

# Community Disadvantage and Adolescent's Academic Achievement: The Mediating Role of Father Influence

Melissa S. Gordon<sup>1</sup>

Published online: 5 February 2016  
© Springer Science+Business Media New York 2016

**Abstract** Among adolescents, positive parenting behavior has been found to lessen the negative effects associated with living in an impoverished community. Few studies however, have focused on the association between macro-level community influences and adolescent outcomes, and the possible parenting mechanisms through which this relationship exists. Further, less empirical attention has been directed towards the unique role played by fathers in mediating contextual influences on adolescent outcomes. To address this gap in the literature, using a nationally representative subsample of adolescents, the current study explores the mediating role of father's school-related involvement and father–adolescent relationship quality on the association between community-level disadvantage and adolescent's academic achievement. Results from multi-level structural equation modeling revealed a significant relationship between community disadvantage and adolescent's academic achievement, which was further mediated by aspects of father's influence. Among other things, findings lend support for a model outlining father's influence as a mediator of the relationship between contextual factors and adolescent's academic success.

**Keywords** Academic achievement · Adolescents · Community-level disadvantage · Father's influence

## Introduction

Academic achievement continues to be one of the most highly investigated outcomes among adolescents (Jeynes 2007). This is not surprising given the important implications associated with high achievement during the adolescent development period. In addition to its relationship with current and future successes, research suggests that greater academic achievement among adolescents is also associated with increased peer acceptance, and better parent–adolescent relationships (e.g., Flouri and Buchanan 2004).

Although many adolescents experience the benefits associated with high academic achievement, some are disproportionately more likely to experience academic challenges, particularly those living in disadvantaged communities (Wickrama and Bryant 2003). Prior research has documented the impact of negative community factors, such as community disadvantage on the developmental outcomes (i.e., academic achievement) of the youth who reside there (Ferguson 2002). Such community factors are usually beyond the scope of understanding and control of the adolescent, yet it is likely to impact them just the same. However, findings from previous studies suggests that positive parenting behaviors may mitigate the negative effects of such adverse community circumstances (McBride Murry et al. 2011).

Despite a growing body of research investigating the role of fathers in the daily lives of their children (e.g., Palkovitz 2002), less is known about father's influence as it relates to their adolescent's academics. Even less is known about the fathering *mechanisms* that potentially exists between community context (i.e., community-level, rather than individual-level disadvantage) and adolescent's academic success. A greater understanding of such

---

✉ Melissa S. Gordon  
msgordon@udel.edu

<sup>1</sup> University of Delaware, 111 Allison Hall West, Newark, DE 19716, USA

mechanisms could lead to more concerted efforts helping to alleviate the negative impact of community disadvantage on adolescent's academic performance.

Developed by Shaw and McKay (1969), the social disorganization theory posits that, among other things, a community's failure to thrive is a reflection of its limited social networks, low socioeconomic status, and absence of organizational participation (Sampson and Groves 1989). Based on this theory, youth living in distressed, disadvantaged communities, are more susceptible to negative outcomes, given the disproportionately high crime rates and delinquent behaviors that are characteristic of these communities (Leventhal and Brooks-Gunn 2000; Shaw and McKay 1969). Such challenges are likely to also impact youth's ability to perform well in school (McBride Murry et al. 2011). Research suggests however, that parent's efforts to assist their adolescents academically, may contribute to lessening the negative effects enhanced by the adverse conditions of the larger community context (Leventhal and Brooks-Gunn 2000).

Additionally, Bronfenbrenner's ecological theory (1992) suggests that multiple systems, including the microsystem and mesosystem, for example, operate in accordance with one another to shape individual outcomes. Particularly, adolescent's developmental outcomes may be shaped by individual-level factors within their microsystem, such as father's school-related involvement and the quality of the relationship they share with their father. The mesosystem however, reflects the interaction between such individual-level and contextual factors such as community disadvantage. This interaction is likely to impact outcomes related to the adolescent, such as their academic achievement. For example, fathers may feel compelled to contribute numerous hours to paid employment in an effort to mobilize their families from disadvantaged communities, and the challenges often associated with it. However, doing so may contribute to limited availability to assist their adolescent with school-work, and further impact the quality of the relationship they establish with them. Taken together, the Social Disorganization theory and Bronfenbrenner's ecological theory address the influence of individual and macro-level factors on adolescent's academic outcomes.

Findings from the extant literature suggests that academic achievement has a significant impact on adolescent's emotional, developmental and psychological well-being (e.g. Hill and Tyson 2009). Accordingly, those who perform well in school are more likely to report higher scores on standardized tests, and are also more likely to graduate from high school and enroll in a 4-year post-secondary institution (Hill and Tyson 2009; U.S. Department of Education 2014). Unfortunately however, many adolescents do not experience the benefits associated with high academic achievement, as data provided by the U.S.

Department of Education's National Center for Education Statistics suggests that approximately 3 million U.S. adolescents and young adults will not earn a high school diploma.

Increasingly challenging economic times has prompted an even stronger need for high academic achievement than ever before, as future earnings are largely dependent upon educational attainment. For example, the median income in 2011 for those without a high school diploma were significantly lower, at \$22,900, compared to those with a high school diploma or its equivalent, which was \$30,000 (U.S. Department of Education 2014). In addition to an increase in earnings, high achievement is associated with greater future prospects, better intimate relationships, and greater psychological well-being (Baharudin et al. 2010).

With such important implications linked to high achievement during adolescence, researchers continue to probe into the factors that could improve academic achievement. Some studies have suggested the importance of positive parenting in influencing adolescent's academic success (Hill and Tyson 2009). Miller (2002) suggests that parents, above all others, may have a particular influence on their adolescents, and as such, may be especially influential in directing the course of their academic achievement in meaningful ways.

Adolescents living in communities where there are limited resources often experience negative outcomes, such as lower academic achievement. For example, Cataldi et al. (2009) reported that the dropout rates for adolescents living in the most under-resourced communities are ten times higher than for those living in affluent communities. Such negative effects were significant above and beyond the influence of the family's socioeconomic status (Ainsworth 2002). Previous studies addressing the impact of community disadvantage often investigate its effects at the individual level (i.e., individual family socioeconomic status), rather than utilizing data at the community-level, such as community-level data provided by the U.S. census (Ainsworth 2002). However, studies investigating the association between community-level disadvantage and adolescent's academic achievement may be able to capture a broader range of the community's influence—a worthwhile investigation—as such influences are nonetheless impactful, yet seemingly beyond the adolescent's immediate control.

A growing body of research suggests that father involvement in a general form makes a significant positive difference on children's developmental outcomes (Wilson and Prior 2011)—in and of itself, and unrelated to mother's influence (Flouri and Buchanan 2004). For example, Bronte-Tinkew et al. (2006b) found that youth from immigrant families whose fathers were involved in their adolescents' lives were less likely to participate in risky behaviors than those whose fathers were not involved.

Father's school-related involvement however, is characteristically different from general parental involvement (Gordon and Cui 2012). Rather than being involved in varying aspects of their adolescent's lives, father's school-related involvement encompasses strategic efforts on the part of the father to help their adolescent navigate their way successfully through school-specific work. This may involve fathers discussing school-related events with their adolescent, and assisting with the completion of homework assignments. School-specific involvement has been linked directly to academic success among youth (Gordon and Cui 2012; Jeynes 2007). For example, Tan and Goldberg (2008) found that, after controlling for mother's involvement, father's involvement in their child's schooling was positively associated with academic achievement among a sample of elementary school children, in grades kindergarten through sixth.

Despite the aforementioned findings suggesting the positive influence of school-specific involvement, previous studies tend towards general parental involvement (e.g., Chen and Gregory 2009). Further, some studies focus exclusively on children rather than adolescents (e.g., McBride et al. 2005; Wilson and Prior 2011). Though such findings provide insight into the youth experience in general, given the vast developmental differences between children and adolescents, findings pertaining to children may not be generalizable to adolescents.

Further, extant literature on parent-child relationships often focuses on parental involvement (e.g., Flouri and Buchanan 2004), even though research suggests that the parent-child relationship quality is equally as important in predicting youth outcomes (Cooper 2009). According to Bronte-Tinkew et al. (2006a), children tend to display fewer risky behaviors, and more positive outcomes, when they also have a quality relationship with their father. Additionally, Aquilino (2006) reported that non-custodial fathers in particular, who established and maintained a quality relationship with their child during the child's adolescent years, continued to have positive father-child relations even in young adulthood, which subsequently influenced other developmental outcomes in positive ways.

Nevertheless, research exploring the mediating role of father-adolescent relationship quality on the association between contextual influences (i.e., community disadvantage) and adolescent's academic achievement is noticeably absent. However, Cooper (2009), investigated the mediating role of self-esteem on the association between father-daughter relationship quality and academic engagement among African American girls. The author reported that the quality of the father-daughter relationship was positively related to girl's academic engagement. Although the sample included a specific subset of the U.S. adolescent population (i.e., African American girls), and focused

primarily on children rather than adolescents, findings shed light on the importance of the father-child relationship quality on children's academic success.

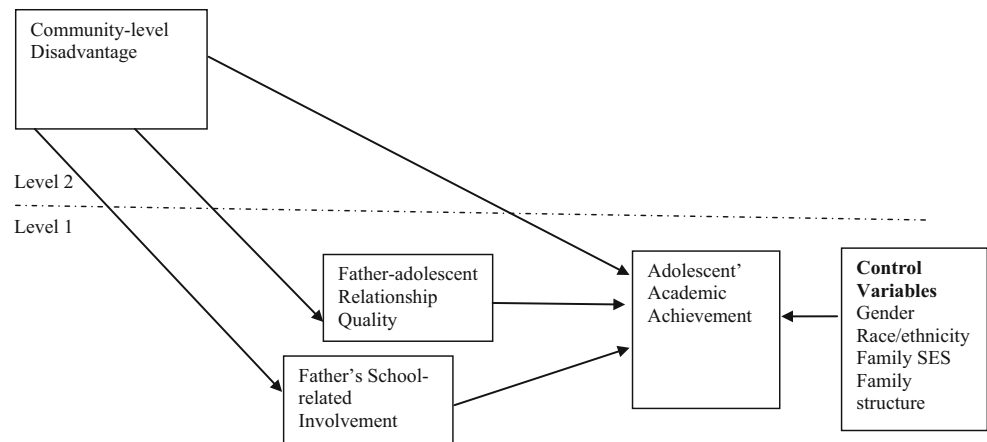
Compared to their peers from more advantaged communities, adolescents living in disadvantaged communities are particularly susceptible to adverse outcomes (Wickrama and Bryant 2003). Studies have shown however, that positive parenting may help to alleviate such negative outcomes (McBride Murry et al. 2011). For example, while also considering neighborhood poverty effects, Ainsworth (2002), reported that parental involvement was associated with better math and reading scores among children. Breivik et al. (2009) reported that, in single-father households, where economic hardships are more likely than in two-biological parent households, positive parenting was found to mediate the association between risks for increased antisocial behavior and substance use, within a sample of early to middle adolescents.

Specific to adolescent's academic achievement, and particularly among fathers, Hango (2007) found that father's involvement in their children's education reduced the adolescent's perceived impact of economic hardship. Furthermore, McBride et al. (2005) reported that father involvement mediated the association between contextual factors, at the school and neighborhood-levels, and children's academic achievement. However, although these and other studies reiterate the importance of the mediating role of father's influence, as in many other studies, the authors included a sample of children, whose experiences may not be reflective a broader range of adolescents.

In addition to community disadvantage, several important individual-level factors may also influence adolescent's academic achievement, and therefore, should be explored as potential confounding variables (McBride Murry et al. 2011). These include adolescent's gender, race/ethnicity, family structure, and family's socioeconomic status (Ferguson 2002; Hill and Tyson 2009; Seyfried and Chung 2002). For example, researchers reported that, during adolescence (as well as at all other developmental stages), females perform significantly better than their male counterparts on most achievement tests (Gibb et al. 2008).

In sum, the goal of the present study is to test the mediating effects of two distinctive aspects of father's influence, father's school-related involvement and father-adolescent relationship quality, on the association between community disadvantage (measured at the community-level) and adolescent's academic achievement. Based on theory and previous literature, it was hypothesized that, (1) community disadvantage will have a negative impact on adolescent's academic achievement, (2) father's school-related involvement will mediate the association between community disadvantage and adolescent's academic

**Fig. 1** Conceptual model. *Note* Model based on “2–1–1” multilevel mediation approach proposed by Zhang et al. (2009)



achievement, such that, the negative impact of community disadvantage on adolescent's academic achievement will decrease, as a result of father's school-related involvement, and (3) father–adolescent relationship quality will mediate the association between community disadvantage and adolescent's academic achievement, such that the negative impact of community disadvantage on adolescent's academic achievement will decrease, as a result of quality father–adolescent relationship (Fig. 1).

## Method

### Participants

The sample for the present study included responses from 14,099 adolescents who identified on key variables. Participants reported on the person they considered their primary father figure. As the item did not differentiate between types of father, options included biological father, adoptive father, stepfather, foster father, etc. Also, only adolescents who indicated that their father was present were included in the analyses.

### Procedure

Data for this investigation were obtained from the National Longitudinal Study of Adolescent to Adult Health (Add Health). Add Health is an over 20-year longitudinal survey of a representative sample of U.S. adolescents, with four waves of data. Data collection was initiated in the 1994/95 school year and are based on a stratified sample of 80 high schools and 52 middle schools. During the initial stages, adolescents were in the seventh through 12th grade. A randomly selected sample of 20,745 adolescents participated in Wave I in-home surveys. Participants were followed from the middle and high school years through the transition to early adulthood.

Wave I of the Add Health data is an appropriate data set to test the proposed associations of this study. Among other things, Wave I explores family dynamics (i.e., parent–child relationships, sibling relationships, etc.), adolescent risky behaviors, academic outcomes, and adolescent's psychological well-being. Detailed descriptions of the sample and procedures are provided by Harris et al. (2008).

An additional component of Add Health that is pertinent to this study is its inclusion of contextual data, based on the U.S. census tract. Census tracts are regions geographically defined for the purpose of taking a census. Several tracts are likely to exist within a county and they generally coincide with city and town limits, representing approximately 40 blocks. Each census tract represents a greater number of people than a single block, which allows for the examination of contextual factors and its association with individual-level outcomes (Merten 2010; Stewart and Simons 2010). The current study represented approximately 2444 census tract areas with an average of 8 families represented in each tract. Therefore, Add Health allows for the examination of community-level factors on individual-level adolescent outcomes.

### Measures

#### *Community-Level Disadvantage*

Community disadvantage, measured at the community level, was constructed from Add Health's Wave 1 contextual data file. This variable used five census-level items including: (1) proportion of female headed households with children 18 years of age or younger, (2) proportion of households with public assistance income, (3) proportion of individuals with service-level or clerical jobs, (4) proportion of persons or households with income below poverty, and (5) proportion of individual's unemployed. Scores ranged from 0 (least advantage) to 5 (highest advantage). Cronbach's alpha for these items were 0.91 ( $p < .05$ ).

Higher values on this scale indicated greater levels of community disadvantage.

#### *Adolescent's Academic Achievement*

Grades from four core subjects: mathematics, science, history or social studies, and language arts, were reported on by adolescents and used to assess their academic achievement. The range for each subject score was 1 (D or lower) and 4 (A), after being reverse coded. Scores were averaged in order to create grade point averages (GPAs). Higher GPAs reflected better overall academic achievement.

#### *Father's School-Related Involvement*

Father's school-related involvement was created using a composite of 3-items relating to fathers, reported on by adolescents. Target adolescents were asked: Which of these things have you done with your father/adoptive father/stepfather/foster father/etc. in the past 4 weeks? Items included, talked to them about their schoolwork or grades, talked about other things they were doing in school, and worked with them on a project for school. Response options were 1 for yes, and 0 for no. Items were summed to obtain a measure of father involvement in their adolescent's schooling. The Cronbach's alpha for this item was .98. Higher scores indicated higher levels of father's school-related involvement.

#### *Father-Adolescent Relationship Quality*

Father-adolescent relationship quality was created using a composite of 2-items relating to fathers, reported on by adolescents (e.g., Scott et al. 2007). Target adolescents were asked: How close do you feel to your father/adoptive father/stepfather/foster father/etc.? And, how much do you think he cares about you? Respondents answered on a five-point scale with categories *not at all*, *very little*, *somewhat*, *quite a bit*, and *very much*. Items were summed to obtain a measure of father-adolescent relationship quality. The correlation between these two items was .89. Higher scores indicated higher levels of father-adolescent relationship quality.

#### *Covariates*

Covariates were assessed at Wave I. *Race and ethnicity* was based on three dummy variables, including White (reference category), African-American and Hispanic-American. Though other 'Race/Ethnicities'—mainly those who self-identified as 'Asian' and 'Other'—were a part of the larger sample, they were not included in this study, due to small sample sizes, and therefore limited power to obtain

significance. *Adolescent gender* was coded as 0 = *male* and 1 = *female*. *Family income* was created from the Add Health household roster and was based on family income-to-needs ratio suggested by the federal poverty guideline of that year. Lastly, *family structure* was based on three dummy variables, including two-biological parent families (reference category), single-father households, and single-mother households. Similar to the Race/Ethnicity' variable, other 'Family structures' were not included in the analyses due to small samples, limited support in the extant literature, or challenges associated with operationalizing the variable in previous literature.

#### **Data Analyses**

To test the mediational role of father's influence on the association between community-level community disadvantage and adolescent's academic achievement, the current study uses the generalized structural equation modeling (gSEM) multilevel function available in the statistical software package, STATA 13. Use of multilevel modeling is appropriate in this study as it incorporates different error terms for different levels of the data hierarchy, and as such, yields more accurate Type I error rates than nonhierarchical methods (Raudenbush and Bryk 2002). Multilevel modeling can be used to address mediational hypotheses with clustered data, because it allows intercepts and slopes to vary randomly across clusters (Preacher et al. 2011). This study proposes a random-intercept model in which community disadvantage is specified at the community-level, suggesting that community disadvantage varies at the community level but remains constant across individuals. Although similar to the commonly used SEM, several important features distinguish gSEM from SEM, making it the preferred statistical analyses. In particular, in STATA 13, gSEM is more suitable for multilevel modeling. Therefore, given the interests of this study, gSEM is the most appropriate statistical approach.

#### **Results**

Table 1 provides descriptive information about the sample. The average age for participants was 14 years old. The average grade reported among them was a C. Father's involvement in matters relating to their adolescent's schooling was relatively low. However, father-adolescent relationship quality was relatively high, suggesting that fathers and their adolescents maintained a quality relationship, despite their father's limited involvement in their adolescent's academics. Regarding race and ethnicity, the majority of the participants reported that they were White,

**Table 1** Summary of descriptive variables, N = 14,100

Variable	Mean/%	SD	Min	Max
Dependent variable				
Adolescent academic achievement (GPA)	2.93	0.76	1	4
Model variables				
Father's school-related involvement	1.16	1.05	0	3
Father–adolescent relationship quality	9.22	1.28	2	10
Adolescent age	14.00	0.78	13	15
Gender: Female (reference)	51 %			
Race/Ethnicity				
White (reference)	57 %	0.49		
African-American	24 %	0.43		
Hispanic-American	19 %	0.39		
Family income-to-needs ratio	4.06	4.16	0	89.43
Family structure				
Two-biological parent (reference)	65 %	0.48		
Single mother	30 %	0.46		
Single father	4 %	0.20		
Community-level communitarity disadvantage <sup>a</sup>	0.62	0.38	0.10	2.81

<sup>a</sup> A composite of Community level variables was used to create 'Community disadvantage' (Merten 2010; Wickrama and Bryant 2003)

approximately 24 % reported they were African-American, and 19 % reported they were Hispanic-American. Regarding community disadvantage, scores for this variable were standardized, and ranged from .10 to 2.81. Based on this range, community disadvantage within this sample was relatively low, which is consistent with national reports published by the U.S. census government suggesting that despite recent economic fluctuations, most communities are faring moderately. The income-to-needs ratio average was 4.06, suggesting that the average household income was 400 % above the poverty threshold (U.S. Census Bureau 2004). Lastly, most adolescents reported residing in a two-biological parent household.

The current study explored the association between community disadvantage and adolescent's academic achievement, and the indirect role of father's influence on this association. First, to examine the link between community disadvantage and adolescent's academic achievement, a gSEM model including community disadvantage measured at the community-level, and all other variables, including father's school-specific involvement, father–adolescent quality relationship, gender, race/ethnicity variables, family income-to-needs ratio, and family structure variables, measured at the individual level, was analyzed. Results indicated a significant negative association between community disadvantage and adolescent's academic achievement ( $b = -.14, p < .05$ ). Next, to examine the hypotheses that father's school-related involvement and

father–adolescent relationship quality will mediate the association between community disadvantage and adolescent's academic achievement, a gSEM path analysis model simultaneously tested community disadvantage at the community-level, mediating variables father's school-related involvement and father–adolescent relationship quality, relevant covariates, and adolescent's academic achievement. In addition to a significant main effect between community disadvantage and adolescent's academic achievement, results indicated that father's school-related involvement mediated the association between community disadvantage and adolescent's academic achievement ( $b = -.14, p < .05$ ). Results were also that father–adolescent relationship quality mediated the association between community disadvantage and adolescent's academic achievement ( $b = -.12, p < .05$ ) (Table 2).

Regarding covariates, several were found to also have a significant association with adolescent's GPA. For example, female adolescents reported higher GPAs than male adolescents. African-American and Hispanic-American adolescents reported lower GPAs than their White peers, and those reporting higher family income also reported higher academic achievement. Lastly, though adolescents who were raised in single-father households reported significantly lower GPAs than those from two-biological parent households, there was no significant difference found among adolescents from two-biological parent households and those residing in single-mother households.

**Table 2** Summary of multilevel modeling of community disadvantage on adolescent’s academic achievement, mediated by fathering variables

Mediating model	Model (b)	SE
Community disadvantage → adolescent’s academic achievement	−0.14**	0.03
Father’s school-related involvement	−0.14**	0.02
Father–adolescent relationship quality	−0.12**	0.04
	Direct effect	Indirect effect
<b>Effects</b>		
Father’s school-related involvement	0.06	0.02
Total effect (direct + indirect effect)	0.08	
Father–adolescent relationship quality	0.05	0.02
Total effect (direct +indirect effect)	0.07	
<b>Main effects model</b>		
Father’s school-related involvement	0.06**	0.01
Father–adolescent relationship quality	0.05**	0.01
Gender	0.25**	0.01
<b>Race/ethnicity</b>		
African-American	−0.19**	0.03
Hispanic-American	−0.26**	0.02
<b>Family Structure</b>		
Single mother	−0.05	0.72
Single father	−0.26**	0.04
Family income-to-needs ratio	0.01**	0.00

White is the reference category for race/ethnicity. Female is reference category for gender. Two-biological parent is the reference category for family structure. Community. \*\*  $p < .01$  (unstandardized coefficients reported)

**Discussion**

Research exploring the effects of community-level factors such as community disadvantage on adolescent’s developmental outcomes have increased over the past several decades (McBride et al. 2005; Wickrama and Bryant 2003). Often findings are such that, adolescents living in adverse communities frequently experience negative outcomes (Wickrama and Bryant 2003). Less empirical attention however, has been directed towards relational factors that may mediate this association. The current study aims to fill this gap in the literature by investigating the mediating role of father’s influence, namely, father’s school-specific involvement and father–adolescent relationship quality on the association between community disadvantage (measured at the community-level), and adolescent’s academic achievement. This study extends the current literature and improves upon previous research as it investigates the macro-level influence of community disadvantage on individual-level academic achievement, within an adolescent sample. It further examined whether such an association was indirectly related through father’s influence.

Using data from Add Health, results from structural equation multilevel modeling analyses supported the

proposed hypotheses. First, findings suggested a direct negative association between community disadvantage and adolescent’s academic achievement. This finding is consistent with findings from previous studies suggesting the negative impact of multilevel factors such as community disadvantage on youth developmental outcomes (Wickrama and Bryant 2003). Compared to their peers living in more affluent communities, adolescents living in less advantaged communities experience lower academic achievement, such as lower scores on standardized tests, lower math and reading scores, and lower grade point averages (Chen and Gregory 2009; Jeynes 2007). In line with the social disorganization and ecological theories, this finding highlights the importance of context, and the influence of community factors beyond the individual’s control. Findings further suggests that, despite their best efforts, even the most studious adolescent may experience lower academic achievement due to the adverse circumstances of their community.

Lower achievement among adolescents residing in disadvantaged communities is likely a reflection of the limited resources of that community. For example, adolescents living in these communities are less likely to attend high resourced schools, and are less likely to have the

appropriate materials for school such as textbooks, and other school supplies (e.g., Fuligni and Hardway 2004). They are also less likely to have access to computers or the internet at home, which could be used to aid them with the completion of homework assignments (Evans 2004). Further, Evans (2004), suggests that, children living in disadvantaged communities are exposed to widespread environmental inequities, which may further disrupt their developmental progress. According to the author, illegal activities such as drug and gang-related crimes are more common in these communities, which may discourage adolescent's tendencies towards academic achievement.

Second, results regarding the mediating effects of father's influence were in the hypothesized direction. Findings suggested that father's school-related involvement mediated the association between adverse community context and adolescent's academic achievement. This finding is consistent with those of McBride et al. (2005) reports suggesting father's involvement in their child's education partially mediated the relationship between various contextual factors and student's academic achievement. Although parental interests in their child's schooling tends to decline from childhood to adolescence (Jeynes 2007), this finding suggests that, when fathers are involved with helping their adolescent with homework and school projects, the negative impact of community disadvantage on the adolescent's achievement are reduced.

Further, father-adolescent relationship quality was found to also mediate the association between adverse community context and adolescent's academic achievement. This finding is supported by the ecological theory, as it suggests the bidirectional and interdependent nature of the adolescent's systems and subsystems described by Bronfenbrenner (1992). Accordingly, the relationship between adverse circumstances of the adolescent's community and the adolescent's academic achievement is indirectly related through the father-adolescent relationship quality. This finding is also in support of previous studies, suggesting the importance of the father-adolescent relationship quality as a mediator among various individual and community-level factors and the developmental outcomes of adolescents (McBride et al. 2005).

Based on the calculated direct, indirect, and total effects, it appears that father-adolescent relationship quality had a stronger overall mediating effect on adolescent's academic achievement, than father's school-related involvement. This finding is consistent with previous analyses, and support from previous literature. The stronger effect of the father-adolescent relationship quality variable is likely a reflection of the specificity of father's school-related involvement variable, as it was operationalized to measure involvement in school-related activities, whereas the father-adolescent relationship quality variable represents a

broader range of what constitutes a quality relationship. Also, as Tan and Goldberg (2008) report, mothers tend to be more involved than fathers, in helping their adolescent with matters relating to their schooling (i.e., providing homework assistance, attending parent-teacher meetings, etc.); as such, mother's rather than father's involvement in adolescent's academics may be more salient, and more strongly regarded by the adolescent. An additional related explanation calls attention to the need for more research focusing exclusively on the role of fathers in their adolescent's lives. Given mothers tendency to be more involved with their children, previous studies assessing parental involvement, may be inadvertently assessing maternal involvement, especially if a composite parental score is reported. It is possible then, that previous significant findings may therefore be a reflection of maternal involvement, rather than father's.

In addition to findings suggesting the mediating role of father's school-related involvement and father-adolescent relationship quality on the association between community disadvantage and adolescent's academic achievement, several other important factors were also found to influence adolescent's academic success. Regarding gender, findings of this study were in line with most previous studies suggesting that female adolescents were significantly more likely than their male counterparts to achieve greater academic success (Seyfried and Chung 2002). It was also found that White adolescents reported greater academic achievement than African-Americans and Hispanic-Americans, which is also in line with most previous studies (Hill and Tyson 2009). Also similar to past studies, adolescents from higher income families achieved greater academic achievement. Lastly, though findings were in the expected direction, study results suggested there were no significant differences among adolescents from two- biological parent households and those from single-parent families. Although this is dissimilar to most previous findings, results suggest that perhaps the overwhelming effects of community disadvantage are so harmful, that such effects reaches across for all family structures, and impacts adolescents similarly.

Taken together, this study fills an important gap in the literature, as it explores the direct association between community disadvantage, measured at the community-level, and adolescent's academic achievement, as well as the mediating role of father's influence on this association. Findings from this study are likely to encourage further exploration of the effects of community context on adolescent's developmental outcomes, as well as direct attention to the possible relational factors such as father's influence that may mediate this association. Furthermore, the current study reflects a plethora of experiences of adolescents living in the United States, as it utilized a large



nationally representative sample of adolescents from geographically diverse regions and includes census-level data that allowed for the analyses of community-level community disadvantage. Lastly, important covariates were included in this study so as to disentangle the effects of individual level factors that may also influence adolescent's academic achievement.

Although findings from this study are encouraging as they broaden our understanding of the influence of relational factors on the association between community disadvantage and adolescent's academic success, findings should be interpreted in light of several limitations. First, data were self-reported by adolescents. According to Marsiglio et al. (2000), self-reports lends itself to shared method variance when the same respondent reports on both the predictor and the outcome variable. However, previous studies suggests that parent-adolescent reports show moderate consistency and good reliability (Rescorla et al. 2013; Wickrama and Bryant 2003). Future studies should consider including the perspectives of other important individuals such as fathers, and perhaps teachers, given they are likely to interact with adolescents on a consistent daily basis. Second, this study is cross-sectional in nature (i.e., only Wave I was used), which limits the ability to draw causal conclusions, and may not be generalizable to the population. It would be interesting however for future studies to extend this study longitudinally and investigate the long-term effects of the proposed hypotheses.

Another limitation involves the individual level covariates. Although several important covariates were included in this study (i.e., adolescent gender, race and ethnicity, family income, family structure), there are a number of other confounding variables that may also influence adolescent's academic achievement. Future studies should consider including other covariates at the individual level as well as the community level, as other multilevel factors may also influence adolescent's academic success.

Despite the study limitations, the present study addressed an important gap in the literature. Study findings broadens our understanding of community-level factors and adolescent's developmental outcomes. Findings further extended the current body of literature on the impact of father's school-related involvement and father-adolescent relationship quality on contextual factors (i.e., community disadvantage) and adolescent's academic achievement. Such findings have important implications among those invested in improving the current state of adolescent's academic performance. In particular, findings may provide parents, practitioners, researchers, policy-makers and various others with opportunities to assist students in making improvements in their academics.

Additionally, by focusing solely on father's influence, this study adds to the body of literature suggesting that

fathers play a distinctive role in their adolescent's developmental outcomes, especially as it relates to their academic success. Furthermore, this study included community-level community disadvantage, which further illustrated the impact of contextual factors on their development. It is important that efforts directed towards improving adolescent's academic success consider the potential impact of each parent's unique influence, a limitation of some previous studies (e.g., Pleck and Masciadrelli 2004). Based on findings as well as on Bronfenbrenner's (1992) ecological model, in order to best serve the academic needs of adolescents, a systemic rather than an individual approach is needed. For example, as teachers and school administrators continue to encourage parents to take a more active role in their adolescent's school-related tasks, fathers in particular, may also be encouraged to engage in other opportunities that may foster a quality parent-child relationship (i.e., coach their child's softball team, assist their child with school fundraising, etc.). Additionally, efforts should also be directed towards improving the overall quality of the community in which the adolescent resides (i.e., organizing community events that promote community members' investment in the upkeep of their community), as such efforts may inadvertently influence adolescent's inclination towards academic success. It is hopeful that information from this study will lead to a concerted effort among parents, educators, and policy-makers. Currently, resources are provided by various government-affiliated websites, such as The Parental Information and Resource Centers (PIRCs), which provides resources for parents, teachers, and other school personnel looking to explore ways in which their joint efforts may further improve adolescent's academic achievement.

## References

- Ainsworth, J. W. (2002). Why does it take a village? The mediation of neighborhood effects on educational achievement. *Social Forces*, *81*, 117–152.
- Aquilino, W. S. (2006). The noncustodial father-child relationship from adolescence into young adulthood. *Journal of Marriage and Family*, *68*, 929–946.
- Baharudin, R., Hong, C. Y., Lim, S. J., & Zulkefly, N. S. (2010). Educational goals, parenting practices and adolescents academic achievement. *Asian Social Science*, *6*(12), 144–152.
- Breivik, K., Olweus, D., & Endresen, I. (2009). Does the quality of parent-child relationships mediate the increased risk for antisocial behavior and substance use among adolescents in single-mother and single-father families? *Journal of Divorce & Remarriage*, *50*(6), 400–426.
- Bronfenbrenner, U. (1992). *Ecological systems theory*. London: Jessica Kingsley Publishers.
- Bronte-Tinkew, J., Moore, K. A., Capps, R. C., & Zaff, J. (2006a). The influence of father involvement on youth risk behaviors among adolescents: A comparison of native-born and immigrant families. *Social Science Research*, *35*, 181–209.

- Bronte-Tinkew, J., Moore, K., & Carrano, J. (2006b). The father-child relationship, parenting styles, and adolescent risk behaviors in intact families. *Journal of Family Issues*, 27(6), 850–881.
- Cataldi, E. F., Laird, J., & KewalRamani, A. (2009). *High school dropout and completion rates in the United States: 2007*. Washington, DC: US Department of Education, Institute of Education Sciences. National Center for Education Statistics, 2009-064.
- Chen, W., & Gregory, A. (2009). Parental involvement as a protective factor during the transition to high school. *Journal of Educational Research*, 103, 53–62.
- Cooper, S. M. (2009). Associations between father-daughter relationship quality and the academic engagement of African American adolescent girls: Self-esteem as a mediator? *Journal of Black Psychology*, 35(4), 495–516.
- Evans, G. W. (2004). The environment of childhood poverty. *American Psychologist*, 59(2), 77–92.
- Ferguson, R. (2002). *What doesn't meet the eye: Understanding and addressing racial achievement gaps in high achieving suburban schools*. Retrieved February, 2011, from North Central Regional Educational Laboratory website, <http://www.ncrel.org/gap/ferg/>.
- Flouri, E., & Buchanan, A. (2004). Early father's and mother's involvement and child's later educational outcomes. *British Journal of Educational Psychology*, 74(2), 141–153.
- Fuligni, A. J., & Hardway, C. (2004). Preparing diverse adolescents for the transition to adulthood. *The Future of Children*, 14(2), 99–119.
- Gibb, S. J., Fergusson, D. M., & Horwood, L. (2008). Gender differences in educational achievement to age 25. *Australian Journal of Education*, 52(1), 63–80.
- Gordon, M. S., & Cui, M. (2012). The effect of school-specific parenting processes on academic achievement in adolescence and young adulthood. *Family Relations*, 61(5), 728–741.
- Hango, D. (2007). Parental investment in childhood and educational qualifications: Can greater parental involvement mediate the effects of socioeconomic disadvantage? *Social Science Research*, 36(4), 1371–1390.
- Harris, K. M., Halpern, C. T., Entzel, P., Tabor, J., Bearman, P. S., & Udry, J. R. (2008). *The National Longitudinal Study of Adolescent Health: Research design [www document]*. <http://www.cpc.unc.edu/projects/addhealth/design>.
- Hill, N. E., & Tyson, D. F. (2009). Parental Involvement in middle school: A meta-analytic assessment of the strategies that promote achievement. *Developmental Psychology*, 45(3), 740–763.
- Jeynes, W. H. (2007). The relationship between parental involvement and urban secondary school student academic achievement: A meta-analysis. *Urban education*, 42(1), 82–110.
- Leventhal, T., & Brooks-Gunn, J. (2000). The neighborhoods they live in: The effects of neighborhood residence on child and adolescent outcomes. *Psychological Bulletin*, 126(2), 309–337.
- Marsiglio, W., Amato, P., Day, R., & Lamb, M. (2000). Scholarship on fatherhood in the 1990's and beyond. *Journal of Marriage and the Family*, 62, 1173–1191.
- McBride Murry, V., Berkel, C., Gaylord-Harden, N. K., Copeland-Linder, N., & Nation, M. (2011). Neighborhood poverty and adolescent development. *Journal of Research on Adolescence*, 21, 114–128.
- McBride, B. A., Schoppe-Sullivan, S. J., & Ho, M. H. (2005). The mediating role of fathers' school involvement on student achievement. *Journal of Applied Developmental Psychology: An International Lifespan Journal*, 26(2), 201–216.
- Merten, M. J. (2010). Parental health and adolescent obesity in the context of community disadvantage. *Health & Place*, 16, 1053–1057.
- Miller, B. C. (2002). Family influences on adolescent sexual and contraceptive behavior. *Journal of Sex Research*, 39, 22–26.
- Palkovitz, R. (2002). Involved fathering and child development: Advancing our understanding of good fathering. In C. S. Tamis-LeMonda & N. Cabrera (Eds.), *Handbook of father involvement: Multidisciplinary perspectives* (pp. 119–140). Mahwah, NJ: Erlbaum.
- Pleck, J. H., & Masciadrelli, B. P. (2004). Paternal involvement by US residential fathers: Levels, sources, and consequences. In M. Lamb (Ed.), *The role of the father in child development* (4th ed., pp. 222–271). New York: Wiley.
- Preacher, K. J., Zhang, Z., & Zyphur, M. J. (2011). Alternative methods for assessing mediation in multilevel data: The advantages of multilevel SEM. *Structural Equation Modeling: A Multidisciplinary Journal*, 18(2), 161–182.
- Raudenbush, S. W., & Bryk, A. S. (2002). *Hierarchical linear models: Applications and data analysis methods* (2nd ed.). Newbury Park, CA: Sage.
- Rescorla, L. A., et al. (2013). Cross-informant agreement between parent-reported and adolescent self-reported problems in 25 societies. *Journal of Clinical Child & Adolescent Psychology*, 42(2), 262–273.
- Sampson, R. J., & Groves, W. B. (1989). Community structure and crime: Testing social-disorganization theory. *American Journal of Sociology*, 94(4), 774–802.
- Scott, M. E., Booth, A., King, V., & Johnson, D. R. (2007). Postdivorce father-adolescent closeness. *Journal of Marriage and Family*, 69(5), 1194–1209.
- Seyfried, S., & Chung, I. (2002). Parent involvement as parental monitoring of student motivation and parent expectations predicting later achievement among African American and European American middle school age students. *Journal of Ethnic and Cultural Diversity in Social Work*, 11, 109–132.
- Shaw, C. R., & McKay, H. D. (1969). *Juvenile delinquency and urban areas* (Rev ed.). Chicago: University of Chicago Press.
- Stewart, E. A., & Simons, R. L. (2010). Race, code of the street, and violent delinquency: A multilevel investigation of neighborhood street culture and individual norms of violence. *Criminology*, 48(2), 569–605.
- Tan, E. T., & Goldberg, W. A. (2008). Parental school involvement in relation to children's grades and adaptation to school. *Journal of Applied Developmental Psychology*, 30(4), 442–453.
- U.S. Census Bureau, Population Division, Fertility & Family Statistics Branch. (2004). *Current Population Survey: Definitions and explanations*. Retrieved from <http://www.census.gov/population/www/cps/cpsdef.html>.
- U.S. Department of Education, National Center for Education Statistics. (2014). *The condition of education 2014* (NCES 2014-083). Washington, DC.
- Wickrama, K. S., & Bryant, C. M. (2003). Community context of social resources and adolescent mental health. *Journal of Marriage & Family*, 65(4), 850–866.
- Wilson, K. R., & Prior, M. R. (2011). Father involvement and child well-being. *Journal of Pediatrics and Child Health*, 47(7), 405–407.
- Zhang, Z., Zyphur, M. J., & Preacher, K. J. (2009). Testing multilevel mediation using hierarchical linear models problems and solutions. *Organizational Research Methods*, 12, 695–719.