

Journal of American College Health



ISSN: 0744-8481 (Print) 1940-3208 (Online) Journal homepage: http://www.tandfonline.com/loi/vach20

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To cite this article: Carma L Bylund Phd, Rebecca S Imes Ma & Leslie A Baxter Phd (2005) Accuracy of Parents' Perceptions of Their College Student Children's Health and Health Risk Behaviors, Journal of American College Health, 54:1, 31-37, DOI: 10.3200/JACH.54.1.31-37

To link to this article: http://dx.doi.org/10.3200/JACH.54.1.31-37

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Accuracy of Parents' Perceptions of Their College Student Children's Health and Health Risk Behaviors

Carma L. Bylund, PhD; Rebecca S. Imes, MA; Leslie A. Baxter, PhD

Abstract. The authors compared parents' perceptions of their college student children's health and health risk behaviors with the college students' own reports. One hundred sixty-four parent—college student child dyads completed questionnaires regarding the students' health, illness status, and health risk behaviors. Parents tended to be overoptimistic about their children's health and health risk behaviors, underestimating the frequency of their children's alcohol, smoking, marijuana, and sex-related behaviors, and overestimating the students' self-reports of general health. Such misperceptions may inhibit parent—student conversations about health and risky health behavior, ultimately putting the student at greater health risk.

Key Words: college students, health, parent involvement, perceptions, health risk behaviors

esearch has focused on parents' influence on adolescents' risky health behaviors. 1,2 Although parental influence on college students' health risk behaviors is critical, researchers have not extensively studied such influence. Parenting does not cease when the child leaves home for college, and discussions between parents and college student children about health still occur. Because college students are at a high health risk, and because their parents may be able to have some impact on their health behaviors, 3 we believe that it is important to examine whether parents have correct perceptions of their children's health risk behaviors. We investigated how parents' perceptions of their college student children's health risk behaviors compare with the college students' own reports.

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College Students and Health Risk Behaviors

College students are at risk for immediate and future health problems. Many heart disease risk factors stem from behaviors initiated during their adolescence, including excessive alcohol consumption, tobacco use, high blood cholesterol, stress, hypertension, and sedentary lifestyle.⁴ An estimated 44% of college students are classified as binge drinkers,⁵ defined for men as consuming 5 or more drinks at one sitting. Tobacco use is an identified health risk among the college-aged population.⁶⁻⁸ Estimates of regular smokers in the college-aged population range from 14%9 to 29%. 10 An estimated 11%11 to 29%9 of college students have high cholesterol levels, and it is not surprising that research has identified unhealthy nutrition in the college student population. 9,12,13 In addition, the college experience is related to stress and hypertension. 13-16 According to Spencer,9 4% of college students reported moderate to severe stress levels, and 21% had borderline high blood pressure. College students get inadequate amounts of exercise, 9,13,14 and overweight and obesity rates are increasing.4 As a group, college students also suffer from sleep difficulties.¹⁷

Health risks do not end with coronary heart disease-related concerns. College students also report sexual behaviors that place them at increased risk of acquiring sexually transmitted infections (sties), because unprotected sex is common in this age group. 18–20

Given these health risks, researchers have encouraged college health educators to look for additional ways to improve students' health. Birch and colleagues³ suggested that health educators at the college level should use instructional activities, such as health behavior discussions, that involve college students and their parents. For college health educators to encourage parental involvement, they need to understand more about parents' beliefs about their

college students' health risk behaviors. If parents believe that their children are not engaging in risky health behaviors, they may be less motivated to become involved.

Parental Perceptions of Health Risk Behaviors

Although research about parental knowledge of college students' risky health behaviors is rare, some studies have paid attention to parental knowledge about adolescents' risk behaviors. This literature is useful as a context for our current study. Researchers indicate that parents do not significantly differ from adolescents on their perceptions of the adolescents' frequency of certain risky health behaviors, including seatbelt use, bicycle helmet use, diet, and exercise. However, some evidence indicates that parents are ignorant of their adolescent children's major risk behaviors. Young and Zimmerman, in an examination of middleschool students in Tennessee, found parents significantly underestimated their children's major health risk behaviors, including carrying a weapon to school, using LSD or cocaine, suicide attempts, sexual intercourse, alcohol, tobacco, and marijuana use. Further, Deffenbaugh and associates² reported that parents in Indiana underestimated substance abuse among their adolescent children.

Recently, some researchers have focused on parental monitoring as a way to reduce adolescent risk behaviors and related gaps in perceptions. ^{21–23} Both research literature and the mass media focus on parental monitoring with public service announcements from the National Youth Anti-Drug Media Campaign that encourage parents to ask their youngsters questions and to know what their kids are doing. Although such parental monitoring may be more difficult in parents' relationships with their college students, some of the principles of monitoring might be useful for parents of college students. Children may be living apart from their parents during the college years, but they maintain communication through face-to-face visits, telephone calls, and e-mail exchanges. Such interactions provide parents and children with opportunities to discuss health-related issues. ²⁴

Parent-College Student Discussions About Health

Parent–child relationships are central to children's well-being. Parenting certainly does not end when children leave home to go to college²⁵—financial and emotional support often continue. Although we know little about parents' perceptions of their college students' health behaviors, we do have evidence that parents and their college student children do discuss health issues. In a 1997 study, Birch and colleagues³ surveyed students at 5 US universities about health discussions with their parents. More than half of the students reported that health discussions with their parents were either important or very important in promoting their health. The students reported talking about sexuality, substance abuse, and relationships as the most important health topics they discussed with parents.

Some evidence indicates that parents' and college students' conversations about health topics may affect students' health risk behaviors. Booth-Butterfield and Sidelinger²⁶ surveyed college students and their parents about communication patterns in their families, as well as their attitudes toward sexuality and alcohol. The researchers also asked the students about their own sexual and alcohol-related behaviors. Students' perceptions of the frequency of conversations with their parents about sexual activity correlated with the students' practicing safe sex. Similarly, students' perceptions of the frequency of conversations with their parents about alcohol showed a correlation with the students' using safe behaviors regarding alcohol.

In short, because college students continue to talk about health-related matters with their parents, parents are potentially in a position to support their children's positive health behaviors and to seek change in the young people's risky health practices. This potential seems most likely to be realized when parents have an accurate understanding of their children's health and health-related behaviors. If parents are underestimating the students' positive health behaviors, they cannot positively reinforce their children's behavior accordingly; and if parents underestimate their children's negative behaviors, they cannot function as effective agents of change in supporting their children's choices of healthier options.

Study Rationale and Research Questions

Given preliminary evidence that parent–college student discussions about health can be important, it would be useful to understand more about the accuracy of parents' perceptions of their college student children's behaviors. Such perceptions may affect whether conversations ever happen or how they occur.

Because of misperceptions, especially of severe health risk behaviors, that plague parents of adolescents, we question whether the misperceptions will improve, worsen, or stay the same when the child goes to college. One might think the perceptions would improve, given literature showing that the parent–child relationship generally improves between the ages of 18 to 23 years. However, other published research indicates that the adolescent relationship affects the parent–child relationship later in life, especially in conflict control, which might be expected with discussions about health risk behaviors. In addition, some college students' greater geographic distance from parents, combined with greater independence, might produce fewer conversations. Given competing rationales, we posed the following research questions:

Research question 1: To what extent do parents and their college student children differ in perceptions of the students' overall health status?

Research question 2: How accurate are parental perceptions of their college student children's health risk behaviors?

METHOD

Participants

One hundred sixty-four college student–parent dyads independently completed questionnaires (n = 328). College

students were from a large midwestern university, predominantly female (81%), white (94%), and in college for a mean of 3.48 years. The median age of participants was 21. The majority (88%) reported being raised in a 2-parent household with birth or adoptive parents, 6% in a stepfamily with a mother and stepfather, and 4% in a single-parent household with a mother. The mean number of siblings was 1.73.

Participating parents of the college students also tended to be female (79%) and white (94%). The median age was 49. The majority of parents (85%) reported completing at least some college, with 38% completing a bachelor's degree, and 20% completing graduate or professional school. Sixty-four percent of the parents reported a household income of more than \$75,000. Parents' reports of family type and number of children did not differ notably from students' reports.

Procedures

We first received approval from the Institutional Review Board (IRB) of the participating institution. We gave undergraduate students in communication studies courses the opportunity to complete a set of questionnaires and to ask their parent to complete a set in compliance with IRB policies at the researchers' institution. Students could earn extra credit for completing the study and for having their parents complete the study. We provided alternative opportunities for students who did not wish to complete surveys and for students whose parents did not complete surveys.

We told the students to give a copy of the survey to 1 parent and return it in a sealed envelope. If the students' biological or adoptive parents were separated or divorced, the students were to choose 1 household as their primary household of residence, answer the questions in reference to that household, and give the survey to the parent in that household. The survey numbers were the same on the parent's and the child's surveys so that we could anonymously identify each dyad.

The survey consisted of 4 parts, 2 of which were relevant to this study. The first was a section on background information about the participant. The second was a questionnaire about the student's current health and health risk behaviors, on which we asked the students to report about themselves, and we asked the parents to report their perceptions of their college student's current health and health risk behaviors. The 25 items asked about the student's health²⁹ and health risk behaviors, including nutrition, exercise, sleep, sun protection, vehicle safety, illness and medical history, safe sex behaviors, and alcohol, tobacco, and drug use. We adapted most of the survey items from 2 sources: the 1995 National College Health Risk Behavior Survey³⁰ and the Project GRAD 2-year follow-up health survey.³¹

In addition to the 164 students who did return parent surveys, 22 students did not return completed parent surveys, and we did not include them in the analysis presented here. As researchers did in previous studies, ²⁶ we compared the 164 students who did return parent surveys with the 22 who did not. Paired-sample tests indicated that students who did

not return parent surveys generally reported engaging in more health risk behaviors than did students who did return parent surveys, specifically in the domains of cocaine use, unsafe sex, sleep, and sun protection. The students who did not return parent surveys also reported more minor acute illnesses but surprisingly less use of illegal drugs other than marijuana and cocaine than students with parent surveys.

RESULTS

Our first research question asked how similarly college students and their parents rated the college students' health status. The paired-sample t test we conducted indicated that parents rated their college student children's health higher (M = 4.48) than the children rated their own health (M = 4.22), t(159) = -3.84, p < .0001, on a scale from 1 = very bad health to 5 = very good health. However, college students and parents did not differ significantly on their reports of the number of minor acute illnesses (eg, colds and flu) that the student had experienced in the past year. A series of chi-square tests revealed that college students and parents also did not differ significantly on their reports of the student's current illnesses or changes in their medical status in the past year.

The second research question examined the accuracy of parents' perceptions of their college students' health risk behaviors. We used paired-sample t tests to examine the accuracy of perceptions. To protect against family-wise error, we used an adjusted alpha of p = .002. Because there were no instances in which the parents perceived less healthy behaviors than the students reported, we categorized the results into 1 of 2 groups: (1) parents' perceptions of healthier behaviors than students' reported, shown in Table 1; and (2) parents' accurate perceptions (ie, no significant differences between college students' and parents' reports), shown in Table 2. Of 21 health risk behaviors, parents accurately perceived 16. However, parents perceived their children engaging in significantly less risky behaviors than the children reported for frequency of drinking alcohol, binge drinking, smoking cigarettes, having sexual intercourse, and using marijuana.

Although aggregate data demonstrated that parents underestimated the number of days that their college students reported smoking at least 1 cigarette, further analysis revealed an interesting pattern dependent on the parent's knowledge of whether the student smoked at all. First, a chi-square analysis showed a significant difference between parents' and children's reports of the child smoking at least once in the past 30 days, $\chi^2(1, N = 163) = 56.11, p < .001$. In 50% of the cases in which a student reported smoking at least once in the past 30 days, parents correctly perceived that the child had done so. By contrast, in 98% of the cases when a student reported not smoking at least once in the past 30 days, parents thought the child did not smoke at least once in the past 30 days. When parents and children both reported the child to have smoked at least once in the past 30 days, parents had accurate perceptions of how many days the child had smoked and how many cigarettes the *p < .002. **p < .001.

TABLE 1. Parents' Perceptions That Their College Student Children's Behaviors Are Healthier Than Surveyed Students' Reports

	College students' reports		Parents' perceptions	
Health risk behavior	M	SD	M	SD
In the past 30 days, the number of days that the student:				
Drank at least 1 drink of alcohol*	8.37	5.59	7.19	5.40
Had 5 or more drinks of alcohol in a row**	4.52	4.52	2.69	3.55
Smoked at least 1 cigarette**	5.51	9.99	2.58	7.25
In the past 30 days, the number of times that the student:				
Had sexual intercourse**	4.86	6.78	2.46	4.64
Used marijuana**	1.73	5.03	0.26	1.25

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	College students' reports		Parents' perceptions	
Survey item	M	SD	M	SD
In the past 30 days, the number of days (nights) that the student:				
Used chewing tobacco and/or snuff	0.01	0.08	0.19	2.01
Got a full night's sleep	16.77	7.97	17.22	7.89
In the past 30 days, the number of times that the student: Rode in a car or other vehicle driven by				
someone whose judgment may have been impaired by drinking alcohol Drove a car or other vehicle when judgment	0.40	0.80	0.55	1.59
may have been impaired by drinking alcohol Sniffed glue or breathed the contents of aerosol spray cans, or inhaled any paints or sprays to	0.20	0.53	0.19	0.77
get high	0.01	0.16	0	_
Used cocaine	0.02	0.19	0	
Used other illegal drugs (besides cocaine and				
marijuana)	0.02	0.14	0	
Yesterday, how many servings did the student eat of:				
Fruits and vegetables	2.55	1.56	2.48	1.40
High fat content food	1.86	1.31	2.02	1.47
On a scale from 1 = <i>never</i> to 5 = <i>always</i> , how often the student:				
Protected skin from the sun	3.09	1.07	3.17	1.15
Wore a helmet when on a bicycle or motorcycle	2.08	2.02	2.5	1.93
Wore a seat belt during the past 12 months	4.55	0.84	4.73	0.55
Of the times students did have sexual intercourse, what percentage of time they or their partner used:				
A contraceptive	95%	21%	99%	5%
A condom	46%	45%	57%	48%
On the days students did smoke, how many cigarettes did they smoke?	6.14	4.99	4.35	3.63
In the past 3 months, how many days per week, on average, did the student get at least 20 minutes of				
exercise?	3.35	1.66	3.43	1.73

child had smoked on days he or she smoked. Finding that parents who knew their children were smoking were accurate in their perceptions of frequency of smoking led us to query whether the students whose parents did not know they smoked tended to be occasional smokers. As shown in Table 3, further analysis confirmed that students who smoked without their parents' knowledge smoked on fewer days and smoked fewer cigarettes than students who smoked with their parents' knowledge, t(55) = 4.82, p < .0001; and t(52) = 3.11, p < .0001.

A similar pattern emerged in response to questions about sexual behavior. Again, parents underestimated the frequency with which their college students engaged in sexual intercourse. Our chi-square analysis showed that parents significantly tended to misperceive whether their child had sexual intercourse at all in the past 30 days, $\chi^2(1, N = 163) = 46.71$, p < .0001. In 39% of the cases in which the student reported having had sexual intercourse at least once in the past 30 days, the parent thought the child had not had intercourse. When both parents and children reported that the child had sexual intercourse at least once in the past 30 days (n = 60), parents did not differ significantly from students in reporting percentage of condom and contraceptive use.

COMMENT

The parents of the college students in this sample seemed to be overoptimistic about their college students' health and health risk behaviors. Although parents had accurate perceptions of many of their college students' health risk behaviors, they underestimated their college student children's frequency of drinking, binge drinking, engaging in sexual intercourse, using marijuana, and smoking at least 1 cigarette. In addition, parents tended to rate their college students' health higher than the college student rated it. Whereas parents did have many accurate perceptions of their children's behavior, in no cases did the students report better health or healthier behaviors than their parents' perceptions revealed.

In line with previous research on parents' perceptions of young adolescents' health risk behavior, we found that parents had accurate perceptions about their college student children's diet, exercise, use of a bicycle helmet, use of a seatbelt, and frequency of riding in a car with someone

under the influence of alcohol.¹ We also found parents to have accurate perceptions about other health risk behaviors, including driving a car under the influence of alcohol and using sun protection measures. Perhaps these are topics that parents and children are comfortable talking about and are not considered "taboo."

Our findings also indicated that parents underestimated "severe" health risks (eg, using alcohol, smoking cigarettes, using marijuana, and engaging in sexual intercourse), which is similar to previous reports of parents' perceptions of their adolescent youths' behaviors. 1,2 We found it interesting that, although parents underestimated how many days in the past month their college student smoked cigarettes, those parents who did think their student smoked at least once in the past 30 days displayed accurate perceptions of how many cigarettes their college students were smoking daily. In addition, students whose parents did not know they smoked tended to smoke fewer cigarettes each day they smoked, and smoked on fewer days than students whose parents did know. This finding leads us to believe that parents are more aware of habitual smokers and generally unaware of their college students' occasional smoking.

Following a pattern similar to the perception of smoking, students whose parents perceived correctly that their students had sexual intercourse during the past 30 days tended to have accurate perceptions about the frequency with which the students practice safe sex. However, many parents did not perceive that their children were having sexual intercourse at all.

We found it surprising that parents did not have significantly different perceptions about their college students' use of substances other than tobacco, alcohol, and marijuana. However, this may have been related to the low reports of use of any of these other substances (sniffing/inhaling, cocaine, or other illegal drugs). Fewer than 3% of the students or parents reported the student used any of these substances at all. Whether this was self-report bias or fear of getting caught (even though they were assured of anonymity) is hard to say. As we noted earlier, we have some reason to believe that students who also had their parents return a survey reported more healthy behaviors than students who did not return a parent survey.

TABLE 3. Comparison of College Student Smokers, by Accuracy of Parental Perception

	Yes		No	
Parents' perception of students' smoking	M	SD	M	SD
Number of days child smoked in the past 30 days* Number of cigarettes smoked on the days child	21.76	8.94	9.76	9.99
smoked*	6.36	4.92	2.98	2.62

Note. n = 29. *p < .0001.

Implications

The implications of these findings are based on 2 assumptions: first, that parental talk about health risk behaviors with children may have some benefit,3 and second, that our perceptions of reality guide our communication with others. That being said, parents' misperceptions about their college students' health risk behaviors and overall health may have an impact on their conversations with these children about such behaviors and may affect the children's health. Indeed, if parents believe that their children are not having sexual intercourse, the parents may see no need to discuss safe sex practices. If parents believe that their children do not, even occasionally, smoke or use marijuana, the opportunities to discuss smoking may also go unused. This may be particularly harmful, given evidence that even occasional, or "some-day" smokers, are at more risk than nonsmokers.³² Furthermore, although parents do perceive that their children drink alcohol and occasionally binge drink, they underestimate the frequency with which this happens. Such underestimation may lead parents to think that their children do not have problems with alcohol and are not putting themselves in much danger. College health educators, clinicians, and public health officials should consider examining the parental-college student relationship as an opportunity for improving health risk behaviors. Public health campaigns could be designed to alert parents of college students' behavior and encourage them to begin or continue to discuss issues of health and health risk behavior with their children. Although college students may no longer live at home, their parents can still perform an important function in sustaining and improving their children's health and well-being. Because the parent–child relationship generally improves in late adolescence and early adulthood, parents should be encouraged to take advantage of this relational resource in encouraging positive health behaviors in their children. The underestimation of high-risk behavior may dampen parents' motivation to talk with their college-aged children. In the face of missed opportunities for positive parent-child interaction on risky health practices, college health professionals should educate parents about their possible underestimation biases and, thus, increase their motivation to enact parental monitoring.

Limitations

We used a convenience sample drawn from 1 university. Thus, we cannot generalize to a larger college student population. In addition, we do not know to what extent self-report bias may have influenced students' reports.

Because research on parents and their college students' discussions about health behaviors has been quite limited, many opportunities for future investigation exist. Much more can be learned about the frequency, content of, and satisfaction with discussions of health risk behaviors between college students and their parents. Longitudinal data would enlighten us on how these (mis)perceptions might change or stay the same over time. If researchers draw on the parental monitoring literature, they could

develop intervention studies to examine the efficacy of parental involvement in improving the health behaviors of college students. Our hope is that this study is a first step in a productive, scholarly conversation about the role that parents can play in reducing their college students' health risk behaviors.

NOTE

For comments and further information, please address communications to Leslie A. Baxter, University of Iowa, 105 BCSB, Iowa City, IA 52242 (email: leslie-baxter@uiowa.edu).

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