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Locating Economic Risks for Adolescent Mental and Behavioral Health: Poverty and Affluence in Families, Neighborhoods, and Schools

Rebekah Levine Coley, Ph.D.[a], **Jacqueline Sims, Ph.D.**[a], **Eric Dearing, Ph.D.**[a], and **Bryn Spielvogel**[a]

[a]Counseling, Developmental, & Educational Psychology, Boston College, 140 Commonwealth Ave, Chestnut Hill, MA 02467 USA, 617.552.6018

Abstract

Research has identified risks of both poverty and affluence for adolescents. This study sought to clarify associations between income and youth mental and behavioral health by delineating economic risks derived from family, neighborhood, and school contexts within a nationally-representative sample of high school students (N=13,179, average age 16). Attending schools with more affluent schoolmates was associated with heightened likelihoods of intoxication, drug use, and property crime, but youth at poorer schools reported greater depressive and anxiety symptoms, engagement in violence, and, for males, more frequent violence and intoxication. Neighborhood and family income were far less predictive. Results suggest that adolescent health risks derive from both ends of the economic spectrum, and may be largely driven by school contexts.

Keywords

Poverty; Affluence; Mental health; Health risk behaviors

Typical development is defined by healthy transitions through adolescence. Yet a substantial number of youth experience serious psychological distress or engage in risk behaviors such as substance use and delinquency, with the potential for sustained psychological, behavioral, and social problems in adulthood (Martin et al., 2010; Mason et al., 2010). Research has long pointed to family poverty as a risk factor for heightened mental and behavioral health problems among youth (Dearing, 2008), and recent reviews and meta-analyses reiterate these economic gradients, identifying small but persistent negative associations between family income or SES and adolescent depression, delinquency, and aggression (Letourneau, Duffet-Leger, Levac, Watson, & Young-Morris, 2011; Reiss, 2013).

Although much scholarship concentrates on developmental threats related to poverty, recent evidence suggests that affluence may also confer risk for adolescents. Innovative work by Luthar and colleagues has largely driven this argument (Luthar & Sexton, 2004; Luthar, Barkin, & Crossman, 2013; Rosin, 2015). A series of studies assessing youth in suburban

Please send all correspondence to: Rebekah Levine Coley, Ph.D., Counseling, Developmental and Educational Psychology, Boston College, 140 Commonwealth Ave., Chestnut Hill, MA 02467, Phone: 617.552.6018, Fax: 617.552.1981, coleyre@bc.edu.

affluent communities found heightened engagement in substance use and internalizing problems (particularly among girls) and sometimes heightened engagement in delinquency (particularly among boys) compared to national norms (Luthar & D'Avanzo, 1999; Luthar & Goldstein, 2008). The authors argued that numerous contextual stressors contributed to the elevated mental and behavioral health problems among affluent youth, including isolation from parents, excessive achievement pressures, and peer approval for risk behaviors.

Although this work was groundbreaking in drawing attention to risks for affluent youth, it was limited by its focus on a few affluent communities. Specifically, Luthar's initial work sampled youth from single schools within single communities, and assessed group differences in outcomes by categorizing youth in suburban, predominantly white communities with high median income as "affluent," and those in urban schools with many low-income and racial minority students as "inner-city" or "low SES" (see Luthar et al., 2013 for summary). Without a greater representation of communities from across the income distribution it was not possible to precisely identify points of risk or the functional form of associations (i.e., linear versus non-linear relations). Moreover, this approach limited generalizability and failed to disentangle the unique effects of affluence at family, community, and school levels. Because the economic contexts of families, neighbors, and schoolmates may all affect social norms of acceptable and unacceptable behaviors, provide resources or barriers to healthy development, and increase or buffer against stress, it is essential for research to consider their independent contributions to youth functioning.

Indeed, extensive evidence highlights the central role that neighborhood contexts play in adolescent development (see Leventhal, Dupéré, & Shuey, 2015 for review). Prior research finds that high levels of poverty (Haynie, Silver, & Teasdale, 2006; Wickrama & Bryant, 2003) or low levels of affluence (Beyers, Bates, Pettit, & Dodge, 2003) among families clustered within neighborhoods are associated with higher rates of depression and delinquency. Yet some recent work suggests the potential for deleterious consequences of higher neighborhood income. For example, Lund and Dearing (2013) found that neighborhood income was *positively* associated with delinquency among boys and internalizing symptoms among girls. Similarly, others have reported links between neighborhood disadvantage and *lower* rates of substance use among adolescents (Chuang, Ennett, Bauman, & Foshee, 2005; Snedker, Herting, & Walton, 2009). In the experimental Moving to Opportunity study, boys reported increased behavior problems and property crime following opportunities to move to less poor neighborhoods (Kling, Ludwig, & Katz, 2005; Sanbonmatsu et al., 2011), whereas there were benefits for girls' substance use and mental health outcomes (Gennetian et al., 2012; Kling, Liebman, & Katz, 2007).

Researchers also contend that the economic strata of schoolmates may affect youth mental and behavioral health outcomes, although empirical evidence in this area is more limited (see Crosnoe, 2009 for review). Some have argued that schools may, in fact, be a primary force behind some "neighborhood effects" (Lund & Dearing, 2013). Prior research has linked greater schoolmate income with heightened alcohol and drug use, although this research is limited in the use of proxies for school income, such as Census neighborhood measures aggregated to the school level (Botticello, 2009), or parental education (O'Malley, Johnston, Bachman, Schulenberg, & Kumar, 2006). Other research found negative links

between average schoolmate family income and youth depressive symptoms (Goodman, Huang, Wade, & Kahn, 2003).

From this base, we argue that it is essential to disentangle how the economic contexts provided by families, neighbors, and schoolmates are uniquely associated with youth mental and behavioral health outcomes. Moreover, we argue that the field would benefit from estimates that are more widely generalizable to the population, with the functional form of relations examined across the income distribution. In the current study, we examined a large, nationally representative sample of high school youth; considered unique associations between family, neighborhood, and school income and youth mental and behavioral health; and considered both linear and nonlinear income effects as well as several alternative specifications of income, broadly examining the full distribution in each of these economic contexts.

Method

Sampling and Data Collection

Data were drawn from youth, parent, and administrator interviews conducted in 1994–1995 and appended 1990 U.S. Census data from the National Longitudinal Study of Adolescent Health (Add Health). Drawing from the wave 1 in-home survey sample—a stratified, nationally representative sample of 7th through 12th graders across the U.S. (response rate of 79%)—the analytic sample included all participants in grades 9 through 12 attending high schools at wave 1 with valid survey weights and neighborhood and school identifiers (excluding 11 cases with cross-classification in school and neighborhood contexts), N = 13,179 youth in 76 schools.

Measures

Youth mental and behavioral health outcomes—Youth self-reported on their mental and behavioral health using well-validated measures, all coded such that higher scores indicate more severe symptomology or higher engagement. Measures included *depressive symptoms* (19 items from the CES-D, α = 0.87), *anxiety symptoms* (8 items representing physiological symptoms of anxiety, α =.71), *intoxication* (days per month), *illicit drug use* (use of marijuana, cocaine, inhalants, and other illegal drugs in past month, α = 0.63), *property crime* (stealing, burglarizing, or damaging property [0 “never” to 5 “5 or more times”] in the past year, α = 0.87), and *violence* (fighting and carrying, brandishing, or using a weapon [0 “never” to 2 “2 or more times”] in the past year, α = 0.67).

Family, neighborhood, and school income—*Family income* was derived from parent reports of total household income in the prior year. *Neighborhood income* was assessed by average household income in each Census block. Family income was aggregated to the school level to assess *school income* (all expressed in units of $10,000 in 1994 dollars). (See Alternate Model Specifications section for other variable operationalizations.) Income variables were only moderately correlated (r = 0.39 to 0.46), with adequate variability across contexts. For example, 20% of youth in the highest quintile of family income were in the bottom two quintiles of school income, whereas 17% were in the bottom two quintiles of

neighborhood income. Similarly, 10% of youth in the highest quintile of school income were in the lowest two quintiles of neighborhood income.

Covariates—Following expert advice (Leventhal et al., 2015), we controlled for key demographic factors and preferences to help adjust for selection bias into income strata at each level. Covariates included youth age, race and ethnicity, and number of household members; parent age (youngest), education (highest), marital status (never, previously, or currently married), immigrant status, and indicators reflecting parents' primary reason for living in their current neighborhood (either the quality of schools or neighborhood safety); and school urbanicity.

Sample characteristics—Youth averaged 16 years, 51% were female, 48% identified as White, 19% Black, 18% Hispanic, 8% Asian, 1% Native American, and 6% multiracial or other (Table 1). In 1994 dollars, family income averaged $45,600 dollars, school income $46,500, and neighborhood income $35,400. Eleven percent of the schools had average incomes more than twice the national household median, with the top two schools having incomes 3.5 and 4.3 times the national median (similar to suburban samples in Luthar's studies, which ranged from about 1.8 to 4 times the national median). On average, youth reported low levels of mental health symptoms and risk behaviors, with adolescent girls reporting slightly higher mental health problems (depressive and anxiety symptoms) than boys, and slightly lower behavior health problems, both in terms of a greater propensity to report 0 engagement and a lower frequency of engagement in intoxication, drug use, property crime, and violence.

Analytic Technique

Multilevel models, with standard error adjustments at the neighborhood level and with youth nested within schools, assessed associations between income and youth outcomes. Given research suggesting sex-specific vulnerabilities to risks associated with poverty and affluence (Kling et al., 2007; Lund & Dearing, 2013; Luthar & Latendresse, 2005a, 2005b), models were estimated separately by sex. Links with depressive and anxiety symptoms were assessed utilizing OLS regression models. Intoxication, drug use, property crime, and violence were overdispersed count variables with large proportions of zeroes. Thus, zero-inflated negative binomial models were estimated, which concurrently predict the odds of being a true zero as well as the predicted count for respondents who are not true zeroes. Initial models tested for nonlinear income effects at the family, neighborhood, and school level through inclusion of linear and quadratic income variables. Nonsignificant quadratics were cut for the sake of parsimony. All analyses included covariates and were conducted in Mplus 7.4 using the wave 1 grand sample weight and full information maximum likelihood estimation to provide unbiased parameter estimates and account for missing data (0 to 11.54%).

Results

Multilevel Regression Results

The top panel of Table 2 presents multilevel model results for girls. In 0-inflated negative binomial models, the exponentiated (ERR) zero-inflated coefficients are interpreted as the change in odds of having 0 engagement, while the exponentiated count coefficients are interpreted as the difference in level of engagement per unit shift in the predictor. For models predicting depressive and anxiety symptoms, we provide general linear regression estimates in the same panel as the count estimates. To ease interpretation of results, we translated coefficients into predicted values of the outcome variables at multiple points along the income distribution, reporting results for levels that approximate −1 SD, +1 SD, and +3 SDs from the mean (which translate to around the 13th, 89th, and 98th percentiles of each income distribution) to highlight both ends of the income distribution (see Table 3).

For girls, the most consistent results emerged in relation to school income, which was associated with all six outcomes. School income showed negative linear associations with girls' depressive and anxiety symptoms, with the highest levels of depressive and anxiety symptoms seen among girls in the lowest income schools. For example, predicted scores for depressive symptoms ranged from .80 for girls with average schoolmate income of $30,000 to .64 in schools with average incomes of $100,000, about 1/3 of a SD difference. School income also was linearly associated with a likelihood of 0 engagement in violence, indicating a higher likelihood of involvement in poorer schools. As the average schoolmate income rose from $30,000 to $100,000, predicted rates of engagement in violence dropped from 17% to 8%. On the other hand, linear associations between school income and the likelihood of 0 engagement in intoxication, drug use, and property crime all indicated a higher likelihood of engagement in more affluent schools. Considering girls at schools with mean incomes of $30,000 and $100,000, 29% and 45% reported intoxication; 13% and 22% reported drug use; and 22% and 28% reported property crime.

In contrast, family income was significantly associated with only one outcome among girls, with a negative linear association indicating the highest level of illicit drug use among users in poorer families: girls in families with $10,000 income reported 5.36 uses per month, lowering to 3.76 times per month in families with $150,000 income. Neighborhood income was significantly linked with only two outcomes with both associations following a nonlinear pattern: girls showed the highest level of property crime in upper-middle income neighborhoods (rising from 2.94 to 3.07 then dropping back to 2.77 incidents as neighborhood income rose from $20,000 to $50,000 to $80,000), but also the lowest likelihood of engagement in violence (decreasing from 16% to 13%, then rising back to 17% as neighborhood income rose).

Results for boys are presented in the bottom halves of Tables 2 and 3. Again, school income was the most common predictor of behavioral and mental health problems, having significant associations with five outcomes among boys. School income showed negative curvilinear associations with levels of depressive symptoms, and negative linear links with anxiety symptoms, with the highest levels in poorer schools. For example, depressive symptoms dropped from .65 to .55 to .48 as average school income increased from $30,000

to $65,000 to $100,000, more than 1/3 of a SD difference. Similarly, associations between school income and engagement in interpersonal violence indicted higher violence in poorer schools: as school income increased, the predicted likelihood of boys' involvement in violence dropped nonlinearly from 33% to 23% to 17%, and the frequency of engagement among engagers dropped linearly, from 1.73 to 1.52. Frequency of engagement in intoxication among boys also dropped linearly as school income increased, with average rates of 1.93 days to 1.45 days per month as school income rose from $30,000 to $100,000.

A different pattern emerged between school income and boys' likelihood of any engagement in intoxication and property crime. Associations indicated that the likelihood of any engagement was highest in affluent schools: rates of intoxication engagement rose linearly from 34% in poorer schools to 44% in more affluent schools, and engagement in property crime rose nonlinearly from 36% to 50% to 58%.

Some significant associations between family and neighborhood income and boys' behavioral health problems were also evident. Family income was positively associated with a heightened likelihood of intoxication and property crime, with rates of engagement in intoxication rising in a curvilinear fashion from 30% to 42% to 49%, and engagement in property crime rising linearly from 41% to 47% to 52% as family income shifted from $10,000 to $80,000 to $150,000. In contrast, a curvilinear association indicated that the highest rates of engagement in violence occurred among poor youth, with rates declining from 32% to 24% for boys in poor versus upper-middle class families, then remaining at 24% for affluent youth. Finally, neighborhood income showed small negative linear associations with levels of boys' depressive symptoms and likelihood of engagement in violence: as average neighborhood income rose from $20,000 to $80,000, boys' predicted engagement in violence declined from 30% to 20%, and depressive symptoms dropped from .62 to .53, a shift of 1/5 of a SD.

Additional Model Specifications

A number of additional model specifications were estimated to examine alternate measures of income. These included (1) variables assessing % affluent neighbors and % affluent schoolmates (delineated as 2.5 SDs above the national median household income) to better tap into affluence; (2) measures of family, neighborhood, and school SES, created by standardizing and averaging measures of family income, parental education, and parental job prestige at each level; (3) SES composites created using % affluent, % college degree, and % professional job variables at the neighborhood and school levels; and (4) models including only family income (excluding neighborhood and school). Results were generally consistent with those presented above, although in some models family income or SES gained significant negative associations with mental health outcomes.

Models also were estimated with students nested within neighborhoods rather than schools, again with similar results. We also assessed the full sample, including interactions between sex and family, neighborhood, and school income. About half of the connections between school income and behavioral health outcomes differed significantly between girls and boys, and hence we focus on the separate sex models. We also assessed interactions between youth age and family, neighborhood, and school income, as well as two-way interactions between

family, neighborhood, and school income: in both sets, no robust pattern of interactions emerged.

Discussion

Research has long pointed to family and community poverty as a risk factor for heightened behavioral and mental health problems. Yet scientists and the media have recently raised concerns over elevated levels of mental health problems, substance use, and delinquency among economically advantaged youth (Luthar & Sexton, 2004; Luthar et al., 2013; Rosin, 2015), pointing to extreme levels of competition, achievement stress, peer pressure, and social isolation created by a culture of affluence. However, much of the empirical evidence for such claims derives from research in a small number of schools populated by affluent children and located in affluent communities; hence this work was not able to discern whether associations were driven by family, neighborhood, or school contexts. Isolating the unique role of these three proximal contexts and explicitly testing for both linear and nonlinear connections between income and youth outcomes suggested by prior work were primary goals of the current study.

Using a nationally representative sample of high school youth, this research found risks associated with both poverty and affluence, with patterns varying by context, outcome, and youth gender. The primary pattern indicated that schoolmate income was by far the most consistent correlate of adolescents' mental and behavioral health outcomes, significantly associated with depressive and anxiety symptoms, intoxication, drug use, violence, and property crime. These results highlight the central role of schools and peers in driving social norms and expectations affecting mental and behavioral health (Crosnoe, 2009; Luthar et al., 2013).

However, patterns of associations with school income differed across arenas of functioning. School income was positively and mostly linearly associated with adolescents' likelihood of engagement in numerous risk behaviors, including intoxication, drug use, and property crime, with the highest likelihood of engagement seen among youth attending the most affluent schools. These results replicate and extend patterns delineated by Luthar and colleagues (1999; 2005; 2008; 2012), specifying that risk derives primarily from schools populated by affluent youth, rather than from adolescents' family or neighborhood income. In contrast, poorer schools served as a risk for other outcomes: levels of depressive and anxiety symptoms, the likelihood of engagement in interpersonal violence, and frequency of boys' intoxication and violence all declined as school income increased, again with mostly linear associations. Our results replicate prior research finding heightened rates of depressive symptoms or clinically significant levels of internalizing problems among youth from poor schools (Goodman et al., 2003; Lyman & Luthar, 2014). Yet these linear associations did not replicate other of Luthar's results finding heightened rates (in comparison to national norms) of clinically significant levels of internalizing problems in some affluent schools (e.g., Luthar & Barkin, 2012). Future work should seek to assess the specific processes linking school income with youth functioning and help decipher diverse patterns across mental and behavioral health outcomes.

In contrast to the results associated with school income, both family and neighborhood income showed relatively few links with youth outcomes, and results lacked a clear pattern, with the exception that higher family income was associated with a greater likelihood of engagement in intoxication, property crime, and violence among boys in a linear or curvilinear manner. Overall, however, few curvilinear associations emerged between family, neighborhood, or school income and youth outcomes. Moreover, patterns were generally consistent across younger and older high school students, and were robust to a variety of operationalizations of income and SES. In interpreting these results and comparing them to prior research, it is essential to recall that prior work often used samples at the very extremes of the income distribution: much research on neighborhoods, for example, has focused solely on high poverty, primarily African American urban neighborhoods (e.g., Kling et al., 2007), whereas Luthar's work focused primarily on affluent, mostly White suburban communities (Luthar et al., 2013). In addition to conflation of family, neighborhood, and school income, the roles of urbanicity and race and ethnicity are difficult to disentangle from poverty and affluence in this prior work.

The use of a large, representative national sample in this study allowed us to consider diverse youth across the U.S. Further research could explicitly address the potential for distinct associations between income and youth functioning across urbanicity, region, and race and ethnicity to consider the role of macroeconomic and cultural contexts (e.g., Votruba-Drzal, Miller, & Coley, 2016). Future research should also seek to replicate these results with newer national data (not currently available), as historical context may moderate these descriptive results, and should attend to potential long-term repercussions of adolescent economic contexts. It is also essential for additional research employing methodologies that allow causal interpretations. It is important to note, however, that correlational research that identifies descriptive patterns of risk, such as this, is essential: regardless of causal mechanisms, a precise identification of where risk lies across the income distribution is critical for science, policy, and practice with youth.

Beyond these cautions, this research, the first of which we are aware to assess the unique associations of family, neighborhood, and school income with youth health outcomes, suggests that school economic contexts are particularly important for youth well-being. Attending schools with higher-income schoolmates was associated with a heightened likelihood of engagement in substance use and property crime, whereas poorer schools were linked with elevated mental health problems and interpersonal violence, suggesting that risks are derived from both ends of the economic spectrum. Our findings challenge a disproportionate focus on the risks experienced by individuals from low-resource schools, and call attention to threats also associated with greater aggregate socioeconomic resources at the school level. As income inequality has grown and become more bifurcated and geographically concentrated in the U.S. (Pendall & Hedman, 2015), so too has the likelihood that youth are surrounded by peers in similar economic circumstances to themselves, perhaps increasing the risks associated with both poverty and affluence. These patterns heighten the relevance of our results for school-based programs and policies seeking to support mental and behavioral health among youth, with particular attention to local patterns of risks. Recent efforts in school-based "whole child," socioemotional learning, and positive youth development initiatives provide viable models (Durlak, Weissberg, Dymnicki, Taylor,

& Schellinger, 2011; Greenberg et al., 2003) in efforts to support the well-being of youth across the economic spectrum.

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Table 1

Sample Descriptives

	Females (n = 6,676)	Males (n = 6,503)
Dependent Variables		
Depressive symptoms	0.75(0.51)	0.59(0.43)
Anxiety symptoms	1.34(1.82)	0.91(1.31)
Intoxication % 0	68.01	63.66
Intoxication count	1.64(2.57)	3.17(4.66)
Illicit drug use % 0	84.27	80.37
Illicit drug use count	7.39(7.65)	12.27(12.23)
Property crime % 0	76.33	61.84
Property crime count	3.17(2.35)	3.95(3.16)
Violence % 0	85.20	72.02
Violence count	1.40(0.64)	1.76(1.18)
Income variables		
Family income ($10,000s)	4.59(3.45)	4.52(3.31)
Neighborhood income ($10,000s)	3.51(1.50)	3.57(1.54)
School income ($10,000s)	4.67(1.71)	4.62(1.79)
Covariates		
Age	16.12(1.58)	15.83(1.65)
White	48.02	48.19
African American	19.18	19.15
Hispanic	18.32	18.14
Asian	8.14	8.13
American Indian	0.79	0.81
Multiracial and other	5.67	5.58
Immigrant household	15.57	16.66
Parent age	42.15(5.98)	42.44(5.91)
Number of household members	2.50(1.54)	3.38(1.41)
Parent single	4.03	4.76
Parent previously married	28.91	27.58
Parent married	67.09	68.08
Parent < high school	12.24	13.43
Parent high school	34.02	35.42
Parent some college	19.31	18.02
Parent college degree or more	34.42	33.13
Moved to neighborhood for school	18.17	18.25
Moved to neighborhood for safety	17.72	17.71
Urban school	23.42	22.16
Rural school	19.53	20.17
Suburban school	57.05	57.67

Note: N = 13,179. Mean(standard deviation) or % reported in each cell. Depressive symptoms were reported in the past week, anxiety symptoms in the past year, intoxication and illicit drug use in the past month, and property crime and violence in the past year.

Table 2

Multilevel OLS and Zero-Inflated Negative Binomial Models Predicting Females' and Males' Mental and Behavioral Health

	Depressive Symptoms	Anxiety Symptoms	Intoxication	Illicit Drug Use	Property Crime	Violence
	Coef(SE)	*Coef(SE)*	*Coef(SE) ERR*	*Coef(SE) ERR*	*Coef(SE) ERR*	*Coef(SE) ERR*
Females						
Zero Inflated						
Family Income			−0.015(0.012) 0.985	0.005(0.017) 1.005	−0.006(0.014) 0.994	0.027(0.020) 1.027
Quadratic			--	--	--	--
Neighborhood Income			−0.052(0.031) 0.949	−0.033(0.034) 0.968	0.044(0.031) 1.045	0.074(0.051) 1.077
Quadratic			--	--	--	−0.027(0.007) 0.973**
School Income			−0.102(0.021) 0.903**	−0.084(0.018) 0.919**	−0.046(0.014) 0.955**	0.126(0.018) 1.134**
Quadratic			--	--	--	--
Count/GLM						
Family Income	−0.005(0.003)	−0.011(0.012)	−0.041(0.029) 0.960	−0.026(0.013) 0.974*	−0.002(0.006) 0.998	0.002(0.007) 1.002
Quadratic	--	--	--	--	--	--
Neighborhood Income	−0.009(0.007)	−0.005(0.032)	0.024(0.039) 1.024	−0.047(0.031) 0.954	0.015(0.023) 1.015	−0.011(0.018) 0.989
Quadratic	--	--	--	--	−0.008(0.004) 0.992*	--
School Income	−0.023(0.005)**	−0.022(0.009)*	0.001(0.024) 1.001	0.025(0.016) 1.025	0.012(0.010) 1.012	−0.004(0.011) 0.996
Quadratic	--	--	--	--	--	--
Males						
Zero Inflated						
Family Income			−0.080(0.018) 0.923**	−0.026(0.015) 0.974	−0.032(0.014) 0.969*	0.058(0.022) 1.060**
Quadratic			0.003(0.002) 1.003*	--	--	−0.004(0.002) 0.996**
Neighborhood Income			0.000(0.030) 1.000	0.001(0.037) 1.001	0.007(0.031) 1.007	0.082(0.031) 1.085**
Quadratic			--	--	--	--
School Income			−0.064(0.026) 0.938*	−0.024(0.018) 0.976	−0.168(0.045) 0.845**	0.155(0.044) 1.168**
Quadratic			--	--	0.011(0.004) 1.011**	−0.008(0.003) 0.992*
Count/GLM						
Family Income	−0.002(0.002)	−0.005(0.006)	−0.008(0.020) 0.992	−0.005(0.015) 0.995	0.005(0.007) 1.005	0.011(0.010) 1.011
Quadratic	--	--	--	--	--	--

	Depressive Symptoms	Anxiety Symptoms	Intoxication	Illicit Drug Use	Property Crime	Violence
	Coef(SE)	*Coef(SE)*	*Coef(SE) ERR*	*Coef(SE) ERR*	*Coef(SE) ERR*	*Coef(SE) ERR*
Neighborhood Income	−0.014(0.007)*	−0.009(0.016)	0.058(0.057) 1.060	−0.045(0.043) 0.956	−0.011(0.027) 0.989	−0.011(0.015) 0.989
Quadratic	--	--	--	--	--	--
School Income	−0.031(0.006)**	−0.027(0.007)**	−0.042(0.016) 0.959**	−0.006(0.012) 0.994	−0.030(0.035) 0.970	−0.019(0.006) 0.981**
Quadratic	0.002(0.000)**	--	--	--	--	--

Note: Female n = 6,676; Male n = 6,503. *Coef* = Coefficient, *SE* = Standard Error, *ERR* = Event Rate Ratio.

* $p < .05$,

** $p < .01$.

All analyses controlled for youth age, race/ethnicity, and number of household members; parental age, immigrant status, marital status, education, and neighborhood selection preferences; and school urbanicity. Depressive symptoms were reported in the past week, anxiety symptoms in the past year, intoxication and illicit drug use in the past month, and property crime and violence in the past year.

Table 3

Predicted Values of Outcomes for Significant Family, Neighborhood, and School Income Effects

	Depressive Symptoms	Anxiety Symptoms	Intoxication	Illicit Drug Use	Property Crime	Violence
Females						
Probability Engagement						
Neighborhood Income						
$20,000			--	--	--	16.23%
$50,000			--	--	--	13.37%
$80,000			--	--	--	17.00%
School Income						
$30,000			29.25%	13.37%	22.07%	16.75%
$65,000			36.94%	17.06%	24.89%	11.56%
$100,000			45.37%	21.51%	27.95%	7.83%
Count/Level						
Family Income						
$10,000	--	--	--	5.36	--	--
$80,000	--	--	--	4.49	--	--
$150,000	--	--	--	3.76	--	--
Neighborhood Income						
$20,000	--	--	--	--	2.94	--
$50,000	--	--	--	--	3.07	--
$80,000	--	--	--	--	2.77	--
School Income						
$30,000	0.80	1.37	--	--	--	--
$65,000	0.72	1.29	--	--	--	--
$100,000	0.64	1.22	--	--	--	--
Males						
Probability Engagement						
Family Income						
$10,000			29.53%	--	41.17%	32.09%
$80,000			41.93%	--	46.53%	24.16%

	Depressive Symptoms	Anxiety Symptoms	Intoxication	Illicit Drug Use	Property Crime	Violence
$150,000			48.52%	--	51.96%	23.71%
Neighborhood Income						
$20,000			--	--	--	29.59%
$50,000			--	--	--	24.62%
$80,000			--	--	--	20.24%
School Income						
$30,000			33.80%	--	36.19%	33.08%
$65,000			38.85%	--	50.18%	22.54%
$100,000			44.16%	--	58.04%	17.12%
Count/Level						
Neighborhood Income						
$20,000	0.62	--	--	--	--	--
$50,000	0.57	--	--	--	--	--
$80,000	0.53	--	--	--	--	--
School Income						
$30,000	0.65	0.96	1.93	--	--	1.73
$65,000	0.55	0.87	1.67	--	--	1.62
$100,000	0.49	0.78	1.45	--	--	1.52