

RELATIONSHIPS WITH ADULTS AS PREDICTORS OF SUBSTANCE USE, GANG INVOLVEMENT, AND THREATS TO SAFETY AMONG DISADVANTAGED URBAN HIGH-SCHOOL ADOLESCENTS

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Using a resilience framework, the authors examined the protective effects of parental support, self-disclosure to parents, parent-initiated monitoring of adolescent behavior, and relationships with school personnel on three critical problems of adolescents: substance use, gang involvement, and perceived threats to safety at school. The sample consisted of 342 ethnically diverse high-school students in an economically disadvantaged urban area in the southwestern United States. The regression analyses controlled for academic performance, poor anger management, risk-seeking propensities, co-occurring substance use, and co-occurring gang involvement. Interactions as well as main effects were examined. The specific protective roles of all four adult relationships were identified with respect to problematic outcomes. Adolescent self-disclosure to parents, a variable rarely examined in resilience research, was associated with less chance of substance use for two high-risk groups: those already involved with gangs, and those with high risk-seeking tendencies. © 2007 Wiley Periodicals, Inc.

Among the greatest concerns threatening the health and safety of economically disadvantaged adolescents are substance use, gang involvement, and physical victimization (Mooney, Knox, & Schacht, 2002). Adults, in particular parents and school personnel,

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are responsible for providing a first line of defense against these problems for youth. Using a resilience framework, we examined whether specific types of relationships with adults protected disadvantaged urban high-school adolescents from substance use, gang involvement, and other threats to physical safety. We isolated the contributions of adolescent–adult relationships by controlling for relevant demographic, psychological, and co-occurring behavioral characteristics of the adolescents themselves.

There is a large body of previous research on the issues addressed in this article. We placed the present research in context by first selectively reviewing relevant literature on resilience, adolescent–adult relationships in families and schools, and other protective factors for substance use, gang involvement, and victimization.

RESILIENCE

Resilience is generally thought of as successful psychosocial development despite social and economic hardship (Werner, 1989). Studies in resilience are generally agreed to have assisted scholars and practitioners in understanding complex individual and environmental factors associated with adolescent risk and promise (Smith & Carlson, 1997). Further, the school-based services in which many adolescents have participated in recent years were designed with proactive and community-linked features intended to strengthen the protective factors formerly noted in studies of resilient adolescents (Reisch, 1995).

Different approaches to the study of resilience are extant in the literature. For example, the ecological approach has focused on factors in the social environment that promote, in the face of adverse circumstances, what are commonly viewed as healthy outcomes (Bogenschneider, 1996; Masten, 2001). The ecological approach, which guided the present research, differs from the constructionist approach advocated by Ungar (2004), in which subjects' self-definition of health is emphasized. Although the difference between the two is substantial, both approaches emphasize the potential for health rather than the presence of pathology, a defining characteristic of resilience-focused research (Barnard, 1994).

A methodological difference in approaches to studying resilience involves the importance placed on interaction effects among variables predictive of resilience. Luthar, Cicchetti, and Becker (2000) cautioned against what they considered undue reliance on statistical interaction effects in resilience research. On the other hand, Roosa (2000) argued that examining interactions among varying individual and socio-environmental characteristics was fundamental in understanding resilience. The latter premise guided the present analysis.

RELATIONSHIPS WITH PARENTS AND SCHOOL PERSONNEL AS PROTECTIVE FACTORS FOR ADOLESCENTS

Within the last 20 years, family relations and relations between adolescents and significant adults in the educational environment were consistently identified as critical variables in predicting both healthy and problematic outcomes in adolescents (Henggeler, 1989; Quay, 1987). With respect to the three outcome variables of the present research, we considered what critical predictors had already been identified in the literature.

Several family variables had been found to protect against adolescent substance use, gang activity, and/or other dangers. One of these was warm parental support and

encouragement (Barnes, Farrell, & Cairns, 1986; Coombs & Landsverk, 1988; Crosnoe, Erickson, & Dornbusch, 2002). Another was parent-initiated monitoring, in the sense of parental surveillance, tracking, and restriction of behavior (Ary, Duncan, Duncan, & Hops, 1999; Cernkovich & Giordano, 1987; DiClemente et al., 2001; Dishion & McMahon, 1998; Fletcher, Darling, & Steinberg, 1995; Snyder & Patterson, 1987; Weintraub & Gold, 1991). In contrast to the latter studies, Stattin and Kerr (2000) found that parents' surveillance and control efforts were relatively ineffective in preventing adolescent normbreaking, including substance use, theft, and violence. Similarly, Crosnoe et al. (2002) found no effect of parental monitoring on adolescent delinquent behavior.

Communication with parents may be more critical as a protective factor against unhealthy outcomes. Studies of parent-adolescent communication have tended to focus on parent-initiated communication about the adolescent's social plans and companions. Adolescents' self-initiated communication with parents has been given less attention. Yet, self-disclosure has been noted as crucial to quality family relations (Galvin & Brommel, 1991). Self-disclosure to parents may be protective for a variety of reasons. Parents have moral authority with respect to their children that peers or even other adults do not have (Kafka & London, 1991). Talking openly with parents about important matters may help the child sort out what is serious or dangerous. It may also promote feelings of obligation, guilt (Kafka & London, 1991), or desire to please the parent if she or he is taking the time to listen and give the child attention. Self-disclosure by adolescents also alerts parents to what is going on in their children's lives (Stattin & Kerr, 2000). Increased open communication with at least one parental figure was found to be associated with decreased substance use (Kafka & London, 1991). In their study of 703 Swedish adolescents, Stattin and Kerr found adolescent self-disclosure to parents to be inversely associated with norm breaking. They found this to be particularly true for adolescents who were at high risk for trouble by virtue of other risky activity with their peers. Testing this latter finding is a particular focus of the present study.

The social world of adolescents widens after childhood and exposes them not only to peer influences, but also to larger educational and community environments. Thus, we considered relationships with significant adults other than parents in the lives of adolescents. At school, adolescents are in daily contact with teachers and educational support staff such as counselors, monitors, and various specialists. Relationships with these individuals, particularly teachers, can be the key to positive behaviors, success in school, and decisions of long-term importance. Noddings (1992) associated bonding with teachers to lower levels of adolescent problem behavior.

For children living in poor families, school personnel appeared to be more important influences than for more advantaged youth (Dubois, Felner, Brand, Adan, & Evans, 1992; Dubois, Felner, Meares, & Krier, 1994). Teachers may be good role models as well as sources of emotional support for adolescents facing difficult social environments (Grossman, Beinashowitz, Anderson, Sakurai, Finnin, & Flaherty, 1992; Hawkins, Catalano, & Miller, 1992). More specifically, Crosnoe et al. (2002) found that bonding with teachers was a buffering factor against the negative influences of deviant friends.

OTHER RISKS AND PROTECTIVE FACTORS FOR SUBSTANCE USE, GANG INVOLVEMENT, AND THREATS TO SAFETY

For the current study, we also considered factors other than relationships with adults that had been found to be important as predictors of adolescent substance use, gang

affiliation, and threats to safety at school. To the extent possible, we introduced these as control variables in our study.

Substance Use

Demographic background characteristics were found to be related to substance use. Older adolescents (Johnston, O'Malley, Bachman, & Schulenberg, 2005), males (Rohrbach & Milam, 2003), Latinos, Whites, and Native Americans (National Institute on Drug Abuse, 2003), and the poor (Oetting & Lynch, 2003) tended to be heavier substance users than others.

A range of individual, psychologically based behavioral propensities were found to be related to substance use (Hawkins et al., 1992). One such factor was academic performance. Academic performance of adolescents was related to substance use: the higher the grades, the less substance use (Eggert & Randell, 2003). Another behavioral factor influencing substance use was skill in communicating with peers. Several studies have shown that adolescents with effective communication skills could more successfully resist drug offers from peers than could adolescents with ineffective communication skills (Alberts, Hecht, Miller-Rassulo, & Krizek, 1992; Hecht & Driscoll, 1994). Yet another factor found to influence substance use was poor anger control. Difficult behavior, such as temper outbursts in early childhood, particularly if these behaviors persisted into adolescence, predicted adolescent drug use (Brook, Brook, Gordon, Whiteman, & Cohen, 1990; Lerner & Vicary, 1984). Finally, a set of interrelated characteristics, namely impulsivity, sensation seeking, and low harm avoidance, what could be called a risk-seeking syndrome, were found to be associated with substance use (Cloninger, Sigvardsson, & Bohman, 1988; Flay & Petraitis, 2003; Shedler & Block, 1990; Wright & Pemberton, 2004). Possible biochemical causes for this syndrome were identified (Zuckerman, 1987).

Gang Involvement

Over 15 years ago, Klein and Maxson, (1989) found gang affiliation to be associated with higher rates of violent crime and to be a contributing factor to violence and victimization in schools. To understand this problem, we considered demographic factors and the functions and reasons for attraction to gangs. Poor adolescents (Ruble & Turner, 2000), members of ethnic minorities (Belitz & Veldez, 1994; Lopez, 2003; Portes & Rumbaut, 2001), and increasing numbers of preadolescents (Bureau of Justice Assistance, 1997) have been attracted to and recruited by gangs. Generally, gang functions concern social acceptance, emotional support, supervision, peer involvement, and modeling, and a sense of ethnic identity outside of the family (Frauenglass, Roth, Pantin, & Mason, 1997; Friedman, Mann, & Friedman, 1995; Vigil, 1998), and may be adaptive in circumstances of extreme disadvantage (Ungar 2004). Whether or not adult relationships can protect youth from gang involvement has not been made clear in prior research.

Threats to Safety

A joint National Center for Education Statistics/Bureau of Justice Statistics report (Kaufman et al., 1998) stated what parents, educators, and community leaders have informally observed for years, "Without a safe learning environment, teachers cannot

teach and students cannot learn” (Kaufman et al., 1998, p. v). Threats to safety and ongoing fears in response to threats direct students' attention away from effective learning. Kaufman et al. reported that in 1996, 41% of 12th graders in U.S. schools reported having had something stolen from them while at school; 35% reported that someone at school had threatened to injure them. In addition to the reports of threats and crime, adolescents also feared that they would be harmed at school.

In 1995, 9% of all children ages 12 through 19 and 12% of those enrolled in urban schools reported that at some time or most of the time they feared they would be attacked or harmed at school (Kaufman et al., 1998). In urban schools, 15% of Black non-Hispanic students and 16% of Hispanic students reported fear of being attacked or harmed at school (Kaufman et al., 1998). Yet, the research has been more focused on the prevention of violent behavior than on resources for prevention of victimization (Burstyn, Bender, Casella, Gordon, Guerra, & Luschen, 2001; Richman & Fraser, 2001).

Interestingly, Prothrow-Stith (2001) noted that certain characteristics and behaviors were likely to be shared by victims and perpetrators: both were likely to be young, male, of the same ethnicity, poor, from violent families, and with a history of alcohol or drug use (Prothrow-Stith & Weissman, 1991). These traits offered clues about sources of resilience. Factors that protected adolescents from succumbing to alcohol and drug use may also have protected them in the face of threats and victimization in their social environments.

In the present research, we considered whether particular kinds of relationships with adults had effects independent of, and/or in interaction with, other risk/protective factors for substance use, gang involvement, and threats to safety. By identifying which, if any, adolescent–adult relationships were most protective with respect to each outcome, with stringent controls for other variables that may have been operating, we could inform school and program administrators and practitioners about strategies to better protect youth from unhealthy outcomes that are all too prevalent.

Hypotheses

Building on the literature reviewed in this article, we developed a set of hypotheses to guide our exploration of the effects of relationships with adults on the substance use, gang involvement, and perceived threats to safety reported by economically disadvantaged adolescents. Although previous research confirmed and advanced much of our knowledge about adolescents' risk behaviors, little had been done to explore the effects of specific kinds of adult relationships while controlling both for demographic characteristics and for behavioral propensities such as poor academic performance, poor anger control, risk-seeking propensity, co-occurring substance use, and co-occurring gang involvement. Thus, we tested the following hypotheses knowing that some degree of exploration would also have to occur.

Hypothesis I. Self-disclosure to parents, parental warmth and supportiveness, parent-initiated monitoring, and school personnel's supportiveness are all independently and inversely related to substance use, gang involvement, and threats to safety at school, for disadvantaged urban high-school adolescents.

Hypothesis II. Self-disclosure to parents is related to substance use, gang involvement, and threats to safety more strongly among high-risk than among low-risk youth.

METHOD

The current study was conducted as part of a larger investigation designed to formulate recommendations for a large, general service, urban high school in the south-western United States. We examined the independent effects of specific aspects of adolescent–adult relationships, parental support, parental monitoring, self-disclosure to parents, and relationships with teachers and other adults at school on substance use, gang involvement, and threats to safety at school.

Sample

The sample was drawn from students enrolled during the spring semester of 1997. The high school served a population of predominantly disadvantaged youth and was situated in a high-crime area. Administrators here, as in other inner-city schools, were particularly concerned about the day-to-day safety of their students. The survey was administered in regular education English classes whose teachers elected to participate. About one quarter of those teachers elected to do so; the remainder declined for a variety of reasons unrelated to the content of the survey. Parents or guardians were informed in writing about the nature of the survey and given the opportunity to deny permission for their child to participate. Students were also informed that participation was completely voluntary and anonymous. There were no parent refusals, but four students opted not to participate.

A single group administration of the self-administered questionnaire, in English, took place during one class period in the regular classroom setting. Although a majority (58%) of the students in the school were ethnically Hispanic, school administrators advised us that a Spanish version of the questionnaire would not be necessary. Students apparently had little difficulty completing the questionnaire within one class period and most finished in less time. The questionnaire instructions directed the participants to work independently, to avoid writing any identifying information on the questionnaires, and to place completed questionnaires in a ballot box placed in the classroom, thus assuring respondent anonymity and encouraging honest responses.

Table 1 shows the composition of the sample compared to the school population. There were 342 students in the study. This represented a quarter of the 1,397 students enrolled in spring 1997 and was a sufficient number to explore statistically the primary questions of this study. Comparing basic data about the participants to data about the total population from school records, the major discrepancies were in the percentages of freshmen, sophomores, juniors, and seniors. In the school as a whole, 64% were freshman or sophomores, indicating the expected attrition in the upper grades, but in the sample, 79% were freshmen or sophomores. This 15% discrepancy in our sample compared to the school population was likely a result of using English classes for data collection. Juniors and seniors often took English during summer sessions and had more variable course requirements in fall and spring than freshmen or sophomores. Table 1 shows that other characteristics of the sample corresponded quite closely to the school population.

Measures

The measurement tool was a six-page self-administered questionnaire. School administrators collaborated in the formulation of some of the questions. The administrators

Table 1. Sample Compared to School Population, Spring 1997

	<i>Sample</i>	<i>Population (from school records)</i>
<i>N</i>	342	1397
Freshmen	43%	35%
Sophomores	36%	29%
Juniors	15%	21%
Seniors	6%	15%
Lunch program participant (poverty indicator)	65%	69%
Mexican American/Latino(a) only	55%	58% ^a
Anglo or White only	22%	26% ^a
Native American only	4%	10% ^a
African American only	5%	5% ^a
Asian American only	1%	1% ^a
More than one race/ethnicity	13%	0
Boys	49%	Data not available
Girls	51%	Data not available
Average age	15.5	Data not available

^aSchools reported only one race/ethnicity per student. Sample students could report more than one race/ethnicity, and 13% did, Native Americans disproportionately so.

did not want to include specific questions about gang membership. Thus, we restricted our questions to associations with gang members and participation in gang activities.

We included at least three indicators for each of the dependent variables and for each of the principal independent variables in this analysis. Thus, we were able to use maximum-likelihood confirmatory factor analysis (see Joreskog, 1969) to create measurement models that represented the degree to which each indicator reflected the latent construct they were all hypothesized to reflect and the degree to which each reflected anything else, which for measurement purposes was considered to be error. For constructs with more than three indicators, we had sufficient degrees of freedom to obtain the fit of the covariance matrix implied by the resulting measurement model to the raw covariance matrix, indicating whether the model as constructed was appropriate for the data. The lower the chi-square per degree of freedom, the better the model fit the data (Maruyama, 1998). For models with only three indicators, we did not have enough degrees of freedom to perform this calculation, but for all models, we calculated Cronbach's alpha as a measure of the extent to which the raw indicators cohered. Item content, fit information for the measurement models, and alpha reliabilities are given in Table 2. The three main dependent variables for the present study were substance use, gang involvement, and threats to safety at school.

With respect to the substance questions, we note here (data not shown) that there was generally higher prevalence of drug use in our sample compared to the nation as a whole (Johnston et al., 2005). Because our respondents experienced more risk factors, particularly economic disadvantage, than the national average, this was not surprising. The one interesting exception—only 19% of our participants reported smoking cigarettes in the last 30 days compared to 30% in the national sample—was likely a result of the intensive antismoking campaign the school administration promoted just prior to our data collection. In any case, Table 2 shows that the fit of the measurement model to the data was excellent, with the difference between the model and the data being statistically insignificant.

Table 2. Measurement Models of Principal Constructs

Substance used in the last month
Alcohol/cigarettes/marijuana/inhalants/other drugs $\chi^2 = 9.9, p \leq .08, df = 5, \text{ratio} = 1.98.$ Cronbach's α for raw item intercorrelations = .73
Gang involvement
In the last month, I hung out with gang members/My friends at school are gang members/In the last month, I participated in a gang activity. Cronbach's α for raw item intercorrelations = .64.
Threats to safety at school
Someone at school has threatened to hurt me/Someone at school has threatened to hurt my family/My things have been stolen at school/I feel safe at school (reverse coded). $\chi^2 = 1.7, p \leq .44, df = 2, \text{ratio} = .83.$ Cronbach's α for raw item intercorrelations = .34.
Generalized parental support
My parents listen to what I have to say/I feel my parents love me/I can count on my parents to help me/When we argue, my parents tell me to get out of the house (reverse coded)/My parents are proud of me. $\chi^2 = 7.7, p \leq .17, df = 5, \text{ratio} = 1.55.$ Cronbach's α for raw item intercorrelations = .80.
Adolescent's self-disclosure to parents
When I'm angry at my parents, I don't talk to them/I lie to my parents about what I do/My parents don't know what I am really like (latter three reverse coded)/I talk with my parents about my boyfriend or girlfriend/My parents and I talk about sex and birth control/My parents and I talk about my plans for the future. $\chi^2 = 43.1, p \leq .00, df = 9, \text{ratio} = 4.79.$ Cronbach's α for raw item intercorrelations = .73.
Parental monitoring
My parents always know where I am/If I'm going to be late, my parents expect me to call home./Curfew (coded 0 = none, 1 = sometimes, 2 = always). Cronbach's α for raw item intercorrelations = .46.
Relationships with teachers/adults at school
Teachers at school care about me/My teachers don't understand me (reverse coded)/My teachers listen to what I have to say/I can talk about my problems with adults at school. $\chi^2 = 4.6, p \leq .46, df = 5, \text{ratio} = 9.28.$ Cronbach's α for raw item intercorrelations = .62
Communicativeness with peers
I discuss my feelings about school with my friends/My friends and I discuss our feelings about teachers/I talk with my friends about my plans for the future/My friends and I discuss our boyfriends or girlfriends/I can talk with my friends about sex and birth control/I can talk about my family with my friends. $\chi^2 = 63.3, p \leq .00, df = 9, \text{ratio} = 7.00.$ Cronbach's α for raw item intercorrelations = .80.
Poor anger control
I lose my temper easily/When I'm angry, other people should stay away from me/When I'm angry, I feel like hurting people/When I have a serious disagreement, it's hard to talk calmly. $\chi^2 = 9.2, p \leq .01, df = 2, \text{ratio} = 4.62.$ Cronbach's α for raw item intercorrelations = .80.
Risk-seeking
I will take a chance just for the fun of it/I find it exciting to do things that may get me in trouble/Excitement and adventure are more important to me than safety/I will often do things on a dare/I do things that are fun now, even if it might later cause me trouble. $\chi^2 = 7.9, p \leq .16, df = 5, \text{ratio} = 1.59.$ Cronbach's α for raw item intercorrelations = .86.

Note. Indicators are coded from 1 = *strongly disagree* to 5 = *strongly agree*, except where indicated.

With respect to gang involvement, the correlations among the raw indicators were significant (Cronbach's $\alpha = .64$), but we were unable to determine the fit of the model to the data because there were only three indicators.

With respect to threats to safety at school, property loss in our sample was a greater danger than direct physical threats (data not shown), just as in the nation's schools as a whole (Kaufman et al., 1998). As for feeling safe, which is necessary for effective learning, a substantial 22% of students in our sample, compared to 12% in urban schools nationally and 16% of Hispanic students in urban schools nationally (Kaufman et al., 1998), reported not feeling safe at school. Thus, there was evidence of considerable perceived or actual threat among the students in our sample. All four of these indicators cohered in a measurement model with an excellent fit to the data; there was no significant difference between the model and the data.

We focused on four major aspects of relationships with adults as potential protective factors that would be expected to minimize substance use, gang involvement, and threats to safety at school among the youth in the sample. The adult relationship factors were generalized parental support, self-disclosure to parents, parent-initiated monitoring of the youth's activities, and the quality of relationships with teachers and other adults at school. We should note that the questions about parent relationships referred to parents, but elsewhere in the questionnaire the respondent was directed to think about his or her "mother or the woman you think of as mother" and "father or the man you think of as father," thus clarifying what we meant by parents, i.e., the caregiver(s) with whom the child had an ongoing relationship. As with the dependent variables, the adult-relationship variables were all latent constructs measured by maximum-likelihood confirmatory factor analysis of questionnaire items. Specific content and fit information for these measurement models are shown in Table 2.

Demographic factors potentially important for substance use, gang involvement, and/or threats to safety are poverty status, race/ethnicity, gender, and age of the adolescent. These were measured by single items or dummy variables. Poverty status was measured by student-reported participation in the federally subsidized lunch program (regular-cost lunch, reduced-cost lunch, or no-cost lunch, based on the student's family income). Race/ethnicity was measured by self-description and coded into dummy variables for ethnic categories, including a separate category for mixed race relative to Anglo/White. Gender was coded 1 = M, 2 = F. Age was reported as age at last birthday.

Finally, three individual behavioral propensities of the adolescents themselves were measured by confirmatory factor analytic models. Details of the models for communicativeness with peers, poor anger control, and risk-seeking are shown at the end of Table 2. The remaining behavioral propensity included in this study, academic performance, was measured by a self-report of grades, with the respondent selecting one of five choices (*mostly Ds or below D; mostly Cs or Cs and Ds; mostly Bs or Bs and Cs; As, Bs, and Cs; mostly As or As and Bs*).

RESULTS

We derived Bartlett factor scores from the maximum-likelihood confirmatory factor analyses shown in Table 2. The adult-relationship variables, the demographic variables, and the behavioral-propensity variables were then entered into multiple regression equations predicting substance use, gang involvement, and threats to safety at school, in turn. We should note that in all of our regression equations, we checked collinearity diagnostics (tolerances and variance inflation factors) and found no

evidence of collinearity. Thus, our regression coefficients are interpretable as independent effects.

Results for Substance Use

The full multiple regression equation predicting substance use is shown in Table 3. The model explained a substantial 35% of the variance in substance use. Four variables were significant predictors of substance use: grades (the higher the grades, the less substance use), low anger control (the lower the anger control, the more substance use), gang involvement (the more gang involvement, the more substance use), and risk-seeking propensity (the more risk-seeking, the more substance use). The most powerful predictor of substance use was risk-seeking propensity. We noted that in this model, no adult relationships predicted substance use.

The question that remained, however, was whether adult relationships might moderate the effects of these adolescent behavioral propensities. Behavioral propensities of adolescents may be pre-existing, longstanding, congenital, or even genetically based. Thus, it was important to determine where adult interventions could be differentially effective given an adolescent's particular behavioral propensities. To test this, we computed interaction terms of each of the adult relationship variables with each of the four behavioral propensities that were statistically significant in the first equation and added them, one by one, to that equation. Three of the interaction terms were statistically significant: the interaction of generalized parental support with gang involvement, the interaction of self-disclosure to parents with gang involvement, and the interaction of self-disclosure to parents with risk seeking (results not shown). This

Table 3. Multiple Regressions Predicting Substance Use: Standardized Betas for Full Sample and Significant Subgroups

	Full sample	≤Avg gang involvement	>Avg gang involvement	≤Avg risk-seeking	>Avg risk-seeking
Parental support	-.093	.110	-.302**	-.449***	.163
Self-disclosure	-.059	-.089	-.222*	.174*	-.176*
Monitoring	-.044	-.141*	.117	-.028	-.109
School adults	-.063	-.022	-.022	-.199**	-.041
Age	-.014	-.102	.142	.038	-.058
Poverty	-.071	-.104	-.074	-.140*	-.057
Gender (F)	.006	.051	.006	-.052	.079
Mexican/Latino	-.050	-.046	-.036	-.239**	.080
African American	-.026	-.085	.073	-.114	.013
Native American	-.051	-.003	-.044	-.139*	-.011
Asian Am/PI	.036	.023	-.017	-.004	.108
Mixed race	-.030	.045	-.202*	-.045	-.004
Grades	-.108*	-.203*	-.057	-.112	-.082
Peer communication	.052	.076	.009	.066	.029
Poor anger control	.095*	.106	.147	.053	.109
Gang involvement	.163**	.279***	.094	.271***	.082
Risk-seeking	.322***	.339***	.194*	.105	.423***
Adj. R ²	.349	.333	.368	.299	.291
N (listwise deletion)	267	168	98	140	126

* $p \leq .05$. ** $p \leq .01$. *** $p \leq .001$.

means that, in each case, the slope of each variable in the interaction differed depending on the value of the other variable in the interaction.

To explore what these interactions meant, we examined whether generalized parental support or self-disclosure to parents had significant effects on substance use depending on the value of the corresponding behavioral risk factor in the interaction. The question this approach allowed us to answer was whether adolescents who were more behaviorally at risk were affected differently by adult relationships than adolescents who were less behaviorally at risk with respect to substance use. First, we divided the sample into two subgroups: respondents who were below average or average and respondents who were above average on gang involvement. We then reanalyzed the full regression equation for each subgroup. Results for these two subgroups are shown in Table 3.

The second column of Table 3 shows the regression predicting substance use for the 168 adolescents with average or below average gang involvement. These were the students who did not hang out much, if at all, with gangs. For the students whose gang involvement placed them in a relatively low-risk category, parental monitoring had some effect on substance use—the more monitoring, the less substance use. Grades, exact level of gang involvement, and risk seeking were also significant predictors of substance use. The model explained 33% of the variance for this subgroup. Table 3, third column, shows the regression predicting substance use for the 98 students with higher-than-average gang involvement, those who spent a substantial amount of time associating with gangs. For these students, generalized parental support and self-disclosure to parents had significant protective effects—the more parental support and self-disclosure, the lower the substance use. Being of mixed race and risk-seeking propensity also had smaller, but significant effects for this group. The model explained 37% of the variance in substance use for this subgroup. Thus, we found that parental monitoring, generalized parental support, and self-disclosure to parents did have significant protective effects on adolescents' substance use, depending on the extent of their gang-related behaviors.

Because risk-seeking propensity interacted significantly with self-disclosure to parents in the full sample, we then followed the same procedure as for gang involvement. We divided the full sample into two subgroups: those with lower than average or average risk-seeking tendencies and those with above average risk-seeking tendencies. We then reestimated the full regression equation for each subgroup. Results are shown in Table 3, columns 4 and 5.

For the 140 adolescents with average or below average risk-seeking propensities, generalized parental support and good relationships with adults at school both appeared to protect against substance use. Self-disclosure to parents, however, had a small but unexpected effect in the other direction—the more self-disclosure to parents, the more substance use. This was not a result of collinearity problems and must be interpreted as an independent effect, although its magnitude was small. Poverty, being Mexican American/Latino, and being Native American were associated with less substance use in this group, whereas gang involvement predicted more substance use.

For the 126 adolescents who were above average on risk seeking, only self-disclosure to parents and the exact level of risk seeking had significant effects. Both were in the expected direction—the more self-disclosure to parents, the less substance use, and the more risk seeking, the more substance use. What we can conclude is that relationships with adults operated quite differently for risk-averse versus risk-seeking adolescents with respect to their effects on substance use.

The overall finding from all four of these subgroup analyses was that adult relationships had generally protective effects on substance use that were hidden unless we tested for and explored interaction effects. Hypothesis I was not confirmed for the full sample, but was partially confirmed for some subgroups. Hypothesis II was confirmed for two high-risk groups. We conclude that positive relationships with adults affected substance use depending on the behavioral propensities of the adolescents themselves.

Results for Gang Involvement

We then turned to the question of whether adult relationships were protective with respect to gang involvement, keeping in mind that gang involvement may in some ways be adaptive in circumstances of extreme social disadvantage. The multiple regression for the full sample predicting gang involvement is shown in Table 4. As with substance use, the full-sample regression equation did not indicate that adult relationships played any role in explaining gang involvement. However, there were some immediately apparent differences between gang involvement and substance use. First, we could explain only 20% of the variance in gang involvement as compared to 35% of the variance in substance use. Furthermore, race/ethnic variables played a much larger role in explaining gang involvement than in explaining substance use. Mexican Americans/Latinos, African Americans, Native Americans, and adolescents of mixed

Table 4. Multiple Regressions Predicting Gang Involvement and Threats to Safety at School: Standardized Betas for Full Sample and Significant Subgroups

	Gang involvement			Threats to safety
	Full sample	1 Race/eth	>1 Race/eth	Full sample
Parental support	-.016	-.015	-.090	-.161*
Self-disclosure	-.025	.069	-.499*	.069
Monitoring	-.018	-.008	-.291	-.028
School adults	-.011	.022	-.282	-.164**
Age	-.074	-.067	-.267	.034
Poverty	-.049	-.085	-.042	.041
Gender (F)	.005	.014	.187	-.082
Mexican/Latino	.309***	.307***	—	-.026
African American	.213***	.233***	—	.093
Native American	.105*	.106	—	-.068
Asian Am/PI	.058	.062	—	-.007
Mixed race	.130*	—	—	.035
Grades	-.053	-.075	-.156	.089
Peer communication	-.014	-.063	.257	.141*
Poor anger control	.038	.023	.097	.172**
Gang involvement	—	—	—	.011
Substance use	.201**	.243***	-.217	.161*
Risk-seeking	.187**	.241**	-.309	-.092
Adj. R^2	.198	.224	.340	.118
N (listwise deletion)	267	236	30	258

* $p \leq .05$. ** $p \leq .01$. *** $p \leq .001$.

race were all more likely than Anglos/Whites to be involved with gangs. Substance use and risk-seeking propensities were also directly and substantially associated with gang involvement.

Do these results mean that adult relationships have no effect on gang involvement? To explore this question, we added interaction terms linking each of the significant predictors with each of the adult relationship factors and found that two interactions were significant, mixed race with self-disclosure to parents and substance use with generalized parental support (results not shown).

To follow up on these results, we first divided the full sample into two subgroups: those who self-identified as more than one race/ethnicity and those who did not. We ran the regression for each of these subgroups in turn. Results are shown in Table 4. For the 236 adolescents who self-identified with only one race/ethnicity, no adult relationships were significant predictors of gang involvement. The significant predictors closely paralleled those for the full sample. However, for the 30 adolescents who self-identified with more than one race/ethnicity, self-disclosure to parents was the only significant predictor of gang involvement, and the magnitude of its beta coefficient was high ($-.499$).

We next followed up on the substance use/parental support interaction by dividing the full sample into two subgroups by amount of drug use. The effects of neither parental support nor any of the other adult relationship constructs were significant in predicting gang involvement for either subgroup (results not shown).

Thus, Hypothesis I was not confirmed, but Hypothesis II was confirmed for mixed-race adolescents, who might arguably be considered a high-risk group because of ambiguity about ethnic identification and acceptance. In general, we must conclude that adult relationships were far secondary to other variables, particularly race/ethnicity, substance use, and risk-seeking tendencies, in their effects on gang involvement.

Results for Threats to Safety at School

The final major question of this study explored how adult relationships may protect against adolescents' actual or perceived threats to safety at school. This factor is extremely important for effective student learning. The multiple regression for the full sample predicting threats to safety at school is shown in the last column of Table 4. We explained only 12% of the variance in threats to safety at school; clearly, there were other predictors we did not measure. However, two adult relationships had significant effects in the expected direction: the greater the parental support, the less the actual or perceived threats to safety at school, and the better the relations with adults at school, the less the actual or perceived threats at school. Thus, in the case of two adult relationships, Hypothesis I was confirmed without qualifications for the full sample. We note that poor anger control, substance use, and, unexpectedly, peer communication, all were associated with greater levels of threat at school. We also tested for any significant interactions among any adult relationships and the significant variables in the equation and found none; thus, Hypothesis II was not confirmed for threats to safety.

Table 5 summarizes which adult relationships had statistically significant relationships with the three outcome variables, substance use, gang involvement, and threats to safety at school. This summary will be useful in considering the import of our findings.

Table 5. Summary of Statistically Significant Effects of Adult Relationship Variables on Outcomes

<i>Outcomes by sample</i>	<i>Adult relationship variables</i>			
	<i>Parental support</i>	<i>Self-disclosure</i>	<i>Parental monitoring</i>	<i>Teachers and adults at school</i>
Substance use				
Full sample				
Low gang-involved			X	
High gang-involved	X	X		
Risk-averse	X	X ^a		X
Risk-seeking		X		
Gang involvement				
Full sample				
Single ethnic-identified				
Multiple ethnic-identified		X		
Threats to safety at school				
Full sample	X			X

^aCoefficient in unexpected direction.

DISCUSSION

Main Findings

This research investigated the role of disadvantaged urban high school students' adult relationships in minimizing problem outcomes on the individual level. We found that some adult relationships appeared to play a protective role with respect to substance use, gang involvement, and threats to safety at school, but in different ways and to different degrees.

Table 5 summarizes our results from multiple regressions predicting the three outcome variables. With respect to what predicted substance use, we found that all adult relationships had some apparent effect, but the specific effects differed for subgroups that were more or less at risk with respect to other variables. All adult relationships except one had coefficients in the expected direction. The anomaly was that for relatively risk-averse students, self-disclosure to parents seemed to slightly, but significantly exacerbate substance use. An ad hoc explanation might be that adolescents who were averse to risks, but had good communication with their parents might have felt free to experiment a bit with substances such as alcohol. More noteworthy was that self-disclosure to parents appeared to protect against substance use for two high-risk groups—those above average on gang involvement and those above average on risk-seeking propensities.

It was also noteworthy that adult relationships were much less important in explaining gang involvement than in explaining substance use. Race/ethnic identity, already using substances, and risk-seeking propensities were all more important than adult relationships as predictors of gang involvement. For only one subgroup, adolescents who identified with multiple race/ethnicities, did we find that any adult relationship mattered, and that was self-disclosure to parents.

Adult relationships were clearly important for preventing actual or perceived threats to safety at school. As expected, good relationships with teachers and other adults at school were major protectors for the full sample of students against threats to safety.

But generalized parental support mattered here too, even though the questions about safety were limited to the school environment. This shows that parents and school personnel can be partners in helping students feel and be safe at school, thus creating a positive learning environment.

Limitations of the Study

Before concluding with what we feel are the most important contributions of this study, we must first acknowledge its limitations. The data were drawn from an in-class administration of the instrument in participating English classes in a large urban high school at one point in time. Thus, students whose English teachers elected not to participate for a variety of reasons unrelated to the study content were not included, and those students not taking an English class were also excluded, under-representing juniors and seniors. Youth who were not in school at all were also excluded, so we may have missed the most troubled youth (although the problems we examined were of serious concern even for youth attending school; Mooney, Knox, Schacht, 2002). Furthermore, this was not a representative national sample, which further limited its generalizability.

Another issue is the direction of causality, which is a question in any cross-sectional study. For example, among both high-gang-involved and high-risk-seeking adolescents, we found that self-disclosure to their parents was inversely associated with substance use. Could it be that adolescents who used substances were therefore less likely to communicate with their parents than adolescents who did not use substances? Although this would be a particularly plausible scenario if our measure of self-disclosure included self-reports of substance use (for example, telling parents about drinking, smoking, or doing drugs), our self-disclosure construct instead measured general communicativeness; general truthfulness; and communication about sex/birth control, boyfriends/girlfriends, and plans for the future. In other words, it measured the extent to which the adolescent talked to his or her parents about all kinds of things other than substance use and kept the lines of communication open. Thus, it seemed to us more plausible, although certainly not proven, that the causal direction went from self-disclosure to substance use rather than the other way around. For all the relationships we considered, we acknowledge that only longitudinal studies can definitively address causality.

A final methodological limitation of the study is that all the data relied on a single reporter (the adolescent) for information on all variables. Although the correlation between self-reports and actual behavior is rarely perfect, O'Malley, Bachman, and Johnston (1983), Johnston (1989), and Graham, Flay, and Johnson (1984) all provided evidence of the reliability of self-reports. In the present study, we compared the pattern of responses to school records and to results from national studies wherever possible, and we found no evidence that the self-reports were unreliable.

Contributions of the Study

The study makes several important contributions in examining the role of adult relationships, self-disclosure to parents, and parent-initiated monitoring. The methods of analysis employed were of critical importance. The methods allowed us to identify with unusual precision the specific roles of several adult-relationship variables in relation to three problematic and potentially dangerous outcomes for adolescents. We gained

this precision by controlling in regression analysis for several problematic variables—poor academic performance, poor anger control, risk-seeking propensities, co-occurring substance use, and co-occurring gang involvement. Controlling these variables allowed us to eliminate them as alternative explanations and isolate the effects of adult relationships.

We also explored the interactions of these behavioral propensities and other significant characteristics of adolescents with each adult variable. Using this method, we found that adult relationship variables appeared to be most important for specific subgroups in our sample. The combination of methods provided insight into how adult relationships contribute to resilience for some adolescents, but not others.

The study also highlights the importance of self-disclosure to parents. We found that self-disclosure to parents was an important protective factor against substance use for two high-risk groups—those higher than average on gang involvement and risk seeking. These findings are consistent with those of Stattin and Kerr (2000), who found in their Swedish study that self-disclosure was a more important source of parental knowledge and a stronger protector against norm breaking for those adolescents who hung out on the streets in the evening than for those who did not engage in street activities.

A further contribution of this study is the isolation of two constructs—self-disclosure to parents and parent-initiated monitoring. We found parent-initiated monitoring to be protective against substance use for one subgroup—those at or below average in gang involvement. One explanation for this finding may be that for this low-risk subgroup, substance use was likely to be more experimental than driven by pathology. Some experimentation is considered normal (Byrnes, 2003; Vega & Gil, 1998) and parental monitoring can be effective in keeping such experimental behavior under control. For adolescents at greater risk, it appeared that parental surveillance and control were less or not effective (Crosnoe et al., 2002). However, for high-risk groups, self-disclosure to parents was critical and, conversely, not communicating with parents was associated with heavier substance use. Here, we have important implications for practice.

Our finding that self-disclosure to parents was important for several subgroups of adolescents with other high-risk factors highlights the need for interventions in parent-child communication. Primarily, the findings suggest that high-risk adolescents and their parents could benefit from learning communication skills. Specifically, parents and adolescents could benefit from learning how to talk with and listen to each other. The findings also remind us that adolescents have some agency in protecting themselves. This study has shown specific ways in which both adults and adolescents themselves, even in a disadvantaged environment, can play specific roles in protecting against negative outcomes.

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