location of their preference. Students reported each academic year about their parents' management strategies. Teachers also reported participants' conduct problems and academic performance. The number of students who moved during the course of the study was relatively low (7.1%). It is noted that among those participants who moved, the majority moved within their neighborhood or to a neighborhood with similar characteristics.

Of the 404 African-American students who completed measures in 9th grade, 339 (83.9%) completed measures in 11th grade. Teachers' completion of assessments ranged from 66% to 75.7% within these school years. T-test indicated that no significant differences were observed between those who completed measures in 11th grade (n = 339) and those who drop out (n = 65) in terms of gender, academic achievement, neighborhood characteristics, and parental monitoring. In addition, using U.S. census data and public records obtained from the Baltimore City Planning Office, participants did not differ from nonparticipants with respect to type of housing, family structure, ethnic composition, unemployment, crime rate, and school dropout rates.

Measures

Demographics

A demographic questionnaire was used from 9th to 11th grade to assess participants' age, gender, address, grade, school location, and lunch status.

Neighborhood Disadvantage

Census tracts were retrieved from the 2002 U.S. Census Bureau to describe neighborhoods characteristics in terms of poverty and unemployment. Data from the Baltimore City Community Statistical Areas and Police records, specifically percentage of adult arrest, adult violent and nonviolent offenses, juvenile arrests for violent crimes and drug-related crimes (ages 10–17), and deaths to children age 0–17 due to firearms, suicide, and narcotics were accessed to create an index of community violence. Using the approach proposed by Sampson and Groves (1989), an index of neighborhood disadvantage was computed by summing z-scores for poverty, unemployment, and community violence indicators (i.e., number of deaths to children 0–17 due to firearms, drug-related juvenile arrests, juvenile arrests for violent crimes and serious nonviolent crimes, number of adult arrest, and adult violent and serious nonviolent offenses). Higher scores indicate greater exposure to neighborhood disadvantage.

Parental Monitoring

The Structured Interview of Parent Management Skills and Practices (SIPMSP)-Youth Version, a parental monitoring subscale (Patterson, Reid & Dishion, 1992), is a 7-item, 5-point Likert scale, ranging from 1 (*all of the time*) to 5 (*never*) that assesses enforcement of rules and consequences in the context of youth's disclosure and parental monitoring. The scale included items such as "how often before you go out, do you tell your parents when you will be back?" and "when you get home from work, how often is someone there within an hour?" Items were reverse coded so that high scores indicate more monitoring. The SIPMSP-Youth Version has adequate test–retest reliability and internal consistency (Capaldi & Patterson, 1994; Chilcoat, Dishion & Anthony, 1995). Within the sample, Cronbach's alpha was .66.

Externalizing Behavior

The Teacher Report of Classroom Behavior Checklist (TRCBC), an adaptation of the Teacher Observation of Classroom Adaptation-Revised (TOCA-R; Werthamer-Larsson, Kellam & Wheeler, 1991), was utilized to assess participants' externalizing behavior in the classroom and school setting. The TRCBCC is a checklist designed to rate participants' adequacy of performance on the core tasks in the classroom as rated by the teacher. The TRCBC assesses the following domains: Accepting authority, attention/concentration and readiness for work, and students' self-regulation. Given that most high school students have a different teacher for each subject, English/Language Arts and Mathematics teachers were selected to complete the TRCBC. The Conduct Disorder subscale was used to measure behavior problems in the classroom. Items include "Student started physical fights with classmates" and "Student bullied classmates into getting his/her way." Items were largely

drawn from the DSM-III-R and IV for all the subscales. The coefficient alpha for the TOCA-R, Conduct Disorder subscale was .89.

Academic Outcome Measures

The Kaufman Test of Educational Achievement-Comprehensive Form (K-TEA; Kaufman & Kaufman, 1998) is a standardized diagnostic battery that measures reading, mathematics, and spelling skills. The comprehensive form of the K-TEA provides a global assessment of achievement in each of the latter areas. In this study, a composite was created with the mean of the reading subtest from the brief form and the mathematics computation subtest from the comprehensive form. Both forms provide age- and grade-based standard scores ($M = 100$, $SD = 15$), grade equivalents, percentile ranks, and normal curve equivalents. The K-TEA is normed on a national sample of over 3,000 children from grades 1 to 12.

Results

Preliminary analyses, using pairwise deletion to address the issue of missing data, were conducted to determine descriptive statistics Chi-square tests were conducted between students who completed assessments in 9th grade ($n = 404$) and those who refused, were not in 9th grade, or could not be located to complete the annual assessment ($n = 114$) to assess for potential intervention effects. Chi-square tests indicated that both groups did not differ in terms of intervention status, family structure, and school location. Furthermore, of the 404 African-American students who completed measures in 9th grade, 339 (83.9%) completed measures in 11th grade.

The final sample used for the model analysis was 339 participants (50.7% male, 49.3% female participants) in 9th grade, with a mean age of 14.8 years ($SD = .35$). Means, standard deviations, and correlations for all study variables are presented in Table 2. Bivariate correlations indicated that consistent with the model, parental monitoring in 9th grade was negatively correlated with externalizing behavior in 10th grade and positively correlated with academic outcomes in 11th grade. Externalizing behavior in 10th grade was negatively correlated with academic outcomes in 11th grade. Being female was positively correlated with parental monitoring in 9th grade, whereas being male was positively correlated with externalizing behavior in 10th grade. School location was correlated with academic achievement in both 10th and 11th grades. Neighborhood disadvantage in 9th grade was not positively correlated with externalizing behavior in 10th grade.

A moderated mediation path model was tested using the Mplus computer software, version 7.2 (Muthén & Muthén, 1998–2014). Maximum Likelihood analysis was employed to determine the overall fit of the model to the data. Model fit was evaluated using multiple indicators of fit, including the comparative fit index (CFI), the chi-square statistics, the Tucker Lewis Index (TLI), the root-mean-square residual error of approximation (RMSEA), and the standardized root mean square residual (SRMR).

Mediation and moderation were tested using the procedure outlined by Preacher et al. (2007) and MacKinnon, Fritz, Williams and Lockwood (2007). Specifically, the model was specified so that externalizing behavior mediated the relationship between parental

monitoring in 9th grade and academic outcomes in 11th grade at different levels of neighborhood disadvantage in 9th grade. The proposed conditional indirect effect was conducted by computing the products of the path from X (parental monitoring) to Y (academic outcomes) through M (externalizing behavior) (i.e., $X \rightarrow M \rightarrow Y$). Moderation was assessed with a two-way interaction XW (parental monitoring × neighborhood disadvantage) to test whether W influenced the $X \rightarrow M$ path (see Fig. 1). In the model, gender was included as a covariate predicting externalizing behavior in 10th grade and academic outcomes in 11th grade. Externalizing behavior in 9th grade was included in the model to control for the effects of externalizing behavior in 10th grade. Academic outcome in 10th grade and school location were used to control for the effects of academic outcomes in 11th grade. Bias-corrected bootstrapped confidence intervals were employed as it renders the most accurate inferential test for indirect effects (MacKinnon et al., 2007; Preacher et al., 2007).

The proposed moderated mediation model was tested and produced adequate fit ($\chi^2 = 3.34$, $df = 2$, $p = 0.19$, CFI = .99, TLI = .98, RMSEA = .04, RMSEA 90% CI = .00 to .12, SRMR = .01). As hypothesized (Fig. 2), after controlling for gender and externalizing behavior in 9th grade, parental monitoring in 9th grade was significantly negatively associated with externalizing behavior in 10th grade ($b = -.17$, $p < .01$). The path from gender to externalizing behavior in 10th grade was significant ($b = .11$, $p < .04$), indicating an association between being male and endorsing more externalizing behavior. Similarly, externalizing behavior in 10th grade was significantly negatively associated with academic outcomes in 11th grade ($b = -.15$, $p < .04$) after controlling for gender, school location, and academic outcome in 10th grade. For each 1 standard deviation (SD) increase in parental monitoring at 9th grade, there is a .17 SD decrease in externalizing behavior in 10th grade. Similarly, for each 1 SD increase in externalizing behavior in 10th grade, there is a .15 SD decrease in academic outcome in 11th grade (Fig. 2).

To test for mediation, indirect pathways were tested using the bootstrapped standard error procedure (Preacher & Hayes, 2004). The bootstrapped procedure has greater power to detect indirect effects than other tests and provides more accurate Type I error rates (MacKinnon, Lockwood & Williams, 2004). The proposed meditation was supported, as the indirect effect from parental monitoring in 9th grade to academic outcomes in 11th grade via externalizing behavior in 10th grade was statistically significant using bias-corrected confidence intervals (estimate = .17, 95% bias-corrected confidence interval = .005 to .207). Then, academic outcome in 11th grade increased by .17 unit for every one unit increase in parental monitoring in 9th grade. Figure 2 depicts the moderated mediation model with standardized effects and 95% confidence intervals. Conversely, moderation was not supported, as the neighborhood disadvantage × externalizing behavior in 10th grade interaction was not significant. Taken together, these findings suggest that the strength of the indirect effect form parental monitoring in 9th grade to academic outcomes in 11th grade via externalizing behavior in 10th grade did not depend on the level of neighborhood disadvantage exposure in 9th grade. In other words, mediation was not contingent on the level of neighborhood disadvantage.

Discussion

The aim of this study was to examine whether neighborhood disadvantage moderated the association between parental monitoring and externalizing behavior, such that parental monitoring would significantly reduce externalizing behavior in the school setting at different levels of neighborhood disadvantage exposure. Also, it was expected that externalizing behavior would mediate the association between parental monitoring and academic outcomes. Findings from this study partially support the hypothesized model.

Results from the moderated mediation analysis indicated that, after controlling for gender, consistent parental monitoring of their youth's activities and whereabouts in 9th grade was associated with reduced problem behavior in the school setting in 10th grade, even in the presence of neighborhood disadvantage. Similarly, reduced problem behavior in the school setting in 10th grade was associated with better academic outcomes in 11th grade after controlling for gender and academic outcomes in 10th grade. Yet neighborhood disadvantage exposure did not moderate the association between parental monitoring and academic outcome.

A unique contribution of this study is that reduced externalizing behavior mediates the association between consistent parental monitoring of their youth's activities and whereabouts and academic outcomes as measured by standardized reading and math scores. These results expanded on the notion that parental monitoring is associated not only with reduced externalizing behavior among urban African-American students (Bowman, Prelow & Weaver, 2007; Burchinal, Roberts, Rowley & Zeisel, 2008; Evans & Kim, 2007; Kliewer et al., 2004; Masten et al., 2005; Pettit, Bates, Dodge & Meece, 1999) but also with better academic outcomes (Criss et al., 2015; Hayes, 2012), even in the presence of neighborhood disadvantage (Caughy, Nettles & Lima, 2011; Plybon & Kliewer, 2001; Rankin & Quane, 2002; Sampson, Morenoff & Gannon-Rowley, 2002).

These results also expand on the changes observed in the structure of parental monitoring from childhood to adolescence, from parental monitoring within the home to active monitoring of youth's activities at home and within the community (Racz & McMahon, 2011). Past research indicates that parental monitoring behaviors tend to decline as adolescents grow older (Brooks-Gunn & Markman, 2005; Crouter & Head, 2002). However, our findings suggest that urban youth continue to benefit from parental supervision of their whereabouts and self-disclosure. This effect is thought to operate through a supportive parent–youth relationship that promotes more youth disclosure (Fletcher, Steinberg & Williams-Wheeler, 2004).

Our findings support the link between parental monitoring and low externalizing behavior in the classroom (Barnes et al., 2006; Blocklin, Crouter, Updegraff & McHale, 2011). Of significance is how parenting behaviors and youth's disclosure seem to reduce youth's school misbehavior as rated by teachers. It appears that youth's behavior in the classroom is impacted not only by parenting behaviors but also by the adolescent's perception of accountability enforced through these parenting practices (Shochet, Dadds, Ham & Montague, 2006). Most important, this finding shed light on the tracking practices used by

African-American parents and caregivers who live in low-resource communities. It is important to note that parents who are not involved at school does not necessarily indicate that they are not monitoring/supervising their youth's daily activities.

Results from the current investigation are partially consistent with results of previous studies examining parental monitoring in relation to urban youth's academic outcomes (Epstein & Sanders, 2002; Gonzalez, Holbein & Quilter, 2002; Jeynes, 2005). Lowe and Dotterer (2013) recently found that African-American and Latino middle school students endorsed higher levels school engagement when parents had more knowledge of their whereabouts. Although there are differences in the use of key parental constructs (i.e., parental monitoring and knowledge, home-level parental involvement) and informants (i.e., self-report, parents), parenting monitoring emerges as a significant contributor to urban African-American youth's well-being.

Results from the proposed model provide partial support for ecological theory (Bronfenbrenner, 1979). The influence of microsystems (the youth's immediate surroundings and interpersonal relationships), such as family (parental monitoring) on schools (teachers' rate of classroom behavior), contributes to individual outcomes (academic outcomes). The mesosystem, or the association among components of the microsystem (parental monitoring → reduced externalizing behavior → better academic outcome), sheds light on the mechanism through which parenting behaviors promote well-being among urban youth. The employment of the moderated mediation analysis provided a better illustration of the direct and indirect pathways associated with better academic outcomes among this population.

Contrary to our hypothesis, the infiuence of the exosystem (environmental settings that indirectly influence the adolescent), or neighborhood disadvantage exposure, did not increase problem behavior in the classroom when parents consistently tracked their youth's activities and youth disclose such information. A plausible explanation for the nonsignificant moderation is that teachers' report on externalizing behavior only captures behavior endorsed in the school setting, not taking into account behavior in other settings. It is possible that neighborhood disadvantage may exacerbate externalizing behaviors that occurred after school or when participants spent time with peers. It is reported that, in disadvantaged neighborhoods, the most dangerous time of the day is from noon to 6 PM, coinciding with the time students commute from school to their homes (Salzinger, Feldman, Stockhammer & Hood, 2002). Similarly, community-level factors may operate through individual-level factors not included in the study, such as peer influence. These findings may suggest that parents' perception of social disorganization may prompt more restrictions and increase supervision of their youth's activities to ameliorate environmental and peer influence. Similarly, strict parental control may discourage adolescents living in high-risk neighborhoods from engaging in deviant behavior (Brody et al., 2003; Simons, Lin, Gordon, Brody & Conger, 2002).

It is noted that strict parenting is not necessarily negative, rather sometimes adaptive in nature to protect children from unstable environments (Deutsch, Crockett, Wolff & Russell, 2012). It is not uncommon that among African-American families exposed to neighborhood

disadvantage, parents endorse more behavioral control to protect their children from deleterious community factors (Bean et al., 2006). This result is also supported by an epigenetic study that found less externalizing behavior under conditions of high parental monitoring (Dick et al., 2009). This finding is particularly observed in collectivistic cultures (Pettit, Bates & Dodge, 1997), where constant monitoring and involving is not seen as intrusive (Trusty, 2002). Overall, despite the increasing peer and environmental influence, parental monitoring continues to provide support and structure that impacts older adolescents' decisions in relation to school behavior and academic outcomes (Kerpelman, Eryigit & Stephens, 2008).

Although the absence of moderation did not support the social disorganization theory (Wilson, 1987), this finding sheds light on the mechanism through which parental involvement operates in urban African-American youth who live in low-resource neighborhoods. Originally developed by sociologists to predict deviant behavior (see Sampson & Groves, 1989; Shaw, McKay & Hayner, 1942), this theory has been utilized by psychologists to examine the impact of neighborhood disadvantage exposure on externalizing behaviors (Brody et al., 2003; Evans, 2004; Ingoldsby & Shaw, 2002; Li, Nussbaum & Richards, 2007; Schofield et al., 2012). This finding supports the need for theoretical models that include protective factors to better understand the intersection among neighborhood effects, social support, and individual outcomes among this population.

This study has several strengths: The use of prospective data (i.e., three data points) to support the establishment of causal links, as well as the direction and impact of parental involvement on academic outcomes. Similarly, the sample was urban African-American high school students, which facilitates generalization to similar individuals residing in comparable neighborhoods. Also, the use of a multiple data sources (i.e., U.S. Census data, standardized scores, self-report, and teacher's report) reduced the possibility that the outcomes may be biased by common method variance.

Limitations

There are several limitations on this study. First, the use of secondary data posits several limitations, including information about data collection and lack of flexibility to assess study variables. That being said, although the measure employed to assess parental monitoring seems to tap into parenting behaviors and youth's disclosure, it did not assess for other key parenting constructs, including parental knowledge, parental control and solicitation, or active solicitation of information about the youth's activities, which may limit replicability of findings. Second, the use of teacher's report of externalizing behavior only captured what occurred in the school setting, not including behaviors displayed by participants on their way home or in the neighborhood. Third, changes in participants' externalizing behavior may be a function of having different teachers reporting on a participant's externalizing behavior. It is plausible that some changes in classroom behavior may be better explained by the differences between teacher's reports as opposed to the effects of parental monitoring on the participant. Fourth, participants' exposure to neighborhood disadvantage may vary in intensity and frequency. It is plausible that those who attended high schools outside their neighborhood may be exposed to more or less community violence. For instance, adequate

parental monitoring might prevent youth from engaging in delinquency, and then, because they have little to hide, youths might disclose willingly about their activities.

Another limitation is that the use of U.S. Census Tracts as a proxy for neighborhood indicators may not correspond with the actual neighborhood boundaries and does not take into account the way residents define and delimit their neighborhood (Sampson & Raudenbush, 1999). Additionally, measures of social characteristics that contribute to academic outcomes, such as perceived control or perceived contingency (Eccles & Wigfield, 2002), were not included in the study. The examination of social characteristics may contribute to explain youth's perception of contextual factors and how that impacts academic outcomes.

Implications

The findings that parental monitoring reduces externalizing behavior and promotes positive academic outcomes among urban African-American students have important implications. Through parental monitoring, youth learn to adhere to rules and norms, thereby fostering social control. Although this association is also found among other minority groups (Gray & Steinberg, 1999), it is likely that urban African-American adolescents living in disadvantaged neighborhoods have less support from schools and social networks. Given that African-American students have less access to experienced teachers (U.S. Department of Education, 2014), and are nearly three times more likely to live in a single-parent household than European American adolescents (55% vs. 21%) (Vespa, Lewis & Kreider, 2013), there is the need for family, community, and societal-level programs that foster social support.

Future research needs to examine social support, particularly the positive influence of informal social networks in enhancing monitoring (Waizenhofer, Buchanan & Jackson-Newsom, 2004). In the African-American community, it is not uncommon to have extended family helping parents, particularly single mothers, in the child-rearing process. Preventive interventions at the community level, including afterschool programs that provide academic tutoring and mentorship for youth, would offer more supervised activities and expand the safety zone for those contending with neighborhood disadvantage. Lastly, at the societal level, stakeholders from community agencies, religious organizations, schools, and legislators need to establish mechanisms to promote collective efficacy or social support and collaboration among community members for the betterment of the community (Sampson et al., 1997). Thus, African-American youth can acquire the social and academic skills needed to succeed in today's society.

Despite the unprecedented progress in many areas of society, social inequalities continue to affect the academic and occupational outcomes of many African-American adolescents. The promotion and sustainability of healthy communities is considered one of the best protective factors to prevent externalizing behaviors in youth (De Silva, McKenzie, Harpham & Huttly, 2005). With the U.S. economy in recovery and budget cuts affecting social services in several states, future research needs to utilize the existing human and social resources available in the African-American communities. Overall, the premise is that by

strengthening the social fabric available for African-American adolescents, more human and material resources would be available to support their academic goals.

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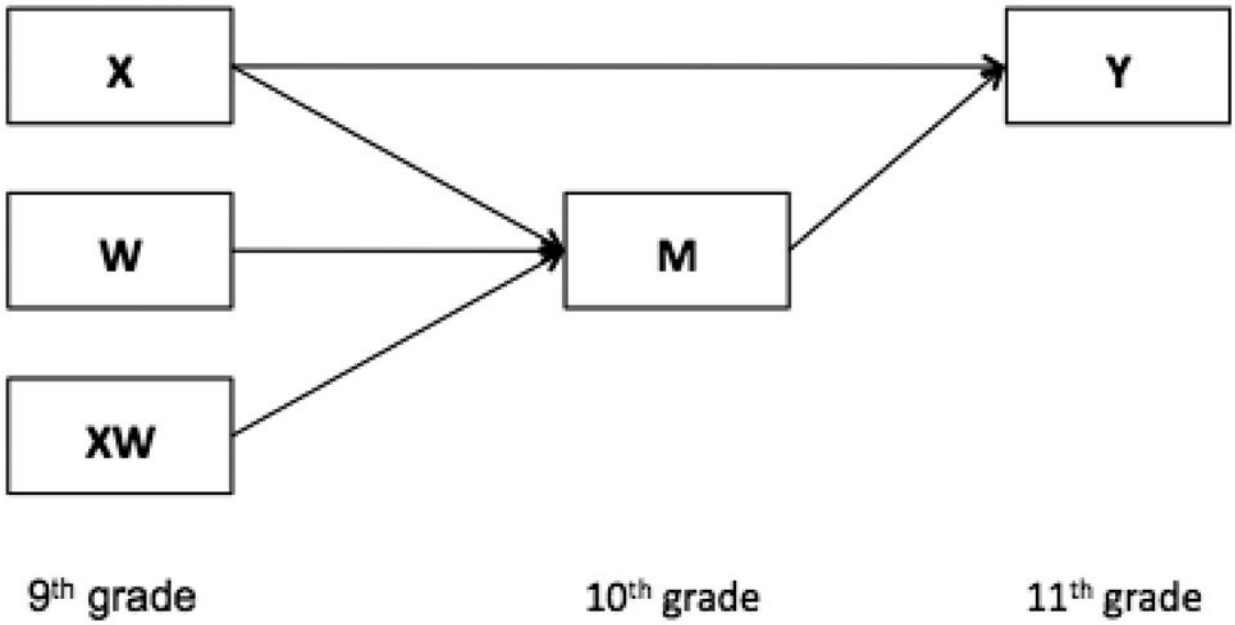

Fig. 1.
Theoretical model of the prospective study

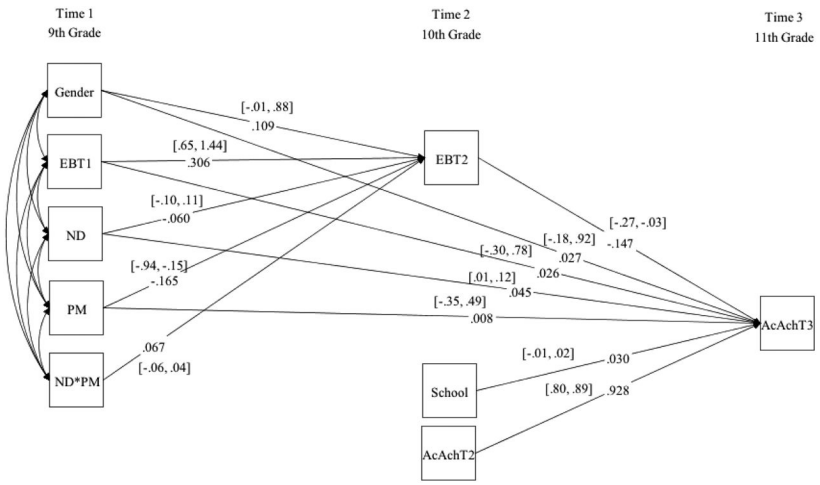

Fig. 2.

Standardized estimates for the moderated mediation model. Estimates are shown 95% CI, which are shown in brackets. ND, neighborhood disadvantage; PM, parental monitoring; ND*PM, neighborhood disadvantage × parental monitoring; EBT2, externalizing behavior at 10th grade; AcAchT3, academic achievement at 11th grade. Gender, school location, externalizing behavior at 9th grade (EBT1), and academic achievement at 10th grade (AcAchT2) were used as covariates

Table 1

Demographic characteristics of the selected sample

	Mean (SD)
Age	14.8 (0.34)
	Percentage (*n*)
Gender	
Male	50.7 (172)
Female	49.3 (167)
Family composition	
Father-mother	29.2 (99)
Single parent	46.6 (158)
Parent-stepfather/stepmother or relative	22.4 (76)
Interviewed but did not report family status	1.8 (6)
Measure completion	
Participants who complete measures in 9th grade	100 (404)
Participants who complete measures in 10th grade	91.1 (368)
Participants who complete measures in 10th grade	83.9 (339)
Moved to a different school	7.1 (24)

Table 2

Means, standard deviations, and correlations among study variables

Measure	1	2	3	4	5	6	7	8
1. Neighborhood disadvantage index	–							
2. Parental monitoring	−.09	–						
3. Externalizing behavior 9th grade	.11*	−.18**	–					
4. Externalizing behavior 10th grade	.05	−.22**	−.33**	–				
5. Academic outcomes 10th grade	−.10	.11*	−.23**	−.18**	–			
6. Academic outcomes 11th grade	−.05	.12*	−.15**	−.17**	.92**	–		
7. School location	.03	.02	−.11*	−.03	.15**	.20**	–	
8. Gender	−.01	−.24**	.21**	.21**	−.07	−.01	.01	–
M	−.13	3.95	1.73	2.68	39.86	43.65	42[a]	.51
SD	.63	.26	.64	2.10	6.97	6.37	–	.50

The neighborhood disadvantage index was derived from U.S. Census Data on poverty, unemployment, and the Baltimore City Database on community violence indicators. Both neighborhood disadvantage and parental monitoring were measured in grade 9.

** $p < .01$,

* $p < .05$.

[a]School Location is a count variable and the amount included in the table represents the number of schools included in the analysis.