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Dimensions of adolescent rebellion: Risks for academic failure among high- and low-income youth

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Abstract

The central question addressed in this study was whether upper class, suburban teenagers can engage in various problem behaviors and still maintain adequate academic grades, because of environmental safety nets, unlike their low-income, inner-city counterparts. Three problem behavior dimensions were assessed among tenth graders, that is, substance use, delinquency, and low school engagement. Academic achievement was assessed in terms of grades across four major subjects. Variable-based analyses indicated unique links with grades for self-reported delinquency and school disengagement in high- and low-income samples, but for substance use only among the former. Person-based analyses showed that in both schools, grades were clearly compromised among youth with disturbances in all three problem domains. In addition, in the suburban school only, grades were low in the cluster characterized chiefly by high substance use. Results are discussed in terms of stereotypes regarding risks (or lack thereof) stemming from families' socioeconomic status; implications for theory and interventions are also considered.

In this study, the central objective was to explore the degree to which adolescent problem behaviors might have ramifications for academic grades in the context of affluent suburbia as opposed to inner-city poverty. On the one hand, there is some evidence that upper socioeconomic status (SES) youth can report as much maladjustment as their inner-city counterparts (if not more so) in areas such as delinquency and substance use. On the other hand, some have suggested that such behavior disturbances are unlikely to have any real ramifications for wealthy teens unlike their poor counterparts, given their vastly greater access to environmental safety nets. Exploration of this issue, vis-à-vis the outcome domain of academic grades, is at the heart of this paper. In discussions that follow, we outline the progression of research findings that culminated in questions addressed in this study.

Prior Evidence of Behavior Problems Among Affluent Teenagers

In the developmental psychopathology literature, evidence of high problems among affluent youth first appeared in research on substance use among teens from disparate sociodemographic backgrounds (Luthar & D'Avanzo, 1999). In preliminary descriptive analyses, the affluent, suburban students in this study were found to manifest surprisingly high maladjustment relative to the low-income, urban sample. To illustrate, they reported

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significantly higher levels of using cigarettes, alcohol, marijuana, and other illicit drugs; they were also less likely to have abstained from substance use of any kind. Furthermore, they indicated equally high levels of delinquency as did youth in urban poverty, on an instrument encompassing incidents of theft, lying and cheating, destruction of property, and violence toward others (Self Report Delinquency; Elliot, Dunford, & Huizinga, 1987).

Although these behaviors are deviant by society's standards, whether they necessarily represent high personal pathology in all adolescents is open to question. During the teen years, rebellion against adults' rules and expectations is developmentally normative to some degree, with youth from disparate backgrounds drawn to behaviors such as experimenting with substance use and delinquent acts (see Moffitt, 1993; Moffitt, Caspi, Rutter, & Silva, 2001; Shedler & Block, 1990; Zucker, Fitzgerald, & Moses, 1995). It is true that such behaviors are signs of personal maladjustment among some youngsters, but they also occur among some who are apparently psychologically healthy and socially competent. Studies have shown that behaviors such as disruptiveness, substance use, and repudiation of academics are linked with maladjustment indices such as depression, anxiety, and peer rejection, but each has also been associated with *high* status in the adolescent peer group in low- as well as high-income samples (Coie & Jacobs, 1993; Farmer, Estell, Bishop, O'Neal, & Cairns, 2003; Fordham & Ogbu, 1986; Graham, 1997; Luthar & Becker, 2002; Luthar & McMahon, 1996; Major, Spencer, Schmader, Wolfe, & Crocker, 1998; Rodkin, Farmer, Pearl, & Van Acker, 2000; Spencer & Dornbusch, 1990).

Similarities in such patterns across economic contexts do not, however, translate into comparable potential for overall damage to the young person's life. Reviewing evidence on this issue, Luthar and Burack (2000) acknowledge that rebellious behaviors may occur equally often among teens from rich and from poor families, and peers may even applaud these across both contexts; however, the negative "spillover" effects will likely vary according to protective resources available. "Affluent adolescents tend to have access to resource-rich schools, good psychotherapists, and parents and teachers all strongly invested in pulling them toward conforming to mainstream mores" (Luthar & Burack, 2000; pp. 40). For these youth, therefore, occasional lapses into adolescent-limited delinquency (Moffitt, 1993) could be relatively benign, with most incipient behavior problems efficiently prevented from proliferating (Luthar, 2003a; Luthar & Latendresse, 2002; see also White, Bates, & Labouvie, 1998).

By contrast, inner-city children drawn into antisocial behaviors can confront relatively few external forces that will rein them back toward mainstream conventional conformity (Luthar & Burack, 2000). Quite to the contrary, vulnerability can be exacerbated by other risks of life in chronic poverty, including resource-poor schools, overworked and often demoralized teachers, and social and geographic segregation from mainstream society (Garcia Coll, Lamberty, Jenkins, McAdoo, Crnic, Wasik, & Vasquez Garcia, 1996; Luthar, 1999; Richters & Cicchetti, 1993; Stipek, 1997). Viewed from organizational, transactional perspectives (Cicchetti & Schneider-Rosen, 1984; Sameroff & Fiese, 2000; Sroufe & Rutter, 1984), it is therefore plausible that overall repercussions of rebellious behavior patterns can, in fact, be less serious for highincome, suburban youth than for their lowincome, urban counterparts.

In assessing whether adolescent problem behaviors do, in fact, jeopardize functioning in any critical way, a particularly appropriate outcome domain to consider is academic grades. In contemporary American society, grades obtained during the high school years are important in relation to overall life trajectories (Cicchetti & Rogosch, 2002; Dryfoos, 1990; Tuma & Geis, 1995). In upwardly mobile, suburban communities, furthermore, success at school is a dimension of particularly great importance to the minds of most adults, being seen as highly determinative of eventual acceptance at the more selective colleges (which in turn, are perceived as gateways to long-term success; Luthar, 2003a; Luthar & Latendresse, 2002). Accordingly, in exploring whether deviant behaviors might “matter” at all for the lives of affluent youth, we considered grades across the four primary subjects in high school as the outcome of interest. Parallel analyses were conducted with the low-income, inner-city students; details of the analytic strategy used are outlined in the section that follows.

Operationalizing Problem Dimensions: Approach to Analyses

We examined **three categories of problem dimensions** that commonly cluster during adolescence (Allen, Leadbeater, & Aber, 1990; Jessor, 1998; Turbin, Jessor, & Costa, 2000), that is, **substance use, delinquency, and low academic engagement**. For the first, effects were considered for the three major substances known to be used with some frequency among adolescents in general (Bryant, Schulenberg, O'Malley, Bachman, & Johnston, 2003; Crawford, Pentz, Chou, Li, & Dwyer, 2003; Windle & Windle, 2001) and among these groups in particular (Luthar & D'Avanzo, 1999): cigarettes, alcohol, and marijuana. The three were considered separately in view of increasing suggestions that there can be differences in the major antecedents and consequences of each (Bryant & Zimmerman, 2002; Crawford et al., 2003; Ellickson, Bui, Bell, & McGuigan, 1998; Lloyd-Richardson, Papandonatos, Kazura, Stanton, & Niaura, 2002; Newcomb, Abbott, Catalano, Hawkins, Battin-Pearson, & Hill, 2002; Stice & Shaw, 2003).

Delinquency was operationalized in terms of the total frequency of various deviant behaviors ranging from truancy at school to violence intending serious injury. Behaviors involving substance use were not considered while computing overall delinquency scores in this study, to avoid redundancy with the three substance use indicators previously listed (see Methods section for more details).

We also considered two problem dimensions manifested specifically in the school setting: low academic motivation and aggressive–disruptive behaviors at school. As Lynam, Moffitt, and Stouthamer-Loeber (1993) note, adolescents' academic achievement levels are closely tied in with their levels of attachment to school and their commitment to conventional lines of action. Youngsters with poor grades are often those who have negative attitudes toward school, manifested in desultory attitudes to achievement as well as oppositional, disruptive patterns of behavior (see also Fergusson & Horwood, 1995; Hinshaw, 1992; Janosz, Le Blanc, Boulerice, & Tremblay, 2000; Kazdin, 1995). Accordingly, we considered low academic motivation and disruptiveness at school among the problem behavior dimensions.

Assessment of these various problem dimensions was based in a multimethod, multiple informant strategy. Substance use and delinquency were assessed via students' self-reports, as

is commonly done in research on illegal, often covert behaviors (see www.monitoringthefuture.org; Loeber, Wung, Keenan, Giroux, Stouthamer–Loeber, Van Kammen, & Maughan, 1993). By contrast, behaviors reflecting low academic effort and disruptive behaviors were assessed via teachers' reports, such that we had adults' perspectives of students' defiance of regulations at school. School grades across all academic subjects, which comprised the outcome domain of interest, were directly obtained from official school records.

In terms of data analyses, central questions were addressed via both variable- and personbased strategies, as is increasingly common in research on risk and resilience (see Luthar, 2003b; Luthar, Cicchetti, & Becker, 2000; Muthén & Muthén, 2000; von Eye & Bergman, 2003; Weir & Gjerde, 2002). In the former, all six problem behavior dimensions were considered simultaneously in multivariate analyses, allowing us to ascertain effects that were relatively specific to particular problems in each socioeconomic setting rather than those reflecting overall deviance proneness (Stattin & Magnusson, 1996).

Person-based analyses were used to explore the ramifications of *coexisting* problem behaviors. Whether or not each of the problem dimensions considered carries significant risks for academic problems, their coexistence is likely to connote high vulnerability. Magnusson and colleagues have established that problem behaviors tend to gravitate in a small minority of adolescents, and that it is these multiproblem youth who tend to be most vulnerable to serious maladjustment (Bergman & Magnusson, 1997; Magnusson, 2000; Magnusson & Bergman, 1990; Stattin & Magnusson, 1996). Similarly, long-term longitudinal research by Ensminger and Joun (1998) revealed that the cluster of most maladjusted adults (age 32 years) had exhibited the most problem behaviors and school disengagement at time of assessment as adolescents (see also Loeber, Farrington, Stouthamer–Loeber, & Van Kammen, 1998).

In implementing person-based data analyses, our approach followed methods used in previous research (e.g., Farmer et al., 2003; Luthar & McMahon, 1996). The strategy was to (a) first derive clusters of students based on disturbances on the six problem behavior indices, (b) establish the validity of these clusters using adjustment outcomes measured by disparate sources of data (in this case, peer ratings, as problem clusters were defined by teacher and self-ratings), and then (c) examine the degree to which the clusters differed in academic grades.

In both variable and person-based analyses, we also considered the possibility of gender differences in the associations of interest. Several studies have shown that the ramifications of problems such as substance use or delinquency can differ among males versus females (e.g., Ensminger & Joun, 1998; Loeber & Stouthamer–Loeber, 1998; Luthar & D'Avanzo, 1999; Pedersen, Mastekaasa, & Wichstrom, 2001). Accordingly, we included a series of interaction terms in the multivariate regressions (i.e., gender by each problem behavior), and also examined cluster by gender interactions in the person-based analyses.

To summarize, then, the focus of this study was on possible ramifications of different problem behaviors for academic grades of highincome, suburban adolescents, compared to

low-income, urban youth. Problem behaviors considered were those that commonly coalesce in adolescence: the use of cigarettes, alcohol, and marijuana; delinquent acts; low engagement with school; and aggressive, disruptive behaviors. The goal was to ascertain whether in fact affluent high school students, who are ostensibly buffered by many environmental safety nets unlike their inner-city counterparts, can indulge in such problem behaviors with negligible repercussions reflected in their high school academic grades. Variable-based analyses were intended to illuminate the unique contributions of each problem behavior in both socioeconomic settings, and person-based analyses to determine whether youth with coexisting behavior problems had significantly lower grades than those with one or none of these problems.

Method

Sample

This study is part of a larger inquiry assessing adjustment in suburban and urban youth (see Luthar & D'Avanzo, 1999, for further details on the sample). Participants in this study included 488 10th-grade high school students drawn from different communities in the North East. Two hundred sixty-four of these students were from a suburban high school (144 female, 120 male), and 224 (123 female, 101 male) were from an inner-city suburban school. Among the suburban students, 82% were of Caucasian ethnicity and 18% were minority, with 1% African American, 3% Latino, 8% Asian, and 6% other. By contrast, 13% of the inner-city students were Caucasian and 87% were minority, with 41% African American, 31% Latino, 7% Asian and 8% other.

The two schools chosen for the original comparative study (Luthar & D'Avanzo, 1999) were selected with a view toward capturing both ends of the SES spectrum. The suburban cohort came from a community where families not only had high household incomes but were also very well educated. According to census data, the median household incomes for the three towns served by the suburban school ranged from \$78,365 to \$102,121, and between 24 and 37% of adults over 25 years held graduate or professional degrees, which is over eight times the national average of 3% (for more details, see Luthar & Sexton, in press). In each of these towns, furthermore, the percentage of people receiving public assistance was 1.5% or less. By contrast, for the low-income school in this study, census data showed that the township had a median household income of \$34,658 and graduate or professional degrees were held by 4.6% of the over 25 population. Approximately 8% of the urban township received public assistance.

At the school level, socioeconomic disparities were evident in the proportion of students eligible for school lunches, which were 1 and 86%, respectively. Moreover, in a statewide survey of public schools implemented around the same time, the suburban school was placed second highest of nine categories of school districts grouped by family SES, and the inner-city school placed in the lowest of the nine categories (Beuhring, Saewyc, Stern, & Resnick, 1996).

Measures: Academic grades

For both sets of students, school records were used to obtain final semester grades for four core subjects: English, math, social studies, and science. Each school sampled provided a grade conversion matrix that enabled comparison of grades across classes of different difficulty levels. As in prior research with these schools (Luthar, 1995; Luthar & D'Avanzo, 1999), all four grades were entered using the conversion matrices and then were averaged across subject and standardized within school. The internal consistency of grades across the four core subjects was .87 for the inner-city school and .90 for the suburban school.

Measures: Problem behavior dimensions

Substance use—Drug use was measured using a grid adapted from the Monitoring the Future Study (Johnston, O'Malley, & Bachman, 1984). Students were asked to indicate the number of times (from *never* to *40+*) they used specific substances during the preceding year. The substances included in the measure were cigarettes, alcohol, marijuana, inhalants, LSD, crack, and cocaine. The psychometric properties of this measure have been sufficiently documented (Johnston, Bachman, & O'Malley, 1989; Luthar & D'Avanzo, 1999). Measures of internal consistency for the inner-city and suburban adolescents across the three drug variables used in this study (cigarettes, alcohol, and marijuana) were .85 and .83, respectively, in the suburban and inner-city samples. (Frequencies of use for the other substances were too low to permit their individual consideration in this study.)

Delinquency—The Self-Report Delinquency Checklist (SRD; Elliot et al., 1987) was administered to gauge delinquent behaviors within the contexts of home, school, and community. The SRD assesses the seriousness of delinquent acts via a 4-point scale anchored by *never* and *very often: five or more times per year*. To prevent overlap with our measures of substance use, we omitted 6 of the 37 items that pertained to drug-related behaviors in computing the overall delinquency score (e.g., used alcohol, been drunk in a public place; sold marijuana). Acceptable reliability and validity have been reported (Huizinga & Elliot, 1986). Internal consistency coefficients for suburban and inner-city adolescents in this study were .90 and .89, respectively.

Academic disengagement—Two relevant subscales of Teacher–Child Rating Scale (TCRS; Hightower, Work, Cowen, Lotyczewski, Spinell, Guare, & Rohrbeck, 1986) were used to operationalize disengagement from school. The first encompasses *low academic motivation* with the following six dimensions (rated on a 5-point scale): is underachieving; has poor work habits; has poor concentration, has a limited attention span; has difficulty following directions; is poorly motivated to achieve; and has low capacity for learning academic subjects. The second subscale gauges students' *disruptiveness in the classroom*, as assessed by the following items: is disruptive in class; is fidgety, has difficulty sitting still; disturbs others while they are working; constantly seeks attention; is overly aggressive to peers (fights); is defiant, obstinate, stubborn. In both schools, scores on these subscales were standardized by the teacher to account for varying levels of stringency across teachers. The psychometric properties of the T-CRS have been well documented (Hightower et al., 1986; Luthar & D'Avanzo, 1999). In this study, α coefficients for low academic motivation were .

.93 and .96 for suburban and inner-city youth, respectively, and for classroom disruptiveness, values were .90 and .94, respectively.

Measures: Peer ratings used to validate problem behavior clusters

To examine the validity of clusters to be derived based on self- and teacher-reported problem behaviors, we used peer ratings on both negative and positive dimensions. These ratings were obtained via an adapted version (Luthar & Feldman, 1998) of the Revised Class Play (Masten, Morison, & Pellegrini, 1985), a measure in which students are asked to nominate their classmates into roles reflecting specific behaviors. Participants were provided a list of students in their respective English classes and were asked to pick up to three names per role; similar procedures were used to obtain nominations for whom they liked most and whom they liked least. To examine cluster validity, we used four items all conceptually related to the problem behaviors being examined. Two of these items were negative in valence, *Aggressive* (“someone who picks on others”) and *Rejected* (“Liked least”),¹ and two were positive, *Helpful* (“someone who helps others”) and overall status as a *Good Student* (“someone who is a good student”).

For each student, the total number of nominations received per item were added, and these totals were standardized to account for classroom size differences. The reliability and validity of such peer nominations have been amply documented (Coie, Dodge, & Coppotelli, 1982; Luthar & McMahon, 1996; Masten et al., 1985). In this study, evidence for acceptable psychometrics is seen in the strong correlations among conceptually related peer ratings displayed in Table 1 (e.g., between Helpful and Good Student; Aggressive and Liked Least).

Procedure

In each school, measures were group administered to students over the span of two class meetings. All questions were read aloud in order to minimize participant differences in reading ability. A \$3 incentive was given to students who participated, and English teachers who completed the T-CRS were reimbursed \$1 for each student rated.

Results

Descriptive data

Means and standard deviations of all problem behaviors, separated by gender and school, are presented in Table 2. Gender differences were apparent on several indices, with girls invariably showing more positive outcomes than boys. With regard to school differences, as was reported by Luthar and D'Avanzo (1999), suburban students in this cohort reported significantly more substance use than the inner-city students, with the differences consistently observed across all three indicators: frequency of using cigarettes, alcohol, and marijuana. On the other three problem indices, however, mean scores were statistically comparable in the two schools.

¹Although we measured peer acceptance as well, this was not considered appropriate to validate clusters in this study because of prior evidence that it can be linked with aggressive behaviors in addition to prosocial ones (Luthar & McMahon, 1996). Rejection, on the other hand, is more cleanly linked with disruptive and aggressive behavior profiles and it is unrelated to prosocial ones.

As suggestions of comparable problem behaviors among youth at the SES extremes are at odds with what is widely believed, we considered this issue more closely. Of the three problem indices apparently equivalent across schools (low motivation, disruptiveness, and delinquency) any inferences about the first two would admittedly be complicated by the possible reference group effects in teachers' ratings. In other words, statistical equivalence cannot be assumed to reflect identical behaviors patterns among high- and low-income students, because teachers' perceptions of any student as being well or poorly behaved are probably relative to patterns routinely observed in their own schools (see Heine, Lehman, Peng, & Greenholtz, 2002).

Self-reported delinquency scores, on the other hand, do not entail such relative judgments but rather involve teenagers' own reports of whether they engaged in discrete behaviors during a given time period. As our data showed that these relatively "objective" scores were comparable among wealthy and poor teens, we conducted exploratory analyses to ascertain whether the two groups might have endorsed different types of delinquent behaviors. A multivariate analysis of variance conducted on SRD items considered individually did yield an overall significant effect for school (F , Wilks' λ , = 5.003, $p < .0001$). Further examination showed that the urban youth had mean scores that were significantly higher than their suburban counterparts ($p < .01$) on two sets of items, those involving physical aggression, and school truancy/suspension (i.e., carrying a weapon, attacking someone with the intention of seriously hurting them; gang fights; hitting or threatening to hit another student; hitting or threatening to hit a teacher; skipping school; being suspended). On the other hand, suburban students had significantly higher scores on five items, several pertaining to stealing (stealing money from parents or siblings; stealing something from school such as someone's coat; asking for money or things from strangers); they were also higher on physical aggression to parents and on lying about age to get in somewhere (e.g., an X-rated movie), or to buy something. Mean scores were comparable across contexts on all other SRD items (i.e., pertaining to destruction of property, public rowdiness, or getting away with not paying for things such as movies or bus rides).

Intercorrelations among all variables separated by gender and city are located in Table 1. As expected, the correlations of academic grades with the problem behavior indices were generally moderately strong and in expected directions.

Hierarchical regression analyses

Hierarchical regression analyses were used to ascertain the relative unique contributions of each problem behavior to academic grades, with both gender and ethnicity controlled for at the outset. Among suburban teens, significant unique effects were found for low academic motivation, delinquency, and cigarette use (see Table 3), with R^2 change (ΔR^2) values of .09, .02, and .06, respectively. In the inner-city cohort, unique effects were found for the first two of these three predictors ($\Delta R^2 = .06$ and .02, respectively).²

²In exploratory analyses, we also considered internalizing symptoms as a possible confound in the associations found (e.g., operating as a third variable sharing variance with predictors and outcomes). Even after controlling for depressive and anxiety symptoms (see Luthar & D'Avanzo, 1999, for measurement details), findings in Table 3 essentially remained the same.

To determine if there were any gender differences in links between problem behaviors and grades, a series of six interaction terms (e.g., Gender \times Problem behavior) were also examined in regression analyses, following all main effects. The block of interaction terms was not significant for either sample, and thus was not explored any further.

As the strongest effects in both samples were those involving low academic motivation (Table 3), supplementary analyses were conducted to rule out confounds due to domain overlap. In other words, the items of this subscale included two items that could connote low ability rather than low effort (underachieving and low ability for learning academic subjects), and it was plausible that these items largely contributed to the overall links found with poor grades. More finegrained analyses, however, showed significant links for the various items connoting lack of effort such as poor work habits, difficulty following directions, and poorly motivated to achieve.

Cluster analysis

In both schools, K-means cluster analysis was used to examine the ramifications of multiple problem behaviors on academic grades. The six problem behavior variables were used as the grouping variables. As in previous research (e.g., Luthar & McMahon, 1996), all grouping variables were standardized ($M = 0$, $SD = 1$) to eliminate biases due to differences in the unit of measurement across variables. Three to seven clusters were requested, and a four cluster solution best fit the data. Requests for more than four clusters only resulted in splintering of the four core groups, which did not benefit the analyses. Separate cluster analyses were executed for both schools and in both cases, four clusters emerged that were largely similar in composition. Clusters were also generated separately by gender and results were virtually identical among boys and girls within each school. Consequently, clusters were generated based on the whole sample for each school, and the following groups emerged (see Table 4): (a) *Conventional* students who were low on all problem indices examined; (b) *School Disengaged* youth who were distinguished primarily by high levels of both school disengagement indices; (c) *Drug Users* who were high on use of all three substances; and (d) *Multiproblem* teens who showed elevations on both school disengagement variables, all three drugs, as well as delinquency.

As the clusters were created based on teacher and self-ratings, the validity of the cluster structure was then examined based on ratings by peers on four conceptually related domains. Results are shown in Table 5. As indicated in this table, significant group differences existed on all four peer ratings: Aggressiveness, Helpfulness, Good Student, and Liked Least. There were no significant Cluster \times Gender interactions for the innercity school, but there were two for the suburban sample; these were on Aggressiveness $F(3, 240) = 2.59$, $p < .05$, and Liked Least, $F(3, 240) = 3.32$, $p < .02$. As seen in Table 5, values on both these variables were higher among girls in the multiproblem group than among boys.

We then examined the question of substantive interest, that is, whether groups clustered according to problem behaviors would differ on academic performance. As expected (see Table 5), differences between clusters on academic grades was significant at $p < .0001$ in both schools (the Cluster \times Gender interaction term was not significant in either school). Follow-up post hoc analyses were conducted with a p value set to .008 using Bonferroni

corrections (.05 divided by six group comparisons). Results showed that in the suburban sample, both the Multiproblem cluster and the Drug Use cluster differed significantly from the Conventional group. In the inner-city cohort, by contrast, only the Multiproblem students had significantly poorer grades than the Conventional cluster.

Discussion

Developmental scientists commonly conceive of youth from high- and low-income families as being at low risk and high risk, respectively, but our findings indicate more similarities than differences in the ramifications of problem behaviors for a critical adjustment domain: academic grades during high school. In variable-based analyses, we simultaneously considered use of cigarettes, alcohol, marijuana, and frequency of delinquent behaviors (all self-reported), and low academic motivation as well as high disruptiveness at school (both teacher rated). Among high-income suburban youth and low-income urban teens alike, strong unique associations were found for teacher-rated lack of academic motivation. Also common to both cohorts were findings of unique effects, although more modest in magnitude, for delinquent behaviors. Person-based analyses revealed a third common trend: that teenagers who simultaneously manifested high disturbances in all problem areas were at pronounced risk for academic failure in both schools.

Associations involving one problem domain were found to differ by context (substance use) with risk for poor grades apparent among the affluent but not inner-city cohort. Specifically, variable-based analyses revealed significant effects for the use of cigarettes (but not alcohol or marijuana) among high-income students. Similarly, person-based analyses showed that in the suburban sample, the cluster of students distinguished by high use of all three substances had significantly lower grades than did the conventional group. Each of these findings is discussed in turn.

Common themes across contexts: School disengagement, delinquency, and coexisting problems

Multivariate analyses in this study showed that among suburban and urban students alike, one of the teacher-rated indicators of disengagement, lack of academic motivation, had the largest unique effect sizes of all six problem indices examined, accounting for 9 and 6% of variance among suburban and urban youth, respectively. The salience of this construct across economic settings probably reflects the fact that it is so proximal to the outcome domain. All things considered, adolescents who do not try hard at school are more likely to get poor grades than are those who smoke, drink occasionally, or engage in some delinquent acts.

Although perhaps unsurprising in this respect, the findings on school disengagement cannot be dismissed as altogether unremarkable for they fly in the face of commonplace assumptions about high versus low SES groups. Whereas open repudiation of school work has often been noted among youth in poverty (see Fordham & Ogbu, 1986; Graham, Taylor, & Hudley, 1998; Luthar, 1995; Norman, Ault, Bentz, & Meskimen, 2001; Ogbu, 1991), errant teens in upwardly mobile, achievement-oriented communities are believed to be efficiently shepherded back to academic conformity by a bevy of concerned adults (Luthar,

2003a; Luthar & Latendresse, 2002, 2005; Luthar & Sexton, 2004). Contrary to such presumptions, our findings showed that in *both* communities studied, there were a sizable number of teenagers whose behaviors showed manifest disinterest in academics as well as disruptiveness in class.

In recent years, there have, in fact, been some other research findings that are consistent with our own. In a comparative study of middle school students at the two socioeconomic extremes, Becker and Luthar (2004) found that “good students” enjoyed high peer status in both suburban and urban settings; **by contrast, it was only the high-income youth who admired peers seen as “bad students.”** Similarly, contradicting assumptions that low-income, minority youth disdain academics, Spencer and her colleagues found a clear value for school and high academic performance among low-income African American middle school students (Spencer, Noll, Stoltzfus, & Harpalani, 2001; see also Ainsworth–Darnell & Downey, 1998; Cook & Ludwig, 1998). In sum, then, there are increasing suggestions that flagrant lack of interest in school can occur among the wealthy just as it does among the poor, and the findings of this study extend this literature in suggesting that in both cases, this can spell significant risk for substandard academic grades.

Results from the variable- and person-based analyses, considered collectively, are informative in understanding the substantive implications of manifest disinterest in school, indicating that (a) whereas this is clearly a strong risk factor for poor grades across economic settings, (b) this risk effect is driven mostly by youth with multiple problem behaviors. To reiterate, previously discussed variable-based analyses had shown that when considering the “pure” effects of each of these deviant behaviors (Stattin & Magnusson, 1996), lack of motivation had the strongest unique effects. On the other hand, cluster analyses showed that this low motivation occurred in two distinct clusters, one of which manifested high delinquency and substance use (the Multiproblem group) while the other did not (School Disengaged), and only the former had grades far below the average. Together, these findings indicate that the overall vulnerability effects found for the low motivation variable were driven largely by the multiproblem youth. Stated differently, the data suggest that if manifest disinterest in school occurs largely by itself, grades may suffer relatively modestly; but if it occurs along with substance use and delinquency, risk for academic failure is high, and this holds true regardless of levels of family wealth.

Delinquency was the second problem dimension on which urban and suburban students reflected some similar patterns, and our findings resonate with Moffitt's (1993) views on adolescent conduct problems. Results showed that teens in both schools reported comparable levels of overall delinquent behaviors. A more in-depth exploration of specific behaviors showed some clear variations by context, wherein the urban students endorsed some behaviors (e.g., physical fights or carrying weapons) that could conceivably be invoked in self-defense within high crime, dangerous neighborhoods (Beyers, Loeber, Wikström, & Stouthamer–Loeber, 2001; Luthar, 1999; Richters & Cicchetti, 1993; Swanson, Spencer, Harpalani, Dupree, Noll, Ginzburg, & Seaton, 2003). The suburban youth, by contrast, endorsed higher levels of petty theft, which is unlikely to be because of real financial exigencies, suggesting that there could, in fact, be a draw toward some breaking of the boundaries and rules even among these ostensibly privileged youth.

Are there consequences to these sundry delinquent behaviors? The data suggest there are, but once again, generally if they occur with other problems. At least in terms of contemporaneous academic performance, person-based analyses again showed that the vulnerability effects of delinquency largely derived from the multiproblem group, that is, those high on substance use and delinquency, and also disengaged from school. Again, our findings on urban teens with multiple problems are not surprising in view of prior evidence on these youth (see Jessor, 1998; Loeber, Stouthamer-Loeber, Farrington, Lahey, Keenan, & White, 2002). On the other hand, the results on affluent adolescents are noteworthy in indicating that, regardless of the resources allegedly available to them (Luthar, 2003a; Luthar & Burack, 2000), a nontrivial proportion of suburban teenagers (1 of every 10 in this sample) manifest high disturbance across multiple domains; further, these multiproblem youth clearly reflect significant concurrent risk for poor grades during the high school years.

An interesting aspect of the cluster analytic findings was that there was no “solely delinquent” group in either school. In other words, among both high- and low-income students, we found a distinct cluster defined primarily by one of the other two sets of deviant behaviors considered (a “school disengaged” and a “substance use” group), but there was none high only on delinquency. This pattern might reflect the greater deviance of delinquency in the hierarchy of behaviors examined here. To use an analogy borrowed from the child maltreatment literature, just as the presence of sexual abuse typically presupposes some physical abuse or neglect (Macfie, Cicchetti, & Toth, 2001), behaviors involving damage to others and to property are likely to occur after youth have first engaged in less serious misdemeanors, such as drinking, playing hooky, or being disruptive at school (Loeber & Stouthamer-Loeber, 1998). This hierarchy could account for the fact that delinquent behaviors generally exist only in the presence of other problem behaviors considered here.

Whether delinquent behaviors have substantive long-term consequences for wealthy adolescents, with or without other forms of deviance, is entirely unknown at this time. To be sure, these may, in fact, turn out to be trivial aberrations in otherwise healthy long-term trajectories. By the same token, in some instances, they may turn out to be harbingers of sundry illegal behaviors among the rich and powerful (see Kottler, Montgomery, & Shepard, 2004). Investigative journalists have occasionally reported various criminal behaviors among the wealthy, but there are probably many others that never do come to public awareness. In future research, therefore, there is a need for systematic enquiry into the prevalence of antisocial behavior disorders in the upper echelons of society, as well as their potential antecedents from the childhood and adolescent years (Luthar & Sexton, in press).

Substance use

As noted earlier, associations involving substance use were unique to suburban youth in this study. Variable-based analyses indicated that cigarette smoking had significant unique links with high-income students' grades, accounting for 6% of variance in outcomes; such effects were not found for alcohol or marijuana use. Ours, again, is not the first study to suggest such trends. Other investigations also have shown that cigarette use is the single strongest

drug predictor of academic underachievement (Bryant & Zimmerman, 2002; Ellickson et al., 1998; Lloyd-Richardson et al., 2002; Newcomb et al., 2002).

The specificity of these findings may reflect the relatively high social deviance of cigarette smoking among adolescents today. Analyzing historical changes in adolescents' cigarette smoking among upper-middle income, well-educated, mostly White Midwesterners, Chassin, Presson, Sherman, and Kim (2003) reported that smoking was less prevalent in 2001 than in 1980. The largest difference in smoking behavior over the 2 decades was a shift from experimental smoking to never smoking (especially among non-Hispanic Caucasians), rather than reductions in regular smoking. The researchers also found that adolescents had more negative attitudes toward smoking in 2001 than in 1980, seeing it as being more addictive and also as having more negative social consequences. Interpreting these trends over time, they suggest that it is perhaps the more hard-core or high-risk adolescents who continue to smoke even as smoking behavior has increasingly become redefined in a negative light. Thus, whereas cigarette use was, in fact, commonplace among adolescents 2 or 3 decades ago (Redmond, 1999), it may represent a relatively greater form of “deviance” than does consumption of alcohol (or even possibly marijuana) in contemporary youth culture.

Although regression analyses illuminated risks unique to each substance considered separately, in reality, most suburban students who used one also used the other two, and person-based analyses showed that these youth, like the multiproblem teens discussed earlier, were also at significant risk for academic failure. For all intents and purposes then, the analyses suggested that high substance use in itself connoted as much risk for concurrent academic failure among high-income suburban youth as did the coexistence of multiple problems, including overt academic disengagement, frequent delinquency, and use of multiple substances.

Again, whether these students' high substance use has any long-term consequences remains to be determined. In a review of the literature, Baer, MacLean, and Marlatt (1998) noted that much adolescent substance use remits over time, and it is usually when it does *not* remit that ramifications are serious (see also Jessor, Donovan, & Costa, 1991). At the same time, they cautioned that, “levels of substance use during adolescence are the single best predictor of adult substance use” (Baer et al., 1998, p. 191). Prospective research is thus needed to clarify the long-term ramifications of the reportedly high levels of cigarette, alcohol and marijuana use among teens in upper-income communities.

Caveats, Limitations, and Future Directions

In considering results of this study, it is important to underscore that our analyses were focused on the relative salience of particular problem behaviors *within* each context, and were not intended to establish significant differences in processes across contexts. The strategy of separately analyzing urban and suburban data followed recommendations for research on groups little studied in the past (Hobfoll, Ritter, Lavin, Hulsizer, & Cameron, 1995; Luthar, 1999; Tucker & Herman, 2002), that is, there is greater value, particularly from an intervention perspective, in illuminating the relative salience of different processes

within that context, rather than striving to show how these processes differ from those in other groups (Garcia Coll, Akerman, & Cicchetti, 2000). Developmental scientists only recently began within-group studies of processes among youth of low family SES (see Huston, McLoyd, & Garcia Coll, 1994, 1997; Luthar, 1999), and there are presently almost no such studies of children rendered atypical by virtue of parents' high income and advanced educational degrees.

We also emphasize that just as we cannot assume that teachers' ratings of low motivation implied identical student behaviors in the two schools (due to reference group effects; Heine et al., 2002), "low grades" probably reflect different achievement levels across contexts. Standardized test scores would be useful in ascertaining the absolute levels of academic problems manifested, for example, by multiproblem youth in both settings. For the moment, all we can infer, based on the present findings, is that these students' academic grades are substantially below the class average in each school.

Salient among the limitations of this study is the inability to disentangle effects associated with suburban versus urban residence, and with family income versus ethnicity. Whereas the former confound can be addressed by future studies of high-income adolescents in large cities (Luthar, 2003a), removing the ethnic confound will be harder given the realities of life in contemporary American society. Our own samples mirror trends in society more generally, with the affluent students from mostly White families while the low-income youth generally from minority families. In future research, any efforts to disentangle ethnicity and income effects will necessitate sampling of a large number of school districts to recruit a sufficiently large sample of minority youth from high SES families (Luthar & Sexton, in press).

Another limitation stems from the possibility that some of the most troubled of the innercity teens were not included in the sample, having dropped out of school prior to the 10th grade. Had these teens been included as well, it is quite possible that far greater vulnerability would have been evident among the urban youth relative to the suburban adolescents in this study. Finally, data from this study preclude firm conclusions about causality given their cross-sectional nature. It is as plausible that academic failure leads to delinquent activities and substance use as is the reverse (e.g., Lynam et al., 1993; Hops, Davis, & Lewin, 1999; O'Donnell, Hawkins, & Abbott, 1995). In the years ahead, multiwave, longitudinal research will be critical in helping to tease apart antecedent-consequent links among these problem domains.

Offsetting these limitations are the several new insights gleaned on teen deviance across disparate contexts. Previous research had established higher rates of substance use among the high- than low-income students in this sample (Luthar & D'Avanzo, 1999), and scrutiny of delinquent acts within this study showed that the former were less often involved in gang fights and truancy, but at the same time, more often engaged in stealing and cheating in everyday life. More substantively, the data belie widespread presumptions that such problem behaviors are signs of pervasive dysfunction among the poor but ultimately inconsequential among the rich, for we saw similar ramifications for grades across major high school subjects. Flagrant disinterest in school and delinquency each connoted some risk for

academic failure among both high- and low-income students, while substance use (particularly cigarette use) showed unique links among the suburban youth only. Most seriously, the coexistence of low academic motivation, high delinquency, and frequent substance use connoted particularly pronounced risk for poor grades in both settings, and there was a sizable number of these “multiproblem youth” even among children of the well educated and wealthy.

In the future, longitudinal research is required to disentangle cause–effect associations, and to ascertain absolute levels of damage incurred by adolescent problem behaviors at both socioeconomic extremes. There is no question that the odds confronting youth in poverty are far more ominous in terms of the services and opportunities available in the environment. At the same time, children's well-being is never just a direct function of family wealth: there can be significant psychological difficulties among the rich as there are substantial strengths and competencies among the poor. As developmental scientists continue concerted study of resilient adaptation among the latter group, let us not entirely disregard the various signs of vulnerability increasingly glimpsed among the former.

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Table 1

Correlation matrix of all variables

	1	2	3	4	5	6	7	8	9	10	11
1. Academic grades		-.28**	-.21*	-.30**	-.27**	-.32**	-.39**	-.09	.21*	.29**	-.07
2. Low academic motivation ^a			-.03	-.32**	-.26*	-.37**	-.22*	-.04	.18	.30**	-.01
3. Classroom disruptiveness ^a			.69**	.09	.19*	.32**	.34**	.20*	-.33**	-.50**	.17
4. Cigarette use ^b			.65**	.14	.25*	.23*	.34**	.26**	-.38**	-.46**	.20*
5. Alcohol use ^b			.54**	.12	.25**	.32**	.32**	.31**	-.19*	-.36**	.38**
6. Marijuana use ^b			.44**	.06	.15	.14	.24*	.46**	-.22*	-.35**	.34**
7. Delinquency ^b			.49**	.22**	.64**	.67**	.37**	.07	-.21*	-.19*	-.01
8. Aggressiveness ^c			.38**	.40**	.62**	.52**	.16	.12	-.05	-.22*	-.04
9. Helpfulness ^c			.32**	.24**	.25**	.73**	.50**	.10	-.20*	-.19*	.03
10. Good student ^c			.31**	.26**	.11	.60**	.31**	.13	-.10	-.23*	-.04
11. Liked least ^c			.29**	.25**	.26**	.71**	.45**	.18*	-.25**	-.27**	.05
			.44**	.41**	.16	.79**	.64**	.17	-.16	-.32**	-.06
			.44**	.35**	.33**	.62**	.54**	.10	-.23**	-.33**	.05
			.40**	.30**	.12	.50**	.50**	.12	-.23*	-.37**	-.09
			.09	.39**	.55**	.20*	.26**	.34**	-.06	-.14	.32**
			-.13	.23*	.50**	.15	.14	.13	-.17	-.29**	.34**
			.22*	-.26**	-.19*	-.28**	-.27**	-.16	-.13	.62**	-.16
			.08	-.25**	-.14	-.19*	-.07	-.19*	-.23**	.59**	-.17
			.39**	-.42**	-.32**	-.38**	-.39**	-.31**	-.38**	-.24**	-.13
			.28**	-.29**	-.18	-.34**	-.11	-.28**	-.35**	-.32**	-.11
			-.15	.38**	.46**	.22**	.25**	.21*	.50**	-.21*	-.32**
			-.12	.15	.34**	.07	.09	.39**	-.26**	-.03	

Note: Correlations for females are listed in the top row and those for males are listed in the lower row. The suburban school correlations are below the diagonal and inner-city intercorrelations are above the diagonal.

^aTeacher rated.

^b Self-reported.

^c Peer rated.

* $p < .05$.

** $p < .01$.

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Table 2
Descriptive data for all variables separated by school and gender

	Suburban				Inner City				<i>F</i> _{school}	<i>F</i> _{gender}
	Girls (<i>n</i> = 144)		Boys (<i>n</i> = 120)		Girls (<i>n</i> = 123)		Boys (<i>n</i> = 101)			
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Grades	10.11	1.00	9.95	0.92	10.21	0.96	10.00	0.98	0.95	4.69*
Low academic motivation ^a	-0.15	0.95	0.11	0.92	-0.29	0.86	0.19	1.02	0.62	10.82***
Classroom disruptiveness ^a	-0.15	0.83	0.13	1.05	-0.16	0.87	0.16	1.05	0.05	8.23**
Cigarette use ^b	2.08	2.41	1.89	2.46	0.84	1.53	1.10	1.80	26.16***	0.12
Alcohol use ^b	1.94	1.81	1.82	1.95	1.35	1.54	1.54	1.79	6.30*	0.01
Marijuana use ^b	1.10	1.72	1.45	2.20	0.78	1.74	0.90	1.77	4.80*	1.51
Delinquency ^b	1.36	0.32	1.58	0.48	1.41	0.31	1.59	0.44	0.54	25.81***
Aggressiveness ^c	-0.36	0.56	0.38	1.14	-0.23	0.72	0.30	1.18	0.26	57.19***
Helpfulness ^c	0.21	1.08	-0.20	0.78	0.31	1.05	-0.28	0.79	0.11	27.64***
Good student ^c	0.24	1.05	-0.19	0.85	0.32	1.10	-0.23	0.76	0.48	25.32***
Liked least ^c	-0.04	1.01	-0.08	0.86	-0.04	0.95	0.04	1.03	0.44	0.15

Note: No significant School × Gender interactions emerged.

^aTeacher rated.

^bSelf-reported.

^cPeer rated.

* $p < .05$.

** $p < .01$.

*** $p < .001$.

Table 3
Hierarchical regression: Problem behavior indicators predicting to grades

	Suburban			Inner City		
	Step	β	ΔR^2	Step	β	ΔR^2
Demographics						
Gender	1	-.09	.01	1	-.12	.01
Ethnicity	2	.09	.01	2	.04	.00
Problem areas	3	.30***	.30***	3	.20***	.20***
Low academic motivation ^a		-.32	.09***		-.33	.06**
Classroom disruptiveness ^a		.11	.01		.18	.02 ^c
Cigarette use ^b		-.34	.06***		-.17	.02
Alcohol use ^b		.00	.00		.02	.00
Marijuana use ^b		.07	.00		-.12	.01
Delinquency ^b		-.17	.02*		-.15	.02*
Gender x Problem interaction terms	4	.03	.03	4	.02	.02
Model total			.35			.24

Note: Gender was coded 0 = girls and 1 = boys. Ethnicity was coded as follows: 0 = African American, 1 = Caucasian, 2 = Hispanic, 3 = Asian, and 4 = Other.

^aTeacher rated.

^bSelf-reported.

^cThis effect seems due to a suppressor variable as the beta weight is positive in direction whereas the zero-order correlation was negative; thus, it is not interpreted.

* $p < .05$.

** $p < .01$.

*** $p < .001$.

Table 4
Cluster means and standard deviations for variables used to define clusters

Suburban	Conventional						School Disengaged						Drug Users						Multiproblem						$F_{cluster}$
	Females (n = 84)		Males (n = 55)		Females (n = 14)		Males (n = 17)		Females (n = 31)		Males (n = 28)		Females (n = 11)		Males (n = 13)										
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD									
Low academic motivation ^a	-0.48	0.25	-0.64	0.39	1.31	0.98	0.76	0.83	0.09	1.10	0.40	1.20	1.75	1.10	0.80	1.10	72.51								
Classroom disruptiveness ^a	-0.36	0.20	-0.51	0.22	0.59	1.20	0.60	1.00	-0.26	0.49	-0.31	0.44	2.83	0.75	2.08	0.98	202.46								
Cigarette use ^b	-0.57	0.48	-0.57	0.41	-0.62	0.45	-0.70	0.16	1.29	0.48	1.34	0.61	1.10	0.91	0.64	1.00	210.08								
Alcohol use ^b	-0.44	0.72	-0.45	0.72	-0.52	0.37	-0.63	0.45	0.94	0.84	1.01	0.84	1.08	0.94	0.69	0.98	67.08								
Marijuana use ^b	-0.54	0.27	-0.57	0.27	-0.39	0.50	-0.63	0.11	1.07	1.10	1.21	0.89	1.16	1.20	0.57	1.20	117.97								
Delinquency ^b	-0.44	0.65	-0.38	0.78	-0.25	0.69	-0.58	0.38	0.65	0.95	0.71	1.10	1.39	1.10	0.70	0.83	38.98								
Inner City	Females (n = 91)		Males (n = 50)		Females (n = 16)		Males (n = 28)		Females (n = 9)		Males (n = 9)		Females (n = 6)		Males (n = 12)										
Low academic motivation ^a	-0.38	0.70	-0.75	0.57	1.36	0.82	0.84	0.89	0.13	0.70	-0.35	0.64	1.84	0.53	1.00	0.50	85.52								
Classroom disruptiveness ^a	-0.38	0.48	-0.63	0.39	1.39	1.20	0.79	0.99	-0.15	0.39	-0.57	0.28	2.18	0.96	0.78	1.10	84.67								
Cigarette use ^b	-0.25	0.59	-0.42	0.44	-0.34	0.39	-0.35	0.46	2.65	0.89	1.98	0.78	0.54	1.30	0.96	1.10	108.77								
Alcohol use ^b	-0.29	0.65	-0.46	0.55	-0.27	0.44	-0.34	0.59	2.08	0.57	1.19	0.84	2.15	0.67	1.79	0.64	117.13								
Marijuana use ^b	-0.37	0.21	-0.37	0.51	-0.16	0.59	-0.41	0.27	2.49	0.79	0.94	1.00	2.04	1.30	1.85	1.20	156.06								
Delinquency ^b	-0.34	0.67	-0.47	0.68	0.70	1.30	0.25	1.10	0.84	0.82	-0.07	0.80	1.73	1.30	1.04	0.96	28.38								

Note: Mean values on all problem dimensions are standardized within gender and school for ease of comparisons. All F values were significant at $p < 0.001$.

^aTeacher rated.

^bSelf-reported.

Table 5
Cluster means and standard deviations for peer-rated variables used to validate clusters and for academic grades

Suburban	Conventional				School Disengaged				Drug Users				Multiproblem				$F_{cluster}$
	Females (n = 84)		Males (n = 55)		Females (n = 14)		Males (n = 17)		Females (n = 31)		Males (n = 28)		Females (n = 11)		Males (n = 13)		
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	
Aggressiveness ^a	-0.23	0.40	-0.39	0.78	-0.29	0.30	0.30	1.10	0.03	0.77	0.10	0.94	2.07	2.40	1.05	0.99	24.48 ^{***}
Helpfulness ^a	0.20	1.10	0.20	1.00	0.02	0.93	0.01	1.30	-0.25	0.87	-0.19	0.92	-0.57	0.47	-0.36	0.55	4.44 ^{**}
Good student ^a	0.33	1.00	0.33	1.10	-0.50	0.52	-0.06	0.86	-0.43	0.80	-0.41	0.75	-0.78	0.36	-0.52	0.59	15.31 ^{***}
Liked least ^a	-0.25	0.80	-0.09	0.97	0.28	1.20	0.17	1.10	-0.04	0.83	-0.14	0.74	1.53	1.20	0.56	1.40	12.35 ^{***}
Grades	0.37	0.87	0.32	0.76	-0.34	1.20	-0.06	1.10	-0.55	0.84	-0.33	1.20	-0.69	0.97	-0.65	0.90	15.00 ^{***}
Inner City	Females (n = 91)				Males (n = 50)				Females (n = 28)				Males (n = 12)				
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	
Aggressiveness ^a	-0.07	0.98	-0.22	0.88	0.09	0.97	0.13	1.10	0.01	0.77	0.03	0.94	0.87	1.70	0.65	0.93	3.67 [*]
Helpfulness ^a	0.17	1.00	0.30	1.30	-0.27	0.86	-0.21	0.54	-0.48	0.65	0.06	0.96	-0.82	0.51	-0.39	0.58	5.85 ^{**}
Good student ^a	0.25	1.00	0.50	1.10	-0.75	0.35	-0.28	0.76	-0.67	0.38	-0.66	0.25	-0.61	0.29	-0.50	0.62	13.81 ^{***}
Liked least ^a	-0.13	0.92	-0.15	0.88	0.53	1.20	0.37	1.10	-0.16	0.64	-0.06	1.00	0.58	1.40	0.03	1.00	4.58 ^{**}
Grades	0.23	0.94	0.29	0.98	-0.40	1.00	-0.01	0.92	-0.61	0.86	-0.45	1.00	-0.72	0.73	-0.89	0.68	9.26 ^{***}

Note: All variables in this table are based in peer ratings, with the exception of grades.

^aPeer rated.

* $p < .05$.

** $p < .01$.

*** $p < .001$.