

Adolescent Peer Crowd Affiliation: Linkages With Health-Risk Behaviors and Close Friendships

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Objective: To examine adolescents' peer crowd affiliation and its linkages with health-risk behaviors, their friends' health-risk behaviors, the presence of close friends in the same peer crowd, and adolescents' social acceptance.

Methods: We interviewed 250 high school students and identified six categories: popular, jocks, brains, burnouts, nonconformists, or average/other. Adolescents also reported on their health-risk behaviors (including use of cigarettes, alcohol, marijuana and other drugs; risky sexual behaviors; and other risk-taking behaviors), the health-risk behaviors of their friends, the peer crowd affiliation of their closest friends, and their perceived social acceptance.

Results: Burnouts and nonconformists had the highest levels of health-risk behaviors across the areas assessed, the greatest proportions of close friends who engaged in similar behaviors, and relatively low social acceptance from peers. Brains and their friends engaged in extremely low levels of health-risk behaviors. Jocks and populars also showed evidence of selected areas of health risk; these teens also were more socially accepted than others. In general, adolescents' closest friends were highly nested within the same peer crowds.

Conclusions: The findings further our understanding of adolescent behaviors that put them at risk for serious adult onset conditions associated with high rates of morbidity and mortality. We discuss the implications of the findings for developing health promotion efforts for adolescents.

Key words: health-risk behaviors; peer crowds; close friends; adolescents; health promotion.

Adolescence is often associated with the development of behaviors that pose a risk to one's health and well-being. Smoking, drug and alcohol use, and risky sexual behaviors (such as unprotected sex) typically begin during the teenage years. According to Irwin (1993), cigarettes and alcohol represent the most commonly used drugs with teenagers, with 66% of teens trying cigarettes and 92% experiment-

ing with alcohol at least one time, often by age 12. Lifetime prevalence rates for marijuana and cocaine are 47% and 12%, respectively, with 3% of high school seniors using marijuana daily (Irwin, 1993). Moreover, recent epidemiological data suggest that approximately 48% of high school-age students are sexually active, and of these, only about half use birth control during sexual intercourse (Centers for Disease Control and Prevention [CDC], 1997b).

A major concern with adolescents' health-risk behaviors is that they represent key risk factors for

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many diseases that contribute to adult mortality. For example, the leading causes of death in the United States in 1990 included heart disease, cancer, cerebrovascular disease, and HIV infection (McGinnis, 1994); all of these are linked to behaviors that typically develop in childhood or adolescence. Thus, there has been a call for more attention to the development of health-risk behaviors in adolescents, so that disease-prevention efforts can begin earlier (Kolbe, Collins, & Cortese, 1997).

Adolescents' peer culture is believed to play a key role in the development and maintenance of these health-risk behaviors. For example, adolescents report the presence of friends, acquaintances, or siblings in 80% of the occasions when they first experimented with cigarettes, but they report the presence of parents in only 3% of such occasions (Friedman, Lichtenstein, & Biglan, 1985). Although adolescents' peer culture is considered to be important in the initiation and maintenance of health-risk behaviors, little research has directly examined the linkages between adolescents' peer group affiliations, their close friendships, and their health-risk behaviors. This was a primary goal of our study.

Peer Crowd Affiliation

Peer crowd affiliation is a key aspect of adolescents' peer culture and was a primary focus of this study. Adolescents often characterize their peers through the use of social labels that apply to large groups of adolescents, or "crowds" (Kinney, 1993). These crowds are reputation-based groups of teens who may or may not spend large amounts of time together (Brown, 1989). The labels used to describe the crowds often reflect the groups' characteristics. For example, "jocks" are athletic and participate in sports, "brains" do well in school and enjoy academics, "burnouts" (a.k.a., "dirts," "freaks," or "druggies") often get in trouble and skip school, "populars" (a.k.a., "hotshots" or "preppies") are social and involved with school activities, and "nonconformists" (a.k.a., "alternatives") often rebel against the norm in clothing or ideas. Peer crowds include large groups of peers, typically greater than 10, who may not actually know each other well (Brown, 1989). Peer crowd categories are remarkably consistent across gender, regions, and ethnic groups (Brown, 1989; Phillips, Hughes, & Wilkes, 1998).

Although they have been relatively understudied, literature that describes adolescent peer crowds

and their association with health-risk behaviors has begun to accumulate. Most prominently, peer crowd affiliation has been linked with adolescents' reports of cigarette smoking and alcohol use (Brown, 1989; Brown, Mounts, Lamborn, & Steinberg, 1993; Mosbach & Leventhal, 1988; Sussman et al., 1990; Urberg, 1992). Typically, deviant peer crowds, such as burnouts or dirts, are the most likely to smoke and use alcohol (Mosbach & Leventhal, 1988; Sussman et al., 1990; Urberg, 1992), whereas brains are the least likely (Brown, 1989; Brown et al., 1993). In some cases, populars or hotshots have also been found to show high rates of smoking and alcohol use (Mosbach & Leventhal, 1988), although this has not consistently been the case (Sussman et al., 1990). However, few studies have examined crowd affiliation in conjunction with risk-taking behaviors (e.g., doing something on a dare) that could contribute to nonintentional injuries, or with risky sexual behaviors (e.g., multiple partners, unprotected sex) that could put an individual at risk for sexually transmitted diseases (STDs). However, these other types of risky behaviors likely follow a pattern similar to substance use (i.e., high among burnouts and low among brains). In fact, one study of early adolescents (Dolcini & Adler, 1994) did find that brains were less likely to be sexually active than others.

The first major goal of this study was to extend existing literature by examining linkages between adolescents' peer crowd affiliations and a wide range of health-risk behaviors, including cigarette use, alcohol and drug use, risky sexual behavior, and general risk taking. We focused on high school students, who are more likely to be sexually active than younger teens. Specifically, we expected membership in certain deviant peer crowds (e.g., burnouts) to be associated with a wide range of health-risk behaviors, including substance use (cigarettes, alcohol, marijuana, and illegal drugs), risky sexual behavior, and general risk taking, to a greater extent than affiliation with other peer crowds, such as jocks or brains. In addition, we hypothesized that some peer crowds might have selective areas of health risk. For example, although jocks might be low on substance use (e.g., Mosbach & Leventhal, 1988), they might be more sexually active than other teens and perhaps engage in more risky sexual behaviors. This pattern would be consistent with the high status accorded to jocks in many high schools (e.g., Brown, Eicher, & Petrie, 1986). Also of

interest were populars, who have shown elevations in cigarette and alcohol use in some studies (e.g., Moshbach & Leventhal, 1988); yet popular teens have often been grouped with jocks (e.g., Urberg, 1992), who have low levels of substance use; this could mask the health-risk behaviors that might be evident among popular teens.

A second goal of this study was to examine linkages between adolescents' peer crowds and their friends' health-risk behaviors. Presumably, peer crowd affiliation may be related to adolescents' health-risk behavior because affiliation with a particular peer crowd is a marker for a shared set of values with one's peers (Durbin, Darling, Steinberg, & Brown, 1993). However, peer crowd affiliation may indicate that adolescents are interacting with (and are friends with) peers who engage in similar behaviors and who may directly encourage and reward certain health-risk behaviors (Urberg, 1992). Such information would be critical for developing effective prevention programs for reducing adolescent health-risk behaviors and preventing or forestalling the onset of serious adult diseases.

Little is known about the close friends of adolescents from various peer crowds or their friends' health behaviors. One might expect, however, that adolescents would have close friends who affiliate with the same peer crowd and who engage in similar health-risk behaviors. Indeed, Urberg (1992) suggested that adolescents perceive greater pressures toward conformity from their close friends than from their crowd affiliations; she found this was true for adolescents' smoking. If adolescents' close friends engage in the same health-risk behaviors that typify the larger peer crowd, it may be exceedingly difficult for adolescents to change their health-risk behaviors—or their peer group affiliations—as this may disrupt their close friendships. Thus, in this study, adolescents reported on the health-risk behaviors of their close friends, and these behaviors were examined as a function of the primary adolescent's peer crowd affiliation. Adolescents from crowds that engaged in high rates of health-risk behaviors were expected to report having more close friends who also engaged in such behaviors.

Our third and final goal was to evaluate aspects of adolescents' social adjustment as a function of their peer crowd affiliation. In particular, we examined: (1) the degree to which adolescents' closest friends were embedded within the same peer crowd,

and (2) adolescents' levels of perceived social acceptance. First, we expected that a high percentage of adolescents' close friends would be affiliated with the same peer crowds. Urberg, Degirmencioglu, Tolson, and Halliday-Scher (1995) examined the correspondence between close friendships and peer crowd affiliation, finding that 39%–47% of mutual best friends were within the same peer crowd. Having close friends embedded within peer crowds could make it difficult for adolescents to break away from the influences associated with various peer crowds.

In addition, we examined whether adolescents' perceived social acceptance varied as a function of peer crowd. Burnouts were expected to report the lowest levels of peer acceptance and populars or jocks the highest levels. Differential social status associated with peer crowds could make it difficult for teens to shift among peer crowds. If so, successful health promotion efforts might need to consider this issue.

In summary, this study examined linkages between adolescents' peer crowd affiliations and (1) health-risk behaviors (including cigarette, alcohol, marijuana, and other drug use; risky sexual behaviors; and risk-taking behaviors), (2) their close friends' health risk-behaviors; (3) the likelihood of having close friends in the same peer crowd, and (4) perceived social acceptance. The study extended prior work by examining a wide range of health-risk behaviors, by evaluating friendship factors that may be embedded within peer crowd affiliation and could contribute to the initiation or maintenance of health-risk behaviors, and by examining patterns of social acceptance associated with peer crowd affiliation.

Method

Participants

Participants were 101 boys (40.4%) and 149 girls (59.6%) who ranged in age from 15 to 19 years ($M = 16.8$, $SD = .90$) and who were enrolled in grades 10 through 12. The adolescents resided in Miami-Dade County, Florida, a large and diverse metropolitan area in southeastern Florida. Adolescents came from predominantly middle-class socioeconomic backgrounds (Hollingshead Social Class: 36.3% Level I, 41.0% Level 2, 15.7% Level III, 4.7% Level IV, 2.3%

Level V; $M = 47.83$, $SD = 11.95$). The adolescents' ethnic background was representative of the larger metropolitan areas, as follows: 45.6% White, 37.2% Hispanic-American, 12.9% African American or Black, and 4.4% Asian or mixed.

Procedure

Adolescents were recruited as part of a larger study on adolescent peer adjustment. An unselected community sample of children who had attended one of three elementary schools in Miami-Dade six years earlier were tracked through the county public school database. Of the 306 students who were contacted, 250 (82%) agreed to participate and 56 (18%) declined participation. Participating students did not differ from those who declined to participate with respect to gender, ethnicity, age, socioeconomic status (SES), or grade. In addition, the 306 students who were contacted were compared to the 184 who were lost to follow-up (mostly due to withdrawing from the school district). Those lost to follow-up did not differ in terms of age, ethnicity, SES, or grade; however, more boys were lost to follow-up than girls ($\chi^2 [1] = 6.73$, $p < .01$). (It is not clear why proportionately fewer boys than girls remained in the county over the 6-year period. More boys may have dropped out of school than girls, which may account for this distinction.)

Adolescents were interviewed in their homes by trained research assistants. Written informed consent was obtained from adolescents and their parents. University institutional review board (IRB) approval was obtained for the study. Adolescents completed several measures for this study, including Peer Crowd Questionnaire, the Survey of Risk-Taking Behavior, and the Self-Perception Profile for Adolescents. Confidentiality of the adolescents' responses was stressed. In addition, parents provided background information used to determine SES status and ethnicity of the adolescents.

Measures

Peer Crowd Questionnaire (PCQ). The PCQ was developed from prior research on adolescents' peer crowds (Mosbach & Leventhal, 1988), as well as focus groups of local high school graduates asked to generate names and descriptions of crowds commonly found in their high schools. Consistent with previous work (Brown, 1989; Mosbach & Leventhal, 1988), the following peer crowds were identified:

jocks (i.e., athletic, being on school team), brains (doing well in school, enjoying academics), burn-outs (skipping school, getting into trouble), populars (social, involved in many activities, concerned about their image), nonconformists (rebellious against the norm in clothing or ideas, not conforming to social ideals), and none/average (no crowd affiliation, or "just average"). First, adolescents were asked to verify the presence of these crowds in their school and then to describe any other crowds existing in their schools. Next, adolescents picked the crowd with which they most identified and indicated how long they had been a member of that particular crowd (less than a year, since beginning high school, since middle school, since elementary school). Finally, to assess close friends' peer crowd affiliations, adolescents were asked to name up to three of their very best friends; for each friend named, adolescents were asked to identify that friend's peer crowd affiliation.

Prior studies have shown that adolescents are accurate in identifying their place in the peer crowd system. Brown et al. (1987) found good agreement between adolescents' and peers' reports of their crowd affiliation (e.g., 75% of jocks and druggies correctly identified their crowd). In identification of crowd choices from freaks (burnouts), jocks, hotshots/populars, and regulars (average), Sussman et al. (1990) obtained an interrater reliability of 93% for assigning adolescents to peer crowds.

Health-Risk Behaviors. Adolescents' cigarette smoking, substance use, risky sexual behavior, and general risk-taking behaviors were assessed with the Survey of Risk-Taking Behavior (SRTB) (obtained by request from Dr. La Greca). The SRTB was constructed from items on existing measures of risk taking and substance use (Jessor, Donovan, & Costa, 1991; Levine & Singer, 1988) and sexual behavior (Biglan et al., 1990) and were similar to those used by the CDC (1997b) to assess youth risk behaviors. Adolescents rated items on Likert scales that assessed the frequency of each behavior. Responses were converted to standard scores ($M = 0$, $SD = 1$); scores were averaged when more than one item assessed a particular area (correlations: for alcohol use, $r = .73$; for general risky behavior, $r = .60$; and for unprotected sex, $r = .87$; all $ps < .0001$). Specifically, one item measured cigarette use ("On average, in the past month, how many cigarettes have you smoked each day?"); two items assessed alcohol use ("How many times have you been drunk in the past twelve months?" "How often in the last 12 months

did you drink five or more drinks on a particular occasion?"); one item measured marijuana use ("On the average, how many times per month do you use marijuana?"); and two items measured general risky behavior ("I would do almost anything on a dare," "I like to take chances more than other people my age"). Adolescents also listed the number of times in the past year that they used other drugs (stimulants, psychedelic drugs, cocaine, barbituates, tranquilizers, heroin, or other illegal drugs). For sexual activity, adolescents listed "the number of different people they had sexual intercourse with in the past year"; responses were used to determine if an adolescent was sexually active in the past year (yes or no) and also to index their number of partners. For adolescents who reported at least one sexual partner ($n = 107, 42.8\%$), two items assessed unprotected sex ("In the last year, how often have you used some sort of birth control?" "In the last year, how often have you or your partner used a condom or something to prevent a venereal disease?"), and one item assessed the frequency of casual sex ("In the last 12 months, how many times have you had intercourse with someone you didn't know very well?").

Prior work supports the reliability and validity of the SRTB items. For example, items on unprotected sex had coefficient alphas of .73 and .77 in two independent samples (Biglan et al., 1990). Biglan et al. also found that high-risk sexual behavior was significantly related to antisocial behavior ($r = .21$), cigarette use ($r = .43$), alcohol use ($r = .34$), and illicit drug use ($r = .39$). With the same substance-use items, Jessor et al. (1991) found interrelationships between deviant behavior and substance use (cigarettes, alcohol, marijuana, other drugs), with correlations ranging from .14 to .53.

Friends' Health Risk Behaviors. The SRTB was modified to evaluate adolescents' friends' behaviors. Adolescents listed up to five of their very best friends. Next, they indicated how many of their best friends engaged in a variety of health-risk behaviors; these were generally the same behaviors as those on the SRTB. The only exception was that, instead of asking about friends' general risk-taking behaviors, adolescents were asked how many of their friends engaged in illegal behavior (i.e., could have gotten into trouble with the police for the things they have done; suggested that you do something against the law) and aggressive/antisocial behavior (ruined or damaged something on purpose that did not belong to them; hit or threatened to hit someone without any real reason). (We could

not use items regarding illegal or violent behaviors when asking the adolescents about their own behaviors because the IRB expressed concerns that we might have to report illegalities to local authorities and thus could not promise confidentiality.) For each item, a proportion score was computed (n of friends who engaged in the behavior divided by the total number of close friends); this was then standardized. Thus, z scores were obtained for the proportion of adolescents' close friends who use cigarettes, alcohol, marijuana, or other drugs; who have unprotected or casual sex; and who display illegal or aggressive/antisocial behavior.

Perceptions of Social Acceptance. The Self-Perception Profile for Adolescents (SPPA; Harter, 1988) assessed adolescents' perceived acceptance; it contains eight subscales, including one for social acceptance. Scores can range between 1 and 4, with higher scores reflecting more perceived social acceptance. Harter reported good internal consistency for the SPPA subscales (.74 to .93); in this study, the internal reliability of the social acceptance subscale was .82.

Results

Descriptive Statistics

Prevalence of Adolescent Health-Risk Behaviors. To provide a context for the findings, we first examined adolescents' reported prevalence of health-risk behaviors; where available, comparable statistics are noted for the most recent version (1997) of the Youth Risk Behavior Survey (CDC, 1997b). As expected, cigarette use and alcohol use were more prevalent than marijuana use and illicit drugs. Specifically, 59.2% of the adolescents reported having smoked a cigarette (ever), and 26% reported smoking a cigarette daily for the past 30 days; these data compare to reports that 70% of high school teens have tried cigarettes and 17% are frequent, current smokers (CDC, 1997b). For alcohol use, 54% of the sample reported being drunk at least once in the past year, and 40.4% reported having five or more drinks on at least one occasion in the past year, in comparison to data indicating that 51% of high school students currently use alcohol (CDC, 1997b). For marijuana, 30% of the teens reported use in the past year, and 22% in the past month, in comparison to 26% of the CDC sample who reported current marijuana use. For other drug use,

Table I. Characteristics of Peer Crowds

	Jocks (<i>n</i> = 35)	Brains (<i>n</i> = 29)	Burnouts (<i>n</i> = 18)	Populars (<i>n</i> = 50)	Non-conformists (<i>n</i> = 17)	None/ average (<i>n</i> = 101)
% total sample	14.0	11.6	7.2	20.0	6.8	40.4
Gender						
Boys (<i>n</i> , %)	19 (18.8)	10 (9.9)	13 (12.9)	14 (13.9)	6 (5.9)	39 (38.6)
Girls (<i>n</i> , %)	16 (10.7)	19 (12.8)	5 (3.4)	36 (24.2)	11 (7.4)	62 (41.0)
Length of affiliation (%)						
Grade school	5.7	62.1	5.6	22.0	17.6	29.7
Middle school	37.1	13.8	50.0	24.0	29.4	31.3
Beginning HS	34.3	24.1	27.8	36.0	35.3	25.0
Past year or less	22.9	0.0	16.7	18.0	17.7	14.0
Perceived acceptance						
Social acceptance	3.54 (.40) ^{pc}	3.07 (.64) ^b	3.12 (.50) ^{ab}	3.66 (.35) ^c	3.07 (.51) ^b	3.23 (.59) ^b

Row means with different superscripts are significantly different (Tukey's HSD, *df* = 244, *p* < .05).

17.6% of the adolescents reported some drug use in the past year; in the CDC sample, 8% reported cocaine use, and 3% reported illegal steroid use.

With regard to sexual activity, 42.8% of the adolescents were sexually active in the past year, compared with 48% in the CDC sample (1997b). Sexually active adolescents reported an average of 2 partners (range = 1–14), 10.3% reported never using any form of birth control, 10.3% reported never using condoms, and 21.5% reported having casual sex (i.e., with someone they didn't know very well). Finally, with respect to risk-taking behaviors, 18.4% of the sample agreed that they would do almost anything on a dare, and 37.2% agreed that they took more chances than others their age.

In general, boys and girls did not differ in their health-risk behaviors with the exception that boys reported more alcohol use/drunkenness, $F(1, 249) = 10.68$, $p < .01$, than girls. More boys (50.5%) were sexually active than girls (36.9%) ($\chi^2 [1] = 4.50$, $p < .05$); boys also reported more sexual partners ($M = 1.31$; $SD = 2.2$) than girls ($M = .56$, $SD = .9$), $F(1, 246) = 13.76$, $p < .0001$. Among teens who were sexually active, boys reported having more casual sex, $F(1, 105) = 9.47$, $p < .003$, than did girls.

Description of Adolescents' Peer Crowds. Before evaluating linkages between crowd affiliation and adolescents' health-risk behaviors, we examined the composition of the peer crowds (see Table I). Peer crowd composition did not differ with respect to ethnicity or age. However, girls were more likely to affiliate with populars than boys, and boys were more likely to affiliate with jocks and burnouts than girls ($\chi^2 [5] = 14.87$, $p < .05$). Similar gender differences have been obtained in other studies (e.g.,

Brown et al., 1993; Sussman et al., 1990). Rather than combining groups, as has been done (e.g., Urberg, 1992), we kept the crowds separate, because combining crowds may mask group differences in health behaviors. As a precaution, however, we repeated our analyses, controlling for gender whenever significant peer crowd differences emerged. None of the results (below) changed when gender was controlled.

The peer crowds differed in terms of length (or duration) of crowd affiliation ($\chi^2 [20] = 40.95$, $p < .01$; see Table I). Specifically, brains reported affiliating with their crowd for the longest time; in fact, 62% reported affiliating with this crowd as early as elementary school. More than half the burnouts reported affiliating with this crowd since middle school. In contrast, most other teens dated their crowd affiliation to middle school or the beginning of high school.

Peer Crowd Affiliation and Adolescents' Health-Risk Behaviors

Our first goal was to evaluate peer crowd differences in adolescents' health-risk behaviors. A MANOVA was conducted using the six domains of health-risk behavior (i.e., cigarette use, alcohol/ drunkenness, marijuana use, other drug use, general risk-taking behavior, and number of sexual partners) as the dependent variables. A multivariate effect for peer crowd (Wilks' $F [30, 950] = 3.91$, $p < .0001$) was significant at a univariate level for five of the six domains (see Table II for the standardized means.)

Follow-up analyses revealed that burnouts were more likely to engage in cigarette use, $F(2, 242) =$

Table II. Standardized Means (Standard Deviations) of Adolescents' Health-Risk Behaviors by Their Peer Crowd

Behavior	Jocks (<i>n</i> = 35)	Brains (<i>n</i> = 29)	Burnouts (<i>n</i> = 18)	Populars (<i>n</i> = 50)	Non-conformists (<i>n</i> = 17)	None/ average (<i>n</i> = 101)
Cigarette use	-.39 (.64) ^a	-.50 (.00) ^a	1.02 (1.33) ^c	-.09 (.88) ^a	.62 (1.17) ^b	.04 (1.03) ^{ab}
Alcohol/drunk	-.14 (1.72) ^{ab}	-1.15 (.55) ^b	1.50 (1.89) ^c	.49 (2.21) ^{ac}	.64 (1.88) ^{ac}	-.24 (1.72) ^{ab}
Marijuana use	-.28 (.52) ^{ab}	-.47 (.17) ^a	1.45 (1.42) ^c	-.07 (.91) ^{ab}	.43 (.89) ^b	-.06 (1.01) ^{ab}
Other drugs	-.29 (.39) ^a	-.37 (.18) ^a	1.43 (1.63) ^b	-.07 (.95) ^a	.34 (1.26) ^a	-.07 (.90) ^a
Risk taking	.34 (1.97) ^{ab}	-.97 (1.60) ^c	1.60 (1.23) ^b	-.15 (1.89) ^{ac}	.86 (1.97) ^{ab}	-.20 (1.52) ^{ac}
No. sex partners	.07 (.69) ^{ab}	-.43 (.24) ^a	.47 (2.04) ^b	-.02 (.86) ^{ab}	.27 (.84) ^{ab}	-.02 (1.01) ^{ab}
Unprotect. sex ¹	.17 (1.73)	.03 (2.45)	.66 (1.86)	-.05 (1.86)	.03 (2.19)	-.23 (1.51)
Casual sex ¹	.31 (1.43)	-.45 (.00)	-.18 (.56)	.11 (1.20)	.04 (.67)	-.12 (.83)

Row means with different superscripts are significantly different (Tukey's HSD, $df = 244$, $p < .05$).

¹Analyses of these sexual behavior were conducted on the subset of the sample ($n = 107$) who reported sexual activity in the past 12 months.

8.72, $p < .0001$; alcohol use/drunkenness, $F(2, 242) = 7.05$, $p < .0001$; marijuana use $F(2, 242) = 12.78$, $p < .0001$; use of "other" substances, $F(2, 242) = 11.08$, $p < .0001$; and general risk-taking behavior, $F(2, 242) = 6.58$, $p < .0001$, than adolescents in most other peer crowds. For example, 78% of the burnouts smoked daily, 72% were drunk at least three times in the past year, 55% used marijuana at least twice in the past month, 67% used "other drugs" in the past year, 56% were sexually active, 56% agreed that they would do almost anything on a dare, and 67% took more chances than others their age.

Nonconformists' substance use and risk-taking behavior was generally greater than other peer crowds, although lower than the burnouts (see Table II). Specifically, 65% of the nonconformists smoked daily, 41% were drunk at least three times in the past year, 29% used marijuana at least twice in the past month, 29% had used "other drugs" in the past year, 65% were sexually active, 41% agreed that they would do almost anything on a dare, and 53% took more chances than others their age.

In contrast, brains were the least likely teens to engage in health-risk behaviors. None of the brains smoked, 3% were drunk at least three times in the past year, none used marijuana in the past month, 3% had used "other drugs" in the past year, and only 17% were sexually active. In addition, 0% agreed that they would do almost anything on a dare, and 24% took more chances than others their age.

Patterns of health-risk behaviors were less uniform for jocks and populars. Jocks tended to be low on all substance use but above average on general risk-taking behavior; 23% agreed that they would

do almost anything on a dare, and 46% agreed that they take more chances than others their age. Although populars were generally low on substance use, they were above average (.5 *SD* above the mean) on alcohol use/drunkenness, with 44% reported being drunk three or more times in the past year.

In terms of sexual behaviors, chi-square analyses revealed significant group differences in sexual activity ($\chi^2 [5] = 16.65$, $p < .01$). Specifically, nonconformists (65%), jocks (59%), and burnouts (56%) were more sexually active than average (40%) and popular (38%) teens; brains were the least sexually active (17%). For number of sexual partners, no univariate effects of peer crowd were revealed; however, pairwise differences revealed that burnouts had the most and brains the fewest number of sexual partners in the past year (Tukey's HSD, $df = 244$, $p < .05$; see Table II).

Analyses of unprotected sex and casual sex were conducted only for the subset of the sample who reported being sexually active ($n = 107$); however, no significant group effects were revealed. The means in Table II suggest that burnouts had the highest rates of unprotected sex; in fact, 50% reported that they did not use a condom or some form of birth control when they had sex. Jocks had the highest reports of casual sex; 29% reported having sex with someone they didn't know well in the past year.

In summary, burnouts and nonconformists had the highest rates of health-risk behaviors, and brains the lowest, compared to other groups. However, relatively high rates of alcohol use among populars, and relatively high rates of risk-taking and sexual activity among jocks, were noted.

Table III. Proportion of Adolescents' Friends Who Display Health-Risk Behavior by Peer Crowd Affiliation: Standardized Means (Standard Deviations)

Friend's behavior	Jocks (n = 35)	Brains (n = 29)	Burnouts (n = 18)	Populars (n = 50)	Non-conformists (n = 17)	None/ average (n = 99)
Cigarette use	-.18 (.86) ^{ac}	-.69 (.48) ^c	1.01 (.91) ^b	.11 (1.03) ^a	.44 (1.17) ^{ab}	-.05 (.96) ^a
Alcohol/drunkenness	.02 (1.01) ^{abc}	-.65 (.86) ^c	.72 (.80) ^b	.12 (1.06) ^{ab}	.57 (.91) ^{ab}	-.11 (.92) ^{ac}
Marijuana use	-.20 (.75) ^{ac}	-.76 (.42) ^c	1.29 (.77) ^b	.02 (.89) ^a	.77 (1.06) ^b	-.09 (1.00) ^a
Other drugs	-.25 (.54) ^{ac}	-.50 (.35) ^c	1.15 (1.50) ^b	.06 (1.02) ^{ac}	.39 (1.28) ^{ab}	-.07 (.91) ^{ac}
Unprotected sex	-.18 (1.79) ^a	-.97 (.86) ^a	1.83 (2.92) ^b	-.05 (1.83) ^a	.39 (1.38) ^{ab}	-.02 (1.88) ^a
Casual sex	.50 (1.99) ^a	-.83 (1.02) ^b	.56 (1.56) ^{ab}	.16 (1.65) ^{ab}	.12 (1.63) ^{ab}	-.14 (1.84) ^{ab}
Illegal behavior	.04 (1.64) ^a	-.79 (.75) ^a	2.30 (2.52) ^b	-.45 (1.34) ^a	.51 (1.89) ^a	-.06 (1.75) ^a
Aggressive/ antisocial behavior	.34 (1.90)	-.57 (.81)	.36 (2.21)	.01 (1.97)	.70 (2.71)	-.14 (1.41)

Row means with different superscripts are significantly different (Tukey's HSD, $df = 244$, $p < .05$).

Peer Crowd Affiliation and Close Friends' Health-Risk Behaviors

Our second goal was to examine whether adolescents from the various peer crowds reported differences in the proportions of their close friends who engaged in similar health-risk behaviors. Using adolescents' own peer crowd as the grouping variable, we conducted a MANOVA using friends' health-risk behaviors as the set of dependent variables. A multivariate effect for peer crowd was revealed, Wilks' $F(40, 1001) = 2.99$, $p < .0001$, and univariate effects were obtained for seven of the eight domains: cigarette use, $F(5, 236) = 8.56$, $p < .0001$; alcohol/drunkenness, $F(5, 236) = 5.78$, $p < .0001$; marijuana use, $F(5, 236) = 14.00$, $p < .0001$; use of "other" substances, $F(5, 236) = 8.25$, $p < .0001$; unprotected sex, $F(5, 236) = 5.16$, $p < .0001$; casual sex, $F(5, 236) = 2.43$, $p < .0001$; and illegal behavior, $F(5, 236) = 9.09$, $p < .0001$. No effects were obtained for aggressive/antisocial behavior, although the means were highest for the nonconformists, burnouts, and jocks (see Table III).

Overall, greater proportions of the close friends of burnouts and nonconformists engaged in various forms of substance use and risky sexual behaviors as compared with other crowd members' friends (see Table III). Although burnouts and nonconformists did not differ statistically, the means were consistently higher for the burnouts, suggesting higher proportions of their close friends engaged in high-risk behaviors. As with their own behaviors, brains were the least likely to report having many close friends who engaged in any form of substance use, risky sexual behavior, or illegal behavior.

In addition to these findings, higher propor-

tions of the burnouts' close friends were reported to engage in illegal behavior than the friends of any other peer crowd affiliates. It is also noteworthy that jocks reported a relatively high proportion of friends who engaged in casual sex (see Table III).

Are Adolescents' Closest Friends Embedded Within the Same Peer Crowds?

Our third study goal was to evaluate aspects of adolescents' social adjustment as a function of their peer crowd affiliation. Specifically, we evaluated the match between adolescents' peer crowd affiliation and that of their closest friends and also examined adolescents' social acceptance as a function of their crowd affiliation. Table IV lists the percentage of adolescents within each peer crowd whose best friends also affiliated with the same crowd. As can be seen, adolescents were likely to have close friends who affiliated with the same peer crowd. Overall, 69% reported that their *best* friend also affiliated with the same peer crowd, and this did not differ significantly as a function of adolescents' own crowd affiliation ($\chi^2 [5] = 3.51$, *ns*). In addition, 82% of adolescents reported that *at least one* of their three best friends affiliated with the same crowd; this percentage also did not vary significantly as a function of the adolescents' peer crowd affiliation ($\chi^2 [5] = 2.76$, *ns*). Interestingly, none of the teens from the highest "risk group," the burnouts, reported having a best friend from the lowest "risk group," the brains. Similarly, no brains reporting having a best friend who was a burnout.

With respect to perceptions of social acceptance, a significant univariate effect was obtained for social acceptance, $F(5, 244) = 8.64$, $p < .0001$ (see

Table IV. Peer Crowd Affiliations of Adolescents' Closest Friends (%)

	Jocks (<i>n</i> = 35)	Brains (<i>n</i> = 29)	Burnouts (<i>n</i> = 18)	Populars (<i>n</i> = 50)	Non- conformists (<i>n</i> = 17)	None/ average (<i>n</i> = 101)
Best friend's affiliation						
Jocks	52.9	6.9	5.6	2.0	5.9	7.1
Brains	2.9	65.5	0.0	10.2	5.9	4.1
Burnouts	5.9	0.0	61.1	2.0	0.0	3.1
Populars	11.8	10.3	5.6	65.3	0.0	11.2
Nonconf.	0.0	3.4	5.6	4.1	76.5	7.1
None/aver.	26.5	13.8	22.2	16.3	11.8	67.3
Three close friends' affiliation						
≥1 in same group	80.8	86.2	66.7	86.0	94.1	81.2

Table I). Follow-up analyses revealed that populars and jocks reported higher levels of social acceptance than adolescents from other peer crowds.

Discussion

Reducing adolescents' health-risk behaviors is an important health promotion goal (Kolbe et al., 1997). Reducing smoking, alcohol and drug use, and risk-taking behaviors would not only contribute to improved adolescent health but could reduce the morbidity and mortality associated with adult-onset diseases, such as cancer and heart disease (McGinnis, 1994). Reducing rates of unprotected and casual sex may decrease STDs and early pregnancy. Thus, understanding adolescents' health-risk behaviors and their associated factors should help to inform health-promotion and disease-reduction efforts. In this regard, the findings of this study indicate that certain groups of adolescents display substantially higher rates of health-risk behaviors than others, that high-risk teens tend to have poor profiles of health behaviors across a wide area of domains, and that adolescents' close friends are likely to display similar behaviors and to be embedded within the same peer crowds.

In this study, burnouts and nonconformists reported the highest rates of health-risk behaviors *across the board*. These findings are consistent with prior work on cigarette and drug use (e.g., Mosbach & Leventhal, 1988) and extend this work to risk-taking behaviors and sexual activity. Burnouts were primarily male and nonconformists were primarily female, which may partially account for the higher levels of health-risk behaviors in burnouts

(i.e., alcohol use and risky sexual behaviors were higher in boys than girls overall). Given the wide range of their health-risk behaviors, however, adolescents who affiliate with *both* of these peer crowds would be important to target for comprehensive prevention efforts. In doing so, it would be critical to consider these adolescents' friends. Both burnouts and nonconformists reported that high proportions of their friends engaged in similar health-risk behaviors, and both groups have close friends who affiliate with the same peer crowd. Thus, burnouts and nonconformists may have substantial support from their friends for their health-risk behaviors. These data strongly suggest that health-promotion efforts for high-risk youths must take into account peer networks and friendships to have much impact on the behavior of these high-risk teens. Educational efforts alone (such as "Just Say No to Drugs") are not likely to affect teens whose best friendships are interwoven with high levels of health-risk behaviors. Nor would it be useful to suggest that burnouts or nonconformists change their peer crowd affiliation. The relatively low social status associated with these high-risk peer crowds would make it difficult for such teens to shift affiliation to a higher status crowd. Others (e.g., McWhirter, McWhirter, McWhirter, & McWhirter, 1998) have criticized adolescent health-promotion and prevention efforts for failing to take into account adolescents' peer networks—which may normalize, support, and encourage a wide range of deviant behaviors. The findings of this study strongly support these observations.

Adolescents who affiliated with the brains stood in contrast to the burnouts and nonconformists, as they had the lowest levels of health-risk behaviors

of any group. Across the board, brains had the lowest levels of substance use and sexual activity, and they had few close friends who exhibited health-risk behaviors. In fact, brains rarely had close friends from one of the high-risk peer crowds. These data suggest that brains are the least likely group of teens to be in need of health promotion efforts, at least for the health risks evaluated in this investigation.

In between the extreme-risk groups, however, are the jocks and populars. Although jocks reported low substance use, they reported high rates of risk-taking behaviors, had a high proportion of close friends who engaged in casual sex, and themselves tended to report more casual sex. One implication of these findings is that efforts to reduce sexually transmitted diseases and to promote "responsible sexual behavior" among adolescents should target the jock or athletic groups within high schools. Athletically oriented teens tend to be sexually active (e.g., 59% were sexually active, compared with 42% of the teens overall) and may be engaging in risky sexual behaviors; these teens also view themselves as popular and may have more opportunities to find sexual partners than other teens. In fact, surveys of high school athletes (Forman, Dekker, Javors, & Davison, 1995) have found that male athletes engage in sex at earlier ages than male nonathletes. Moreover, among college students, higher rates of risky sexual behaviors (i.e., more partners, less contraceptive use) have been observed in athletes than their nonathlete peers (Nattiv, Puffer, & Green, 1997). Thus, our findings are consistent with these surveys in suggesting that adolescent jocks may be a high-risk group for STDs. This is especially worrisome in a community like Miami-Dade County, which has one of the highest rates of HIV infection in the country (CDC, 1997a). Given jocks' relatively high social status, it may also be useful for school-based prevention efforts to identify jocks who both practice and advocate "safe sex" and to recruit them as peer models for responsible sexual behaviors.

Also of concern is the jocks' relatively high rates of risk-taking behaviors, suggesting that they may be at risk for nonintentional injuries, even outside of athletic competition. Baumert, Henderson, and Thompson (1988), recently surveyed 6,800 high school students, finding that athletes reported exceeding the speed limit and riding bikes or motorcycles without helmets more than nonathletes. Thus, injury prevention programs might also target jocks within high schools, as they may represent a high-risk group of teens.

In terms of teens who are part of the popular crowd, and who are disproportionately female, this is the second study to find that they have relatively high rates of alcohol use, at least for occasional binge drinking. Interestingly, unlike the pattern observed for most health-risk behaviors, populars *did not report* higher proportions of close friends who drink than did teens from other crowds, suggesting that populars' support for binge drinking may come from influences other than close friends. Populars are, by definition, socially active teens; thus, they may interact with more different kinds of teens than those from other peer crowds. In fact, populars' drinking may emerge during party or social occasions, or perhaps when dating, rather than in the company of close friends. If this is the case, however, it could also put these teens at risk for STDs, as linkages have been found between alcohol excess and risky sexual behavior (Biglan et al., 1990; O'Hara, Parris, Fichtner, & Oster, 1998). In general, then, these findings suggest that popular teens may represent a high-risk group for excessive alcohol use and potentially for related health problems.

In addition to these observations, several general implications can be drawn from the findings. First, with the exception of the high social-status teens (populars, jocks), teens' health-risk profiles were either "generally good" or "generally poor"; that is, levels of substance use, risk taking, and risky sexual behaviors tended to "go together." Yet most prevention efforts focus on selected aspects of health-risk—usually drug use (e.g., Ellickson, Bell, & Harrison, 1993) or risky sexual behaviors (e.g. Boekeloo et al., 1999). Given that problematic health-risk behaviors cluster together, however, more comprehensive health-promotion and prevention efforts may be needed.

Second, given the strong connections between teens' health-risk behaviors and that of their close friends, health-promotion efforts need to consider how the modality of preventive interventions may affect, or even inadvertently reinforce, negative peer influences. Dishion, McCord, and Poulin (1999) have provided persuasive evidence of iatrogenic effects in peer-group interventions, noting that interventions that group deviant teens together lead to increases in substance use and problem behaviors over time. This suggests that the most at-risk teens, such as burnouts or nonconformists, would benefit most from prevention strategies that counteract or minimize peer influences. Specifically, prevention programs should avoid ag-

gregating high-risk adolescents into intervention groups; rather, deliberate efforts should be taken to ensure that such youths are separated from their friends during prevention programs, to minimize the subtle, yet powerful, ways that deviant peers influence each others' behaviors (see Dishion et al., 1999). In addition, involving high-risk teens' parents in the direct monitoring of their teens' activities may prove beneficial, as parental monitoring has been shown to counteract adolescents' associations with deviant peers (e.g., Brown et al., 1993; Mason, Cauce, Gonzales, & Hiraga, 1996).

A third implication concerns the "timing" of prevention programs. Our findings suggest that early prevention, with periodic follow-up, might be useful. High-risk teens, like the burnouts, reported affiliating with this crowd since middle school. Because of the addictive properties of many substances (e.g., cigarettes, alcohol), health-risk behaviors may already be entrenched by high school. Thus, initiating prevention programs in early adolescence would be desirable, with continued attention to health-risk behaviors throughout high school. Positive outcomes associated with substance-use prevention programs in middle school, without further follow-up, have not been maintained later on (e.g., Shope, Copeland, Kamp, & Lang, 1998).

Finally, substantial interest has emerged in developing HIV/STD prevention programs for use in primary care settings. To date, such efforts have focused on screening for sexual activity and education regarding "safe sex" (e.g., Boekeloo et al., 1999; Millstein, Igra, & Gans, 1996), although the impact of such educational efforts has been short-lived (e.g., Boekeloo et al., 1999). Our data suggest that screening efforts might be improved by asking teens about their peer crowd affiliations, so that high-risk youths can be more readily identified.

Despite the many positive findings, some caveats remain. First, the findings are based on adolescent report. Adolescents are considered to be the best informants for their own health-risk behaviors (e.g., La Greca & Lemanek, 1996), and are used by the CDC (1997b) to monitor youth risk behaviors. However, the similarity between adolescents' and their friends' behaviors may be influenced by having the adolescents report on their friends' behaviors. It would be of interest to see if adolescents' best friends would report similar kinds of behaviors if asked directly. That was not feasible in this study, as adolescents came from a large metropolitan area and attended more than 20 different high schools.

Nevertheless, using a school-based methodology that elicits reports directly from adolescents' friends in school, others have found that adolescents' and their friends behaviors matched very well in terms of smoking (e.g., Eiser, Morgan, Gammage, Brooks, & Kirby, 1991; Urberg, 1992), as well as alcohol use, spending habits, school performance, and other attitudes and beliefs (e.g., Eiser et al., 1991). Although additional research is desirable, our data suggest that the pattern of close friend influence that has been obtained for smoking and some other behaviors may, in fact, extend to areas such as substance use, risk taking, and risky sexual behaviors.

Second, although ethnic differences in health-risk behaviors were not a focus of this study, this is an important direction for the future. In this study, the peer crowds did not differ in their ethnic representation, in line with earlier work suggesting that peer crowds are similar across ethnic groups (Brown, 1989; Phillips et al., 1998). Within the peer crowds, however, our samples were too small to meaningfully evaluate ethnicity as a moderator of the relationship between crowd affiliation and health-risk behaviors. However, this would be desirable to consider in the future. Among adults (e.g., Kaplan, Sallis, & Patterson, 1993), health behaviors vary according to ethnicity.

Third, the data collected in this study came from one school district in a large metropolitan area and may not generalize to other communities. On the positive side, Miami-Dade County is the fourth largest school district in the United States and represents a diverse student body. Nevertheless, replication of these findings in other communities would be desirable.

Finally, caution should also be used in interpreting the results, as some of the peer crowds were fairly small. We note that the distribution of students across peer crowds was similar to that of other studies (e.g., Sussman et al., 1990; Urberg, 1992), with problem groups such as the burnouts and nonconformists comprising the smallest crowds and average or regulars the largest. In fact, some investigators have combined small groups (e.g., burnouts and nonconformists) to increase group sizes (e.g., Urberg, 1992). However, use of this strategy in this study would have masked important peer crowd differences—such as the elevation in populars' alcohol use, or the high rates of Jocks' risk-taking behaviors and sexual activity. Despite relatively small cell sizes for some peer crowds, we observed many significant

crowd differences, suggesting that crowd differences may be fairly robust.

The small group sizes proved to be problematic, however, in terms of documenting peer crowd differences in risky sexual behaviors, despite group means that appeared substantially different. Because only 42% of the sample was sexually active, the cell sizes were much smaller for analyses of risky sexual behaviors. Thus, the trends we observed await confirmation in a larger sample of sexually active teens. It is also possible that the absence of significant crowd differences in risky sexual behaviors could be the result of the wording used for these items. Although the items were drawn from previous research (e.g., Biglan et al., 1990), items asked about behaviors in the past year. Shorter time intervals (i.e., 3 months) may prove more accurate for assessing risky sexual behavior (see CDC, 1997b).

In conclusion, preventing the initiation or maintenance of health-risk behaviors among ado-

lescents is an important goal, and one that should have a positive impact on adult morbidity and mortality—and, thus, the health of the nation. Given the intertwining of health-risk behaviors and close friendships, it becomes imperative to pay attention to peer factors in developing effective prevention programs for adolescents.

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