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EMPIRICAL RESEARCH

Understanding the School Outcomes of Juvenile Offenders: An Exploration of Neighborhood Influences and Motivational Resources

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Abstract As a group, delinquent youth complete less education and show poor academic outcomes compared to their non–delinquent peers. To better understand pathways to school success, this study integrated individual- and neighborhood-level data to examine academic functioning among 833 White, Black, and Hispanic male juvenile offenders (age 14–17) living in two urban communities. A multilevel path analysis confirmed that youth in relatively more affluent communities report greater access to opportunities in the areas of education and employment, and that these opportunities are associated with higher expectations to succeed and better grades. Findings highlight the importance of taking an ecological approach for understanding processes that shape school effort and achievement. Implications are discussed in the context of promoting academic success among juvenile offenders, specifically, and for understanding pathways to healthy adjustment, more generally.

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Introduction

Years of research have documented that, as a group, juvenile offenders show poor academic outcomes compared to their non–delinquent peers (Moffitt et al. 2002; Sampson and Laub 1993; Siennick and Staff 2008; Tanner et al. 1999). To explain these findings, developmental and criminological theory and research have considered the importance of educational aspirations and expectations (e.g., Hirschi 1969; Wigfield et al. 2006). These psychological factors, however, only partially explain why delinquent youth show lower levels of academic commitment than more conventional peers (De Li 1999; Monk-Turner 1989; Siennick and Staff 2008; Tanner et al. 1999), and we know surprisingly little about how to support the achievement of juvenile offenders and other youth who are at high risk for school failure. In the current study, we consider the context in which academic aspirations and expectations operate and test the hypothesis that neighborhood-level processes—particularly, perceptions of opportunity structures in the community—shape school functioning among Black, Hispanic, and White male juvenile offenders. To date, individual-level factors have received much more empirical attention, and the mechanisms of neighborhood-level effects on school outcomes are not well understood. There is reason to believe, however, that the neighborhood context can shape elements of self-concept that determine one's orientation and commitment to academics. Although this study focuses on juvenile offenders, research that links neighborhood characteristics and achievement can shed light on processes that

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contribute to healthy adjustment among high-risk youth more generally.

School Outcomes Among Juvenile Offenders

Considerable evidence indicates that delinquent youth show a range of poor school outcomes, including low levels of achievement and high rates of dropout (Elliott and Voss 1974; Mensch and Kandel 1988; Moffitt et al. 2002; Sampson and Laub 1993; Tanner et al. 1999). A recent study found that delinquent youth are also less likely to attend college than their non-delinquent peers (76% vs. 88%) and less likely to graduate if they do enroll (32% vs. 48%; Siennick and Staff 2008). Not surprisingly, early exits from formal education have been linked to a range of problems during adolescence and adulthood, including difficulty in the labor market, recidivism, and poor mental health (Moffitt et al. 2002; Monk-Turner 1989). School failure also decreases the likelihood that youth will complete other developmental tasks successfully (Chung et al. 2005).

To explain the academic deficits of delinquent youth, some research has emphasized the study of educational aspirations and expectations (Farkas 2003; Rosenbaum 2001). Indeed, modern views of achievement motivation stress the role of expectancies for success in shaping achievement-related choices and behaviors, and a large body of research indicates that high academic expectations and a sense of personal efficacy about academic work predict high levels of educational attainment and school performance (Bandura 1997; Connell et al. 1995; Eccles-Parsons et al. 1983; Schunk 1991; Zimmerman et al. 1992). Researchers also have found that high occupational expectations are related to academic success. Dumais (2002), for example, reported that male and female adolescents who expected to have professional jobs by age 30 (e.g., business owner, engineer) showed high levels of academic achievement. Thus, research indicates that low educational and occupational aspirations and expectations may help to explain the academic deficits of delinquent youth.

While qualitative and quantitative studies have linked educational aspirations and underachievement in the study of delinquency (MacLeod 1987; Siennick and Staff 2008), much of the delinquency-education association persists above and beyond the impact of these psychological beliefs (De Li 1999; Hannon 2003; Tanner et al. 1999). The aspirational components of commitment to education only partially explain why delinquent youth show such discouraging academic outcomes, and we believe that a more complete explanation requires consideration of the context in which achievement-oriented goals and expectations develop and operate.

Individual- and Neighborhood-Level Predictors of School Outcomes

From early adolescence on, the future is an important component of self-concept, and academic functioning is commonly reported in youths' descriptions of their future or possible selves (Oyserman et al. 2006). Possible selves are conceptualized as motivational resources that individuals can use in the direction of their own actions—e.g., before a student can be expected to finish high school, he must both value the goal and believe he is capable of achieving it (e.g., Bandura 1997). Among delinquent youth, future-oriented or possible selves regarding education and employment are not often imagined to be successful. In one study, Oyserman and Markus (1990) found that antisocial adolescents did not expect to have jobs in the future, and only 14% to 19% expected to be successful in school. To date, few studies have examined the determinants of academic self-concepts among juvenile offenders, and we have limited information about how to help these young people establish positive images of themselves in the future.

To understand and support the development of positive self-concepts, multiple researchers have stressed the importance of considering the social contexts in which personal identities operate. Oyserman (2007), for example, notes that self-concepts are based on identities that incorporate community expectations about the academic attainment and occupations of community members. Similarly, Bourdieu's (1984) Theory of Social Reproduction posits that individuals develop views about their possible selves based on perceptions of their place in the social structure. Finally, Spencer's (1995) Phenomenological Variant of Ecological Systems Theory argues that youth base their self-concepts on perceptions of how risk factors (e.g., neighborhood violence) and protective factors (e.g., social capital) operate in their social settings. A number of studies have confirmed the importance of considering the social context in psychological theories of the self. Boardman and Robert (2000), for example, found that adults from high-poverty communities report lower levels of self-efficacy—beliefs that one can perform the behaviors necessary to produce an outcome—than individuals living in more affluent communities. Studies also have reported that minority youth from low-income neighborhoods develop occupational expectations that mirror class and race differences in adult employment in their community (Bloom 2007; Cook et al. 1996; Fogel 2004; MacLeod 1987; Mickelson 1990; O'Connor 1997; Ogbu 1994). Thus, both theoretical and empirical work highlight the value of considering the social contexts in which personal identities develop and operate.

The neighborhood context also has become an important consideration in education research. With the ascendance of ecological models that address the impact of contexts (e.g., neighborhood, schools) on youth development, an increasing number of studies have examined the social settings in which individuals live and interact. In general, these efforts are rooted in Bronfenbrenner's (1979) Ecological Systems Theory, which stresses the importance of studying environmental systems that affect development. One of these systems, the micro system, represents the contexts in which the individual lives (e.g., school, neighborhood), and it is in the micro system that the most direct interactions with social agents take place (e.g., with teachers and community adults). The mesosystem refers to connections between contexts (e.g., relations between neighborhood experiences and school experiences), and multiple studies have documented that youth who live in affluent communities report better school outcomes than peers from more disadvantaged settings (Boyle et al. 2007; Brooks-Gunn et al. 1993; Connell et al. 1995; Duncan 1994; Ensminger et al. 1996; Sampson et al. 1999). Neighborhood-level research, however, particularly the search for social class effects, has been a "small effect size" enterprise, with correlations typically falling between .05 and .20 (Andrews and Bonta 1998; Leventhal and Brooks-Gunn 2000). As such, researchers have called for models that can elucidate mediating and developmental pathways of neighborhood-level influences on behavior; even though social class factors may show weak or modest direct effects on individual outcomes, they may transit their influence indirectly via individual-level factors (Duncan and Raudenbush 2001). According to institutional resources perspectives, one important explanation of neighborhood-level effects on school outcomes involves adolescents' beliefs about educational and employment opportunities in their community (see Leventhal et al. 2009). Specifically, neighborhood characteristics, such as the presence of employed role models, are thought to determine youths' beliefs about the opportunities available to them, and these beliefs can shape achievement-oriented outcomes such as grades and educational attainment. To date, however, much more theoretical than empirical work has examined the mechanism of neighborhood-level effects on academic functioning.

Current Study

The current study integrates theoretical frameworks from the study of neighborhood- and individual-level influences on achievement to explain the school functioning of 833 Black, White, and Hispanic male juvenile offenders. The analyses were limited to males, as there were not enough female offenders in the sample to examine gender differences, and neighborhood factors likely influence males and females differently. Males, for example, may be more susceptible to the adverse impact of neighborhood disadvantage on school outcomes than young females (Crowder and South 2003). Regarding study hypotheses, we believe that youths develop expectations about academic and occupational success based on perceived opportunity structures in their social context, and that these expectations serve as motivational resources that can explain neighborhood effects on achievement outcomes. Specifically, we hypothesize that young offenders who live in more affluent neighborhoods will report having more educational and occupational opportunities (i.e., perceived opportunity structure), and perceived opportunity structure will be positively associated with expectations to succeed. In addition, we believe that youth who expect to succeed will report better school grades 6 months later. The analysis will consider a number of covariates that have been linked to school outcomes among adolescents, in general (age, ethnicity, parental education, IQ, school orientation), and juvenile offenders, in particular (previous involvement with the court system and variables associated with youths' court disposition).

Thus far, knowledge regarding pathways to academic failure and success has been derived mainly from studies of community-based samples of children and adolescents. We extend this line of research to understand the school outcomes of delinquent youth for several reasons. First, juvenile offenders are at high risk for academic failure, and the model proposed in the current study may help to identify processes that can promote improved school functioning in this vulnerable population. Second, findings from studies of offenders may inform our understanding of at-risk youth more generally; because a relatively high proportion of urban, minority youth have contact with the justice system, the population of juvenile offenders is far more heterogeneous than stereotypes would otherwise suggest. For example, in a longitudinal study of approximately 1,000 low-income urban boys in Chicago, more than half had experience with the criminal justice system by the age of 32 (Ensminger and Juon 1998). Finally, the juvenile offender population is disproportionately composed of disadvantaged Black and Hispanic males. In the general population, both of these groups show poorer school outcomes than White peers (Huizinga et al. 2007), and to the extent that we can better understand predictors of academic achievement, we may be better equipped to promote the healthy development of minority youth who face obstacles to school success in their social settings.

Method

Participants and Procedures

Data for this study come from the Pathways to Desistance study, a longitudinal investigation of adolescents adjudicated of a serious crime in the court systems of Philadelphia, PA (Philadelphia County) or Phoenix, AZ (Maricopa County). The Pathways project was designed to follow a group of juvenile offenders whose histories and criminal charges are serious enough to be relevant for policy discussions and heterogeneous enough to examine relationships between social contexts and behavioral outcomes (Mulvey et al. 2004). During the enrollment period (November 2000 to January 2003), youth were considered for the study if they were between the ages of 14 and 17 at the time of their committing offense and found guilty of a serious crime (either a felony offense, excluding less serious felony property crimes, or a misdemeanor weapons or sexual assault offense). The sampling strategy resulted in the enrollment of 1,354 youth (1,170 males, 184 females), which represents 36% of the identifiable adjudicated serious adolescent offenders who came before the courts in the two locales during the enrollment period. Full study and participant details can be found in Schubert et al. (2004).

After appropriate consents were obtained from the juvenile and either a parent or guardian, the interviewer met with the youth at his or her home or a mutually agreed-upon location in the community (if the juvenile was on probation) or at a facility (if the juvenile was confined). Participants completed a baseline interview followed by interviews every 6 months for the first three years of the study and annually thereafter through a maximum of 84 months. Baseline collateral interviews were also conducted with a parent or parental guardian. All interviews were conducted on a laptop computer. Questions were read aloud to avoid any problems caused by reading difficulties, and respondents typically answered the interview questions out loud; in the case of questions concerning sensitive material, a portable keypad was made available for participants to input their answers. Honest reporting was encouraged and confidentiality was assured by protections provided by statute to the Department of Justice. The current analyses were based on data obtained from the baseline and six-month participant interviews and the baseline collateral interview; additional longitudinal data were not used because at subsequent follow-up interviews an increasing number of participants were no longer attending school and did not provide data about school functioning.

To address study hypotheses, we focused on data from an ethnically diverse subsample of 833 male offenders. From the original sample of 1,170 males, youth were excluded from analyses if (1) their neighborhood residence could not be determined ($n = 45$), (2) they did not attend school during the year prior to study enrollment ($n = 106$), or (3) they did not attend school between the baseline and six-month follow-up interview ($n = 186$). The 833 participants were 15.87 years of age (SD = 1.13) at the time of their baseline interview and had 1.92 (SD = 2.13) court petitions prior to the charge qualifying them for enrollment in the Pathways study. About 45% of the sample was Black (20% White, 32% Hispanic) and 78% of households were headed by a parent (or parents) with a high school education or less. Compared to the group of excluded males ($n = 337$), the final sample of 833 had a greater proportion of offenders who were Black ($\chi^2(3) = 13.79$, $p < .01$) and from Philadelphia County (76% vs. 66%, $\chi^2(1) = 16.31$, $p < .001$). This sample was also younger (15.87 vs. 16.51; $t = 8.89$, $p < .001$) and had fewer prior court petitions (1.92 vs. 2.40; $t = 3.39$, $p < .01$), but the groups did not differ with respect to parental education level ($t = 1.65$, ns).

Measures

Neighborhood Affluence

To identify neighborhood residence, each participant's address from the baseline interview was geocoded to a 2000 census tract. In general, census tracts have between 3,000 and 8,000 residents and are designed to be as homogenous as possible with regard to population characteristics, living conditions, and economic status (U.S. Bureau of the Census 2000). Drawing upon previous research, we created an index of neighborhood affluence from 2000 census data based on the percent of households with an annual income of at least $50,000. Participants in this study resided in 427 different tracts (1–11 participants in each). Across the 427 tracts, about 27% of households reported annual incomes of $50,000 or more.

Perceived Opportunity Structure

During the baseline interview, adolescents were asked four questions developed by Eccles et al. (1998) about the opportunities available in their neighborhoods to succeed in school and the work force (sample item: "College is too expensive for people in my neighborhood."). Participants responded on a 5-point scale that ranged from 1 (*strongly disagree*) to 5 (*strongly agree*), with higher scores reflecting greater perceived opportunities. A confirmatory factor analysis (CFA) showed that all six items loaded on one latent construct and that the model was a reasonable fit to our data. Table 1 presents standardized factor loadings and fit statistics from a goodness-of-fit-test.

Table 1 Results of confirmatory factor analyses (CFAs) and standardized factor loadings for variables used in analyses

Variable	Manifest variables	
	Perceived opportunity structure	Expectations to succeed
Perceived opportunity structure		
In my neighborhood, it's easy for a young person to get a good-paying, honest job	.47	–
Most of my friends will graduate from high school	.44	–
In my neighborhood, it's hard to make much money without doing something illegal[a]	.71	–
College is too expensive for most of the people in my neighborhood[a]	.48	–
Expectations to succeed		
Chances to have a good job or career	–	.82
Chances to graduate from college	–	.72
Chances to earn a good living	–	.73
How far you'll go in school	–	.35
Goodness-of-fit test for CFA	$\chi^2_{(2)} = 0.49$, ns	$\chi^2_{(1)} = 0.37$, ns

[a] Item was recoded before conducting the CFA. All factor loadings are significant at $p < .001$

Expectations to Succeed

During the baseline interview, adolescents were asked four questions about their expectations for future educational and occupational success (sample item: "What do you think your chances are to graduate from college?"). The scale was adapted from the Perceptions of Chances for Success measure originally developed by Menard and Elliot (1996). Participants responded on a 5-point Likert scale ranging from 1 (*not at all important*) to 5 (*very important*), with higher score representing higher expectations ($\alpha = .81$). Table 1 presents standardized factor loadings and fit statistics from a goodness-of-fit-test.

School Functioning

During the six-month follow-up interview, participants reported their grades on a scale ranging from 1 (*mostly below Ds*) to 8 (*mostly As*). These grades reflected school functioning between the baseline and follow-up interview and did not distinguish between grades received in the community or at a facility (if participants spent time in a residential institution as a result of their court disposition). Participants were asked to report their average grades if they attended school at any point during the six-month recall period.

Covariates

Covariates included age (in years), ethnicity (dummy codes for Black and for Hispanic ethnicity), parental education, full scale IQ, school orientation, grades, total number of prior court petitions, and three variables associated with youths' court disposition: site (Pennsylvania = 1, Arizona = 2), the location where the baseline interview was conducted (community = 1, detention/residential facility = 2), and the proportion of time spent in the community between the baseline and follow-up interview. The last covariate was assessed at the six-month follow interview, and all others were assessed at the baseline interview. Given the nature of the sample, the number of prior court petitions and interview location were included to control for the severity of adolescents' contact with the justice system; higher scores on both measures represented more serious involvement with the court system. We included a measure of community exposure (i.e., proportion of time spent in the community) because some participants spent time during the follow-up period in a residential facility as a result of their court disposition. Although participants were required to attend school while in facilities, their grades may have been influenced by the amount of time they spent in community versus facility school settings.

To assess parental education, adolescents and their parent(s) reported on the highest level of schooling completed by the mother/female guardian and father/male guardian. Scores ranged from 1 (*grade school or less*) to 6 (*some graduate or professional school*) and were averaged in two parent families across parents and reporters. Full scale IQ was assessed with the Wechsler Abbreviated Scale of Intelligence (Wechsler 1999), which was administered during the interview. Scores were based on participants' combined performance on the Vocabulary and Block Design subtests, two subtests designed to assess verbal and performance IQ, respectively. To assess school orientation, participants responded to 7 questions (sample item: "Schoolwork is very important to me") based on the work of Cernkovich and Giordano (1992). Responses were coded

on a 5-point scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*), with higher scores reflecting stronger attachment to school ($\alpha = .83$). Finally, participants self-reported grades during the year prior to the baseline interview on a scale ranging from 1 (*mostly below Ds*) to 8 (*mostly As*). The bottom of Table 2 presents descriptive statistics for all study variables.

Analysis Plan

To test the hypothesized model, we conducted a multilevel path analysis using MPlus 6 (Muthén and Muthén 1998–2010). This analytic strategy was selected because the data represent nested or hierarchical structures—individuals (level 1) are nested within census tracts (level 2)—and appropriate analysis of these data requires a strategy that can assess multiple levels of information at the same time. Importantly, multilevel models produce within- and between-level effects that are more valid and reliable than estimates obtained from analyses that ignore the nested data structure (Bryk and Raudenbush 1992).

Prior to evaluating the hypothesized model, manifest scores of the main composite variables (perceived opportunity structure, expectations to succeed) were computed using factor score coefficients from their respective CFAs (described earlier). Creating these manifest scores reduces the number of parameters estimated in the model, allowing for the inclusion of more constructs, and helps with model convergence in multilevel analyses.

Results

Table 2 displays relevant sample characteristics and bivariate correlations between variables computed at the individual level (i.e., ignoring nested data structure). Participants resided in 427 different census tracts, 193 from Philadelphia County and 234 from Maricopa County, and each neighborhood had between 1 and 11 participants ($M = 1.97$). Neighborhood affluence scores showed adequate variation ($M = 26.93$, SD = 16.16), but, not surprisingly, the census tracts represented in the current study were, on average, less affluent than others in Maricopa and Philadelphia counties ($M = 39.91$, SD = 21.13). In addition, neighborhood affluence scores were higher in the Arizona sample than in Philadelphia (38.34 vs. 22.42; ($t(425) = -10.21, p < .001$), which may be explained by the strong association between site and ethnicity in this study ($F(3, 829) = 62.86$, $p < .001$). White adolescents lived in the most affluent census tracts ($M = 42.94$), followed by Hispanic ($M = 28.58$) and Black ($M = 24.58$) youth ($F(3, 829) = 62.86$, $p < .001$), and most of the White (70.7%) and Hispanic (74.9%) participants were from Maricopa County, while most of the Black participants (90.0%) were from Philadelphia County ($\chi^2_{(3)} = 326.60, p < .001$).

The potential for the neighborhood context to influence individual behavior is indexed by the intraclass correlation coefficient (ICC). The ICC is an estimate of the proportion of total variance explained by the grouping structure in the population and can indicate whether there is a reason to conduct analyses at the higher level of the model (Hox 2002). Given our hypothesized neighborhood-level effects, we computed ICCs for each of the variables in the proposed model. The analysis revealed a significant ICC for perceived opportunity structure; 12.9% of the variation could be attributed to the neighborhood level $\chi^2(427, N = 833) = 320.31$, $p < .001$). Nonsignificant ICCs, however, were found for expectations to succeed (6.1%) and grades (8.5%). Thus, perceived opportunity structure was the only variable to show meaningful community-level differences. Given these results, multilevel estimates were included only for the hypothesized link between neighborhood affluence and perceived opportunity structure. All other hypothesized associations in the model were estimated at the individual level.

To evaluate the hypothesized model, we estimated a combination of level 1 (i.e., within-neighborhood) and level 2 (i.e., between-neighborhood) effects. At the individual level, the model estimated the effects of perceived opportunity structure on expectations to succeed, expectations to succeed on grades, and all study covariates on each of the main study variables in the model. All study covariates were also allowed to covary with each other. At the neighborhood level, we estimated the effect of neighborhood affluence on perceived opportunity structure; we did not estimate neighborhood-level effects for the other study variables given nonsignificant ICC values. Covariates were not regressed on any variables at level 2 because there were no a priori hypotheses about these effects, and testing a model of this complexity would create analytic challenges with no clear gain in relevant information.

Although our hypothesized model may provide a good fit to the data, it is possible that other more complex or more parsimonious models may fit the data equally well (or better). As such, we first tested a saturated model in which all paths suggested by the ordering of constructs in the hypothesized model were estimated. While testing the saturated model, we requested MPlus modification indices in order to remove nonsignificant paths without sacrificing model fit. Because these modified models were a subset of the saturated model (i.e., requiring only the removal of nonsignificant paths), we could examine the change in model chi-square values to determine whether removing a certain path sacrificed model fit; a significant increase in the chi-square value relative to the change in degrees of freedom would be indicative of worse fit.

Table 2 Correlations between neighborhood and individual characteristics

Neighborhood and individual characteristics	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Neighborhood characteristics															
1. Neighborhood affluence	1.00														
Individual characteristics															
2. Site	.49***	1.00													
3. Age	−.06	−.10**	1.00												
4. Parental education	.33***	.01	.01	1.00											
5. African American	−.30***	−.62***	.05	.08*	1.00										
6. Hispanic	−.05	.42***	−.02	−.32***	−.61***	1.00									
7. Interview location	−.21***	−.23***	.13***	−.12**	.19***	−.03	1.00								
8. Community exposure	.12***	.28***	−.14***	.10**	−.23***	.14***	−.69***	1.00							
9. Total number of priors	−.13***	−.05	.21***	−.03	.06	−.00	.34***	−.33***	1.00						
10. Full scale IQ	.34***	.30***	−.02	.27***	−.22***	.00	−.09**	.11***	−.07	1.00					
11. School orientation	−.08*	−.07*	−.15***	−.04	.13***	−.02	−.14***	.11**	−.13***	−.02	1.00				
12. Baseline grades	−.01	−.09*	.02	.13***	.03	.02	.08*	.09**	.02	.15***	.30***	1.00			
13. Opportunity structure	.31***	.06	−.05	.20***	−.04	−.09*	−.12**	.11**	−.15**	.11**	.21***	.09**	1.00		
14. Expectations to succeed	.07*	−.08*	−.07	.16***	.09*	−.12**	−.04	.07*	−.06	.08*	.38***	.19***	.21***	1.00	
15. Six month grades	.08*	.15***	−.11**	−.05**	−.10**	.14***	−.29***	−.35***	−.14***	.07*	−.03	.21***	.04	.14***	1.00
Mean	26.93	1.40	15.87	2.62	.47	.33	1.50	.47	1.92	84.30	3.60	4.84	−.01	.00	3.50
Standard deviation	16.16	.49	1.13	0.87	.50	.47	.50	.44	2.13	12.69	0.69	1.88	10	.05	1.86

Correlations represents relations between variables at the individual level and do not consider nested data structure

* $p < .05$. ** $p < .01$. *** $p < .001$

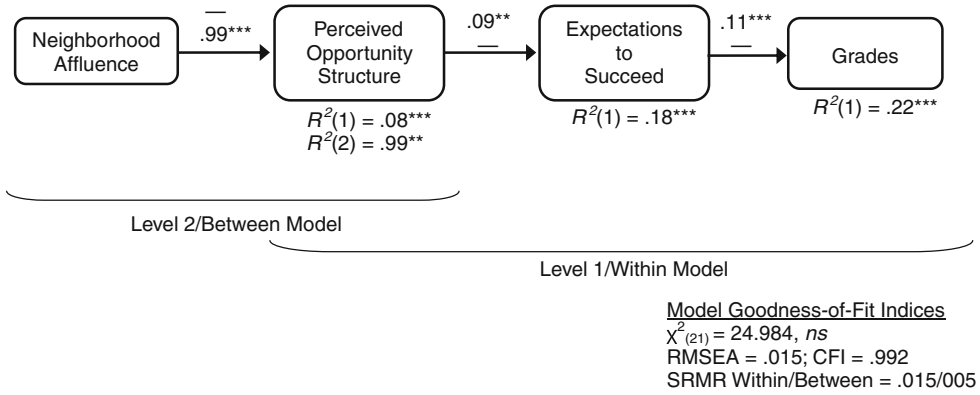

Fig. 1 Standardized individual- and neighborhood-level effects on school functioning. *Note*: Standardized paths represent effects at level 1 (*above*) and level 2 (*below*); results control for study covariates at level 1. $^{*}p < .05$, $^{**}p < .01$, $^{***}p < .001$

The saturated model was an excellent fit to our data: $\chi^2_{(0)} = 2.476$, *ns*; CFI = .995; RMSEA = .000; SRMR within/between = .004/.003. The reduced, final model fit our data equally well ($\Delta\chi^2_{(19)} = 19.855$, *ns*) and supported our hypothesized model: $\chi^2_{(21)} = 24.984$, *ns*; CFI = .992; RMSEA = .015; SRMR within/between = .015/.005. For the sake of parsimony, the final model excluded model estimates—covariances and regression weights—if the effects were nonsignificant and their exclusion did not result in significant changes in model fit. In addition, results indicated that the level 1 indirect effect of perceived opportunity structure on grades (via expectations to succeed) was significant ($p < .05$). Figure 1 presents complete model fit statistics and standardized estimates for effects involving the main study variables.

At the individual level, the final model explained 8.0% ($p < .001$) of the variance in perceived opportunity structure, 18.3% ($p < .001$) of the variance in expectations to succeed, and 22.1% ($p < .001$) of the variance in grades. At the neighborhood level, the model explained 99% of the variance in perceived opportunity structure; adolescents who lived in more affluent communities reported more opportunities to succeed in the areas of school and work ($\gamma = .99$, $p < .001$). Consistent with study hypotheses, offenders who reported higher expectations to succeed at the baseline interview reported better school grades 6 months later ($B = .11$, $p < .001$). Higher grades were also reported by participants who were younger ($B = .07$, $p < .05$) and completed the interview in a facility ($B = .19$, $p < .05$), and those who had higher IQ scores ($B = .08$, $p < .05$) and grades ($B = .22$, $p < .001$) at the baseline interview. Lower grades were reported by Hispanic ($B = -.19$, $p < .05$) youth and those who spent more time in the community during the follow-up period ($B = -.30$, $p < .001$). Also consistent with study hypotheses, offenders who perceived more educational and occupational opportunities in their communities reported higher expectations to succeed in the areas of school and work ($B = .09$, $p < .01$). Higher expectations were also reported by participants who had stronger attachments to school ($B = .37$, $p < .001$) and higher levels of parental education ($B = .16$, $p < .001$). Finally, perceived opportunity structure was positively related to parental education ($B = .12$, $p < .01$) and school orientation ($B = .23$, $p < .001$) and negatively related to prior court petitions ($B = -.09$, $p < .01$).[1]

Discussion

Considerable evidence indicates that delinquent youth show a range of poor school outcomes, including low levels of achievement and high rates of dropout (e.g., Moffitt et al. 2002). It is clear that school failure has important developmental consequences, including increased risk of recidivism, mental health problems, future unemployment, and financial instability (Kasen et al. 1998; William T. Grant Foundation Commission on Work Family and Citizenship 1988). Yet, we know surprisingly little about how to support the achievement of youth who are at high risk to experience educational problems. In recent

[1] A multi-group path analysis indicated that ethnicity did not moderate study effects. The analysis compared the final model for Black ($N = 375$) and White/Hispanic ($N = 433$) participants; 25 participants who identified with a different ethnic group were excluded. There were not enough White ($N = 167$) and Hispanic ($N = 266$) participants to conduct reliable analyses with the groups separately, so these participants were combined into one sample. The analysis revealed that the model fit equally well for the two groups. Specifically, there was a nonsignificant chi-square difference between a baseline model (in which parameters for both groups were freely estimated) and a constrained model (in which all regression weights and covariances were constrained to be equal across groups); this nonsignicant difference ($\Delta\chi^2_{(20)} = 20.047$, *ns*) suggests that model parameter estimates are equivalent across the two samples. Results of this analysis are available from the authors upon request.

years, the neighborhood context has become an important consideration in educational research. To date, however, individual-level factors have received much more empirical attention, and the mechanisms of neighborhood-level effects on school outcomes are not well understood (Leventhal et al. 2009). To the extent that we can elucidate mediating pathways of neighborhood-level influences on behavior, we may be better equipped to promote academic success among youth who are at high risk for school failure.

The current study integrated neighborhood- and individual-level data to assess school functioning among Black, Hispanic, and White male juvenile offenders (e.g., Moffitt et al. 2002). Specifically, we focused on youths' aspirational goals regarding academic and occupational success and considered the context in which these goals develop and operate. Even after controlling for several factors linked to academic functioning—parental education, ethnicity, age, prior court petitions, IQ, school orientation, initial grades—we find that young offenders' expectations to succeed are positively linked to future school functioning and can help to explain neighborhood-level effects on grades. Although this study focused on juvenile offenders, we believe that our findings have implications for populations of at-risk youth, in general, because low-income, urban males are at high risk to have contact with the juvenile and criminal justice systems (Ensminger and Juon 1998).

Motivational Resources that Promote School Success

Our findings support the work of Bandura, Eccles, and others indicating that optimistic thinking about the future is meaningfully connected to how adolescents orient toward their education (see Wigfield et al. 2006). Specifically, offenders who reported higher expectations to succeed in school and work also reported better grades 6 months later, and expectations to succeed explained the indirect effect of perceived opportunity structure on school functioning. These results suggest that concrete beliefs about education and work (e.g., access to resources, what community members have achieved) may contribute to future educational success by shaping youths' aspirational goals (Mickelson 1990). If this is true, then enhancing educational and occupational opportunities for youth may be a particularly powerful way to increase achievement motivation among youth at-risk for poor school performance. These findings support Oyserman's (2007) notion of a self-concept that includes both personal and social identities. According to Oyserman, social identities are based on group-based traits and goals and incorporate community expectations about the academic attainment and occupations of in-group members. These social identities contribute to how individuals view their future-oriented or possible selves, which then serve as motivational resources that individuals can use in the direction of their own actions—e.g., before a student can be expected to finish high school, he must both value the goal and believe he is capable of achieving it (e.g., Bandura 1997).

Three other study findings are consistent with the results of previous research. First, we find that characteristics of parents are important for explaining achievement-oriented outcomes (e.g., Brooks-Gunn et al. 1993); higher levels of parental education are associated with the perception of more educational and occupational opportunities and higher expectations to succeed. Second, younger offenders report better grades than older offenders, a finding consistent with research on community samples showing a gradual decline in academic motivation during adolescence (see Eccles et al. 1993). Third, offenders who are more school-oriented believe that they are more likely to succeed in the areas of school and work and that there are more educational and occupational opportunities available in their communities. All three study findings support the results of research conducted with community samples and suggest that our findings can shed light on processes that contribute to academic success among at-risk youth, in general.

It is important to discuss two findings that apply specifically to the experiences of court-involved youth. First, we find that young offenders who spend more time in a residential facility during the recall period report better grades at follow-up. After controlling for baseline grades, school orientation, and other individual characteristics, grades are positively linked to the amount of time youth spend in a facility. One possibility is that young offenders show better academic outcomes in residential settings because they are schooled regularly and attend classes in more closely supervised and smaller environments. Students who might otherwise struggle in community schools are able to take advantage of the structured educational opportunities provided in facilities. Indeed, some research has found that alternative schooling for serious delinquent youth can increase their commitment to educational goals, attachment to school, and successfully reduce delinquency-risk factors (Gottfredson 1987). Second, we find that youth with more prior court petitions perceive fewer educational and occupational opportunities in their communities. It is possible that delinquent adolescents believe that the cumulative consequences of antisocial behavior, such as court contact, *ensnare* them by limiting future opportunities (Moffitt 1993). Involvement in the juvenile justice system, particularly incarceration, is thought to hinder success in the areas of school and work, and young offenders can become pessimistic about their futures when they experience negative outcomes like school failure or

unemployment (Hagan 1997). Together, these results suggest that court involvement has complex implications for the academic functioning of young offenders; while delinquent youth may view court contact as a barrier to future success, their involvement may provide access to important educational and occupational opportunities that are not readily available in their communities.

Mechanisms of Neighborhood Effects on School Outcomes

Study findings highlight the importance of taking an ecological approach to understand achievement-related motivation and outcomes among juvenile offenders (Bronfenbrenner 1979; Brooks-Gunn et al. 1993; Boyle et al. 2007; Duncan 1994; Ensminger et al. 1996). Consistent with institutional resources perspectives, adolescents living in more affluent communities—indexed by the income of residents—reported greater access to educational and employment opportunities, and these perceptions were indirectly linked to better grades 6 months later. These findings held even after controlling for baseline levels of grades, school orientation, IQ, and other important demographic and court-related factors. Contrary to previous research (e.g., Brooks-Gunn et al. 1993; Duncan 1994), we did not find meaningful community-level variation for school grades. As such, we only were able to examine the direct level 2 effect of neighborhood affluence on perceived opportunity structure and the indirect level 1 effect of perceived opportunity structure on grades. Nevertheless, our findings help to elucidate mechanisms by which community-level characteristics can shape academic outcomes.

As first described by Bronfenbrenner's (1979) Ecological Systems Theory, it is critical to consider how experiences in one setting (e.g., neighborhood) are connected to experiences and outcomes in other settings (e.g., school). With respect to the neighborhood domain, it is likely that adolescents generate meaning about their ability to succeed through their interactions with adults and peers in their own community (Graber et al. 1996). These interactions can influence how youth function in the school context, and understanding such connections between settings has important implications for promoting academic success. Indeed, ecologically-based interventions, such as Multisystemic Therapy (MST; Henggeler et al. 1998), have been particularly effective at improving school and other developmental outcomes for serious juvenile offenders (Borduin et al. 2009). MST targets risk factors across multiple contexts (e.g., individual, family, neighborhood) and tries to use strengths in these settings (e.g., positive connections with neighbors) to address challenges and alter problematic behaviors. By working together with parents, teachers, community adults, and others, the program aims to restructure a youth's ecology to support prosocial development. In recent years, a growing body of research has established that interventions that consider connections between the social contexts in which youth live and interact are particularly valuable for promoting successful outcomes among at-risk youth (Henggeler et al. 2007).

Limitations and Future Directions

A number of caveats are important to note in interpreting the results of the present study. First, our model did not consider factors in the family and school contexts that may be linked to academic functioning (see Wigfield et al. 2006). Future studies that consider factors in these two domains are likely to identify models that can explain additional variance in outcomes. Specifically, research indicates that higher levels of parental involvement, support, and monitoring and low levels of parent-youth conflict are associated with higher levels of academic achievement (Bean et al. 2003; Eamon 2005; Spera 2005). A second limitation is that most of the study variables were based on youth self-report, increasing the potential for inflated shared-method and -source variance. As such, it would be important to replicate findings using alternative sources of academic information (e.g., transcript grades, teacher reports of school attachment). Although studies have documented a strong correlation between self-reported and transcript grades ($r = .76$; Siennick and Staff 2008), it is possible that delinquent youth may not know exactly how they are performing in school. Finally, our measure of grades represented an average level of school functioning and could not distinguish outcomes between community and facility settings. Thus, it is unclear whether the results of this study apply uniformly to educational success in both settings. Future research that better identifies the source of reported grades and the mechanism connected with each type of educational setting is needed.

With respect to future research, it would be important to explore other mechanisms by which community-level factors can shape achievement-oriented outcomes. Neighborhood structural characteristics represent just one dimension of community context, and although neighborhoods share similar economic characteristics, they may differ with respect to community-level social processes that can affect school and other developmental outcomes (Chung and Steinberg 2006; Odgers et al. 2009). Research indicates, for example, that positive interactions among neighbors serve as a protective factor from poor outcomes, including antisocial behavior and school failure (MacDonald et al. 2009; Sampson et al. 1997). Another important area for future research is to examine further the impact of court involvement, particularly incarceration, on the school outcomes of young offenders. Our results

suggest that court contact has complex implications for delinquent youth, and given the enduring effects of school failure on adult functioning, it would be important for future studies to explore how different types of court involvement can hinder as well as promote educational success.

Conclusions and Implications

The findings of the present study contribute to an area of research that has received limited empirical attention. Despite recent calls to examine community-level effects on academic functioning, much more theoretical than empirical has investigated the issue. By integrating objective neighborhood-level and subjective individual-level data, this study was able to confirm the value of taking an ecological approach for understanding the academic achievement of adolescent male offenders. Results indicate that young offenders who live in more affluent communities perceive greater access to opportunities in the areas of education and employment, and these opportunities are associated with higher expectations to succeed and better grades. Optimal youth development takes places when there is a good fit between the needs of developing individuals and the opportunities afforded by their social environments (Eccles et al. 1993). Thus, having access to quality academic and employment resources is likely important for achieving positive outcomes beyond school success. A focus on educational outcomes is particularly important for delinquent youth who, as a group, are at high risk for academic failure and poor developmental trajectories into adulthood (Moffitt et al. 2002; Sampson and Laub 1993). We believe, however, that our results have implications for populations of at-risk youth, in general, because low-income, urban males are at high risk to have contact with the juvenile and criminal justice systems (Ensminger and Juon 1998).

Perhaps the most important implication of our study is the contribution to prevention and intervention efforts. Previous research has found that youth-focused programs aimed at identifying future goals and increasing expectations to succeed can improve school attendance and engagement, as well as reduce problems at school (Danish 1997; Oyserman et al. 2002). Oyserman and colleagues, for example, worked with urban, Black middle school students on tasks such as imagining adulthood, considering the link between the present and future, and connecting current behavior with future attainment. Our findings suggest that it is also important to encourage youth to consider their social identities, which might include beliefs about the availability of educational and occupational opportunities and potential barriers to success in their communities. These discussions may be particularly meaningful for older adolescents who are entering an adult workforce in which finding a job will likely depend on the opportunities that are available in their communities (Mortimer et al. 2002). Educational success is strongly linked to future economic success, and understanding the determinants of school performance can help researchers, policy makers, and educators promote healthy adult outcomes among today's youth.

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