Adolescents' Perceptions of Their Peers' Health Norms

ABSTRACT

Objectives. The purpose of this study was to determine the relative importance adolescents place on preventive health behaviors.

Methods. Data were from a survey of California adolescents (n = 5040). Respondents were asked how important it was to their peers to avoid drugs, marijuana, cigarettes, heavy drinking, and drinking and driving and to maintain seat belt use, fitness, weight control, and healthy eating habits. Results were compared with data from a similar national survey (n = 6126).

Results. California teenagers perceived that their peers gave top priority to weight control: 85% of California teenagers believed that weight control was of high concern to girls in their age group. Avoiding drugs, not drinking and driving, and maintaining fitness ranked in the top five behaviors. The lowest ranked health behaviors were seat belt use, heavy drinking, and, last, eating healthily. In the national survey, healthy eating also ranked last. Although not identical in rank, teenage priorities for other health behaviors were consistent with the California results.

Conclusion. Efforts are needed to bring adolescent health norms more into line with the objective risks of their health choices during this critical period of socialization. (*Am J Public Health.* 1995;85:1064–1069)

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Introduction

Individuals begin to establish behaviors in adolescence that will affect their health in later life. Most researchers agree that the behavioral choices teenagers make are partly determined by how acceptable the behavior is believed to be among their peers.[1–3] This article presents a description of teenage peer norms for a variety of health behaviors, ranging from drug use to healthy eating habits. Evidence suggests that adopting several sensible health practices may cumulatively reduce mortality.[4] Also, comparing peer norms gives a better idea of the relative importance of the different health behaviors to teenagers. Health educators need to know what teenagers think the major health risks are and what misperceptions they hold to determine which behaviors preventive health programs targeting adolescents may have underemphasized or overlooked.

Peer norms are often conceptualized as the perceived opinions of significant peers (e.g., best friends), following Azjen and Fishbein's model of normative influence.[5] However, research has shown that norms of the general peer community also influence teenagers; teens who overestimate prevalence of cigarette and alcohol use in their peer community are more likely to smoke or drink in the future.[6,7]

We examined data from the youth section of the 1990 California Tobacco Survey and from the 1989 through 1990 national Teenage Attitudes and Practices Survey. Both surveys asked teenagers how much they thought people their own age cared about a number of health behaviors. We explore the relative importance of these health behaviors for teenagers and compare the California results with those for teenagers elsewhere in the United States.

Methods

The youth California Tobacco Survey was modeled on the Teenage Attitudes and Practices Survey. Accordingly, most survey questions were identical.

Youth California Tobacco Survey

A full description of the California Tobacco Survey methodology is given elsewhere.[8] Briefly, the California Tobacco Survey was a random-digit telephone survey to California households with a modified Waksberg–Mitofsky procedure.[9,10] Surveys were offered in English and Spanish. A screener survey (32 135 households, response rate = 78.0%) identified the members of each household (n = 4900 with teenagers) and scheduled 12- to 17-year-olds for an interview. Interviews were completed for 78.4% of the teenagers to produce a sample of 5040.

Teenage Attitudes and Practices Survey Methodology

The Teenage Attitudes and Practices Survey methodology has been described elsewhere.[11] Briefly, households with adolescents interviewed as part of the 1988 and 1989 National Health Interview Surveys (NHIS) from 1988 (last 6 months)

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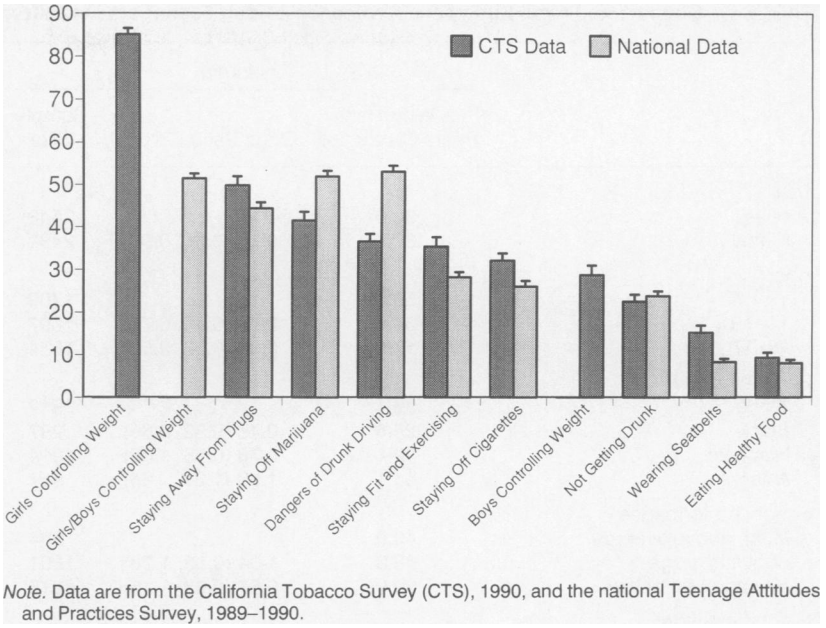
and 1989 (first 6 months) were recontacted, and these teenagers were asked to participate in telephone interviews. Interviews were completed for 9965 teenagers (response rate = 82.4%). The NHIS is designed to produce stratified probability samples of four US regions. To compare California teenagers to teenagers in the rest of the United States, we excluded Teenage Attitudes and Practices Survey respondents from the Western region and restricted the sample to 12- through 17-year-olds (sample size = 6126). Because the Teenage Attitudes and Practices Survey did not include many Asians, we restricted ethnic comparisons to Blacks, Hispanics and non-Hispanic Whites.

Measuring Peer Norms

Questions about health behaviors all started with "Do you think people your age care about? . . ." Adolescents who answered positively were asked, "Would you say they care a lot, somewhat or just a little?" Topics covered were seat belt use, weight control, avoiding drugs, not getting drunk when drinking, avoiding marijuana, drinking and driving, staying fit and exercising, avoiding cigarettes, and eating healthy foods. The Teenage Attitudes and Practices Survey asked adolescents about general peer concern for weight control, whereas the California Tobacco Survey asked adolescents separate questions about the importance of weight control among boys and girls their own age. Only 1.3% of California Tobacco Survey and 1.0% of Teenage Attitudes and Practices Survey respondents failed to answer all the health behavior items; missing data were set equal to the modal response for each item.

Substance Use

For this article, we categorized respondents as "never smoked," "smoked less than 100 cigarettes," and "smoked 100 or more cigarettes." Smoking status was included as a potentially important covariate of an individual's attitudes about health norms. Information on the respondent's drug or alcohol use was not sought, but respondents were asked how many people they knew of their own age (none, a few, some, most) who used crack or cocaine, smoked marijuana, smoked cigarettes, or became drunk at least once a month. Responses were combined into a 12-point exposure scale, where 0 indicated no exposure to peer substance use, 1 through 4 little exposure, 5 through 8 some exposure, and 9 through 12 considerable exposure.



Note. Data are from the California Tobacco Survey (CTS), 1990, and the national Teenage Attitudes and Practices Survey, 1989–1990.

FIGURE 1—Percentage of teenagers who thought their peers "cared a lot" about a health behavior, California and nationwide.

Statistical Analysis

As a stringent test of support for health norms, we restricted our analysis to adolescents who thought peers "cared a lot" about each health behavior. Rather than analyze each norm individually, the four questions about the importance of avoiding drugs, marijuana, smoking, and becoming drunk when drinking were included in one scale that demonstrated an adequate degree of internal consistency (Cronbach's $\alpha = 0.76$ for both the California Tobacco Survey and the Teenage Attitudes and Practices Survey). Respondents who reported peers cared a lot about at least three of these items (scale score of ≥ 9) were categorized as thinking peers cared a lot about avoiding illegal substances. Further preliminary analyses showed little consistency between illegal substance use and weight control norms (Cronbach's $\alpha \simeq .40$) or the norms for staying fit and healthy eating (Cronbach's $\alpha \simeq 0.45$).

In addition to substance avoidance, we also examined reported peer norms for weight control and eating healthily, again confining analysis to adolescents who thought peers cared a lot about these behaviors. We assessed differences in normative support for these behaviors by age, sex, race/ethnicity, self-rated school performance, liking for school, smoking status, and illegal substance use among peers. A simple logistic regression evaluated each factor's relationship to the health norms after adjusting for the effect of the other factors. We present odds ratios and their 95% confidence intervals; the odds ratio indicates the likelihood that a particular group perceived peers as caring a lot about the health belief compared with a reference group. Confidence intervals that contain 1.0 indicate no statistical difference between a particular group and the reference group. No correction has been made for multiple inferences. For the California Tobacco Survey, variances were estimated with a jackknife procedure[8,12]; for the Teenage Attitudes and Practices Survey, the computer program SUDAAN[13] was used. Both procedures account for the fact that the samples were not random.

Results

Adolescent Health Norms

Figure 1 shows the percentages of adolescents in California and elsewhere in the United States who thought their peers cared a lot about each health behavior. California teenagers (85%) think weight control is by far the most supported health

TABLE 1—Support for Illegal Substance Avoidance among Teenagers in California and Nationwide

	California			Nationwide		
	% Who Think Peers Care a Lot[a]	Odds Ratio (95% CI)	Sample Size	% Who Think Peers Care a Lot[a]	Odds Ratio (95% CI)	Sample Size
Sex						
Male	38.0	...	2549	35.5	...	3177
Female	32.8	0.80 (0.66, 0.98)	2491	32.9	0.84 (0.74, 0.96)	2949
Age, y						
12–13	55.1	...	1709	55.2	...	1962
14–15	31.6	0.56 (0.42, 0.75)	1697	29.9	0.59 (0.51, 0.67)	2035
16–17	17.9	0.38 (0.28, 0.52)	1634	18.9	0.46 (0.40, 0.52)	2129
Race/ethnicity						
White	36.1	...	2912	35.4	...	4585
Black	25.6	0.46 (0.32, 0.66)	297	31.5	0.65 (0.53, 0.77)	1072
Hispanic	32.1	0.76 (0.56, 1.03)	1314	29.9	0.67 (0.51, 0.87)	469
Asian	51.1	1.53 (1.21, 1.95)	517	...	...	...
School performance						
Much above average	40.0	...	934	37.9	...	1006
Above average	38.3	1.04 (0.85, 1.28)	1891	38.1	1.17 (1.03, 1.32)	2221
Average and below	30.9	0.87 (0.66, 1.15)	2215	30.0	0.92 (0.81, 1.04)	2899
Liking for school						
Strong	38.8	...	1920	38.8	...	2455
Moderate	35.0	0.85 (0.71, 1.03)	2503	33.4	0.87 (0.76, 0.98)	2978
Little	26.1	0.68 (0.48, 0.98)	617	25.5	0.63 (0.51, 0.77)	693
Smoking behavior						
Never smoked	44.1	...	3149	44.3	...	3564
Smoked < 100 cigarettes	22.4	0.61 (0.48, 0.78)	1577	23.5	0.63 (0.54, 0.72)	2058
Smoked ≥ 100 cigarettes	7.3	0.37 (0.22, 0.62)	314	7.3	0.33 (0.23, 0.48)	504
Exposure to peer substance use[b]						
None	61.0	...	1198	69.9	...	805
Little	35.1	0.51 (0.40, 0.65)	2348	39.1	0.38 (0.32, 0.45)	3390
Some	13.1	0.20 (0.13, 0.29)	1261	12.3	0.12 (0.10, 0.15)	1622
A lot	6.4	0.12 (0.07, 0.20)	233	4.0	0.05 (0.03, 0.08)	309

Note. The national data include teenagers from the northern, eastern, and southern regions of the United States only. CI = confidence interval.
[a]Values are the weighted percentages of teenagers who think their peers care a lot about avoiding three or more of the following: drugs, marijuana, cigarettes, drunkenness.
[b]Substance use referred to crack/cocaine, marijuana, heavy drinking, and smoking.

norm among girls of their own age. Almost one half of California teens perceived strong peer support for drug avoidance, and 41% believed that their peers cared a lot about avoiding marijuana. Although avoiding drunk driving ranked fourth, support for not getting drunk ranked eighth out of 10 health norms. Only 8.5% of California teenagers reported a lot of peer concern about eating healthily. The national data produced similar results, with the top five health norms the same, although the order varied. Non-sex-specific weight control ranked second nationwide, followed by avoiding drunk driving. Again, the importance of eating healthily ranked last among teenage health priorities.

Demographic Differences in Support for Illegal Substance Avoidance

To compare within demographic groups adolescents' perceptions of peer support for avoiding drugs, marijuana, smoking, and getting drunk, we conducted a logistic regression. Girls tended to report less support than boys (Table 1). Age was significantly and inversely related to strong support for caring a lot about avoiding these substances. Compared with 12- to 13-year-olds, 17-year-olds were about 40% as likely to think their peers cared a lot. Black teens were less likely than non-Hispanic White teens to report support for avoiding substance use among their peers. Among California teens, Hispanics were less likely and Asians were more likely than non-Hispanic Whites to perceive strong support. As expected, teens who smoked were less likely to think their peers cared a lot. Liking for school appeared somewhat more important and inversely related than school performance. Teenagers who reported they had peers who used illegal substances were significantly less likely to think that their peers cared a lot about avoiding use of these substances.

Demographic Differences in Weight and Eating Norms

From the remaining health norms, we analyzed predictors of the weight control norm for girls (California Tobacco Survey only) and healthy eating habits (both the California Tobacco Survey and the Teenage Attitudes and Practices Survey) because these two items represented the highest and lowest ranked health norms, respectively, among California teenagers.

Perceived concern for weight control among California teenagers increased with age (Table 2). Of note, 79% of 12- to 13-year-olds already thought that girls their own age cared a lot about controlling their weight. Teens of all race/ethnic groups appeared convinced of the priority female peers attached to weight, but

minorities were slightly less likely than non-Hispanic Whites to report high concern. Exposure to peers who use illegal substances was associated with increased perception of weight concerns among female peers. Similar results were obtained for exposure to peers who smoke when these data were analyzed separately. A further analysis showed that girls who had smoked at least 100 cigarettes were three times more likely to report high concerns about weight control among their peers than girls who had never smoked.

The low support for eating healthily appeared fairly uniform across all age groups and among both boys and girls (Table 3). Hispanic and Asian teenagers in California were more likely than White teenagers to report high concern for eating healthy foods. In the national data, having friends using illegal substances was associated with reduced concern for healthy eating.

TABLE 2—Demographic Differences in Teenagers' Perception of Strong Weight Norms among Girls in California

	% Who Think Girls Care a Lot[a]	Odds Ratio (95% CI)
Sex		
Male	84.7 ± 1.8	. . .
Female	85.5 ± 2.0	1.02 (0.85, 1.23)
Age, y		
12–13	78.8 ± 2.6	. . .
14–15	86.9 ± 2.2	1.47 (1.11, 1.95)
16–17	90.2 ± 1.9	1.71 (1.20, 2.43)
Race/ethnicity		
White	89.3 ± 1.7	. . .
Black	76.4 ± 6.2	0.40 (0.26, 0.62)
Hispanic	82.7 ± 2.7	0.61 (0.46, 0.83)
Asian	81.3 ± 4.0	0.56 (0.40, 0.79)
School performance		
Much above average	84.8 ± 3.7	. . .
Above average	88.0 ± 2.0	1.30 (0.95, 1.77)
Average and below	82.8 ± 2.3	0.87 (0.67, 1.14)
Liking for school		
Strong	85.4 ± 2.4	. . .
Moderate	86.0 ± 1.9	1.01 (0.81, 1.25)
Little	80.7 ± 4.7	0.67 (0.45, 1.00)
Smoking behavior		
Never smoked	83.6 ± 1.9	. . .
Smoked < 100 cigarettes	86.7 ± 2.4	1.00 (0.80, 1.25)
Smoked ≥ 100 cigarettes	94.1 ± 2.8	2.00 (1.12, 3.43)
Exposure to peer substance use[b]		
None	76.9 ± 2.9	. . .
Little	86.4 ± 2.1	1.54 (1.14, 2.09)
Some	91.0 ± 3.0	2.16 (1.36, 3.41)
A lot	89.0 ± 7.0	1.50 (0.75, 3.03)

[a]Values are the weighted percentages ± 95% confidence interval (CI) of teenagers who think girls care a lot about controlling their weight.
[b]Substance use referred to crack/cocaine, marijuana, heavy drinking, and smoking.

Discussion

The results of this study suggest that adolescents' health priorities are not in line with the health risks posed by the behaviors discussed here. Both in California and nationwide, adolescents appear to be disproportionately concerned with weight control relative to more dangerous behaviors such as smoking and drinking and driving. Although almost half the adolescents surveyed thought their peers were aware of the need to avoid drinking and driving, avoidance of drunkenness per se did not arouse the same concern. A priority for health promotion in the young must be to create such connections.

Because adolescents were not asked what they thought but rather what most people their age thought about the health issues, our results may not accurately indicate what the adolescent population actually thinks. Instead, they reflect what the adolescents perceive to be societal norms. These perceptions may be distorted by the media or other environmental factors, but they probably underlie peer pressure.

The concern for female weight control is problematic for two further reasons. First, consistent with past research,[14–16] we observed peer perception of weight concerns at a very early age: over three quarters of 12- to 13-year-olds believed that girls their own age were highly concerned about weight control. Second, the high priority attached to weight control was accompanied by an absence of caring a lot about healthy eating (ranked last among health norms) at all ages. Previous research showed that teenage girls who express weight concern are more likely to smoke,[17,18] to see smoking as a means of weight control,[19] and to use diet pills and amphetamines.[20] We found strong perceptions of support for female weight control among teenagers of both sexes who had friends who smoked or used any illegal substances, as well as particularly strong support among female smokers.

The perceived low concern for good eating habits merits further study into teenage perceptions of what is meant by eating healthily. The absence of normative support for healthy eating found in this study is consistent with previous reports of unhealthy eating habits among US adolescents, as well as in the general adult population.[21,22]

Although norms for the avoidance of dangerous substances were highly intercorrelated, norms about other preventive practices such as eating healthily or wearing a seat belt were not associated with drug norms and were only weakly related to each other. This finding is consistent with previous research on health behaviors; typically, the various practices that make up a healthy or unhealthy lifestyle are only modestly correlated.[23–25] Moreover, not all behaviors may be seen by adolescents to fall under the rubric of "health." The salience of weight and fitness concerns among adolescents (ranked first and fourth, respectively, in California) and the independence of these concerns from norms regarding substance use may suggest that teenagers perceive body weight and fitness to be appearance issues rather than health issues. The high rankings of weight control and fitness may indicate the centrality of appearance as a route to social acceptance and peer prestige for adolescents. Normative support for avoiding risky

TABLE 3—Demographic Differences in Concern for Healthy Eating among Teenagers in California and Nationwide

	California		Nationwide	
	% Who Think Peers Care a Lot[a]	Odds Ratio (95% CI)	% Who Think Peers Care a Lot[a]	Odds Ratio (95% CI)
Sex				
Male	9.0	...	7.9	...
Female	9.6	1.04 (0.83, 1.30)	8.1	0.95 (0.78, 1.16)
Age, y				
12–13	10.4	...	10.6	...
14–15	8.7	0.96 (0.67, 1.38)	6.8	0.73 (0.58, 0.90)
16–17	8.7	1.10 (0.72, 1.68)	6.7	0.84 (0.67, 1.05)
Race/ethnicity				
White	6.0	...	6.8	...
Black	10.0	1.54 (0.87, 2.72)	11.7	1.60 (1.11, 2.32)
Hispanic	13.2	2.33 (1.64, 3.32)	10.7	1.59 (1.27, 1.98)
Asian	10.0	1.63 (1.00, 2.66)	...	...
School performance				
Much above	11.4	...	8.8	...
Above average	8.8	0.83 (0.55, 1.26)	6.4	0.79 (0.63, 0.98)
Average and below	8.9	0.83 (0.57, 1.21)	9.1	1.22 (0.99, 1.50)
Liking for school				
Strong	13.0	...	8.4	...
Moderate	6.8	0.52 (0.34, 0.79)	5.7	0.53 (0.43, 0.65)
Little	7.9	0.66 (0.40, 1.07)	10.6	0.80 (0.58, 1.10)
Smoking behavior				
Never smoked	10.4	...	9.3	...
Smoked < 100 cigarettes	7.5	0.81 (0.58, 1.13)	6.2	0.79 (0.63, 0.93)
Smoked ≥ 100 cigarettes	6.5	0.88 (0.41, 1.90)	6.2	1.01 (0.57, 1.52)
Exposure to peer substance use[b]				
None	12.6	...	13.2	...
Little	8.7	0.70 (0.48, 1.04)	8.4	0.78 (0.63, 0.93)
Some	7.5	0.63 (0.36, 1.11)	5.2	0.51 (0.39, 0.66)
A lot	5.8	0.50 (0.29, 0.87)	4.8	0.42 (0.25, 0.71)

Note. The national data include teenagers from the northern, eastern, and southern regions of the United States only. CI = confidence interval.

[a]Values are the weighted percentages of teenagers who think their peers care a lot about eating healthily.

[b]Substance use referred to crack/cocaine, marijuana, heavy drinking, and smoking.

behaviors such as drunkenness could be increased by emphasizing the social costs of alcohol abuse, such as its effects on bodily appearance, in addition to teaching teens about the health costs of heavy drinking bouts.

Contrary to the conventional portrayal of California as an especially health-conscious state, California adolescents did not perform better than adolescents elsewhere in setting normative standards for health behaviors; the California and national results were highly consistent (Tables 1 and 3).

The variables measuring teenage attitudes to school life (self-reported academic performance and personal liking for school) suggest that the school may help to institute positive health norms for some behaviors (such as avoidance of illegal substances), but may be less successful in creating awareness of other problem behaviors such as eating unhealthily and obsessive concern with weight reduction.

Programs that aim to reduce the prevalence of unhealthy behaviors by changing teenage norms about the behavior have reported some success.[26,27] An intervention that persuaded teenagers that their peers did not widely support the use of marijuana, alcohol, and cigarettes was more successful in reducing onset of these behaviors than the more conventional "just say no" approach.[28] Similarly, longitudinal studies have found that peer norms are powerful influences on initiation of drug use.[29] However, changing teenage norms may be less successful for improving behaviors (e.g., weight control, exercise, and eating) that do not carry the same potential for expressing nonconformity or rebellion or that do not generate as much media controversy.

This study indicates that prevention efforts are needed to bring adolescent health norms more into line with the objective risks of their health choices during this critical period of socialization. □

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World Health Organization Announces Conference on the Health Consequences of Radiological Accidents

The health and environmental consequences attributed to the accident at the Chernobyl nuclear power plant in the Ukraine on April 26, 1986, have been subject to extensive investigation. A clearer picture on the health consequences of this accident is expected from the pilot phase of the International Programme on the Health Effects of the Chernobyl Accident (IPHECA). Concurrent with the publication of the report on this pilot phase, the World Health Organization is planning a major international conference entitled, "Health Consequences of the Chernobyl and Other Radiological Accidents," November 20 through 23, 1995, in Geneva, Switzerland. This conference will not only put IPHECA results into focus but will also review new findings from other radiological events.

The conference aims to compare IPHECA Phase I results with those of other studies on Chernobyl health effects; obtain improved (updated) understanding of the type, magnitude, and severity of presently known and expected future health effects from the Chernobyl accident; add new results from investigations of health effects of other radiological events; examine the effectiveness of remedial measures regarding health during and after accidents and propose future improvements; advance and/or confirm the latest knowledge of radiation-related health effects; and point out interesting trends and developments that need further research.

Scientists will present papers or posters on their research at the conference. For further details, contact the Office of Global and Integrated Environmental Health, World Health Organization, 1211 Geneva 27, Switzerland; e-mail johnsonj@who.ch; fax 41 22 791 4123.