TARGETING MARKETS FOR EFFECTIVE COLLEGE HEALTH PROGRAMS UNDER TIGHT BUDGET CONSTRAINTS

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Targeting college health programs to student market segments to increase effectiveness is being driven by declining overall college and university budgets. Carefully designed and implemented panel surveys of students' health beliefs and practices inform policymakers about trends, as well as specific pockets of need for health interventions. Results from a panel survey conducted in 1988 and 1991 at a large midwestern university illustrate these points. Specifically, student market segments such as gender, class standing, and level of sexual activity reveal particular needs in the areas of knowledge about alcohol, drugs, AIDS, STDs, safer sex practices, and comfort with purchasing condoms. Implications for more effective and efficient program planning are discussed.

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Shrinking college budgets have an impact on numerous departments and the services they provide to students. College health administrators are also being forced to prioritize their interventions, in some cases consolidating such efforts with other units or departments into hybrid programs such as alcohol and sexual assault awareness interventions. As financial support dwindles, health promotion efforts need to be both more targeted and creative in their programming to maximize resources.

What is needed to guide tight-budget planning is routinely collected, representative sample survey data that can be partitioned into various substrata to represent particular student groups' interests or needs to policymakers. Such information streamlines planning in a rational manner and can illuminate opportunities for maximizing the health-promoting impact of available program resources.

Results from a longitudinal study of university students' health beliefs and practices are reported here as an example of how these data can assist college health policymakers in making hard choices about budget expenditures. The study design is described, summary findings presented, and suggestions offered for targeted, creative interventions.

LITERATURE REVIEW

Surveys indicate that no other population group in the United States has a larger proportion of alcohol users than does the college population. Approximately 90% of both college men and women in some regions of the United States drink alcohol (Gonzalez, 1986). A considerable amount of data has been collected on the prevalence of problem drinking among college students. Estimates range from 6% to a high of 72%, with most studies concluding that approximately 20%-25% of college students have drinking problems (Berkowitz & Perkins, 1986; Hamilton, 1985). Collegiate problem drinking has been associated with difficulties in relationships with friends and teachers and in meeting responsibilities. Although the relationship between alcohol and sexual activity is well known, there is little survey data on

the effects of alcohol on sexual decision making. However, results from a recent survey of college student binge drinking indicate that many students engage in binge drinking, and that over one third of males and one quarter of females who binge drink report engaging in unplanned sexual activity (Wechsler & Isaac, 1992; Katzman, Mulholland, & Sutherland, 1988).

With regard to the risk of AIDS, college students are fairly well informed about the risks of AIDS and how AIDS is transmitted (Delene & Brogowiciz, 1988), with 68% expressing some fear about the transmission of AIDS (Strunin & Hingson, 1987). Many college students do not relate the avoidance of casual sex with the control of AIDS. In a sample of college students at the University of Rhode Island, for example, only 40% claim that concerns about AIDS have affected their behavior (Delene, 1992).

With these findings in mind, colleges and universities have spent substantial time and money to promote health programs and services to college students. Unfortunately, many of these programs and services have been developed without any empirical data as to the beliefs, attitudes, and behaviors of a specific college's students (Burns, 1990). Health education efforts combined with clinical research and other services can help reduce costs during these times of tighter budgets. This can be demonstrated by reduced visits to the clinic, reduction of STDs, and a lowering of personal injuries from alcohol use (Goodwin & Roscoe, 1988).

PURPOSE OF THE STUDY

The purpose of the study was to obtain empirical data from a representative sample of students that assesses student health opinions, beliefs, and practices. This assessment, taken at two points in time, provides opportunities to identify trends and indicates potential priorities for appropriate health promotion interventions. In addition, the sample population is stratified into subpopulations that provide results to guide targeted programming efforts.

METHODS

UNIVERSITY DESCRIPTION

The University of Michigan (Ann Arbor) has approximately 36,000 students on its main campus. About 60% of the students are undergraduates. Students attending the university call the Midwest their home, although a quarter of the total student body comes from the Northeast, Southeast, and far western regions of the United States. The student body is predominantly White and comes from largely middle- and upper-middle-class households. Average incoming freshman combined SAT scores were 1200. The surveys were conducted in early winter of 1988 and 1991.

SAMPLE

The sample for the survey was drawn from a complete listing of all students living in university housing facilities (N = 10,000). These were both undergraduate and graduate students. Two strata of interest were included in the sampling procedure: student gender and class standing (e.g., freshman, sophomore, and so on). A random sample of 1,500 students was drawn. Students in the sample closely approximated demographic characteristics of the university's overall student population in terms of age, gender, and race/ethnicity. The sample population is representative of the university's population of students living in residence facilities.

MEASURES

The survey instrument was constructed by a research team composed of members from the university's Health Service and Housing Division. Additional input was provided by a university-based consultant on issues of survey design, data collection, and data analysis.

The majority of questions contained in the 1991 survey instrument were identical to those found in the 1988 survey. This was purposely done to permit cross-time comparison of survey results. New survey

items were added to the 1991 survey instrument to obtain student input on emerging health issues, such as substance-free living facilities and eating disorder problems.

The survey instrument included self-reported items on a broad range of respondents' health beliefs and behaviors. This study first reports on the respondents' self-reported knowledge of AIDS, alcohol and drugs, birth control, and sexually transmitted diseases. Second, respondents reported on how often their own use of drugs has interfered with family relationships, academic performance, and other relationships (e.g., roommates or friends). Third, survey respondents indicated how often other persons' drug use (e.g., significant others, roommates, friends, family members) has interfered with the respondent's family relationships and other relationships.

Next, respondents reported on their behaviors while under the influence of drugs or alcohol: for example, to what degree the respondent has used intoxication as an excuse to engage in sexual activity, to engage in unwanted sexual activity, or to coerce someone to do something they did not want to do. Then respondents reported on their beliefs about the effectiveness of using condoms, abstinence, and avoiding anal intercourse in reducing the risk of HIV infection. Finally, survey respondents reported on their comfort level with purchasing condoms.

The participants completed a mail survey consisting of four pages with a total of 30 questions. The survey was mailed to the student's residence hall rooms, along with an explanatory letter. Complete confidentiality of participant's responses was assured.

PROCEDURES

The survey was distributed through campus mail to the sample population. Student participants were sent a reminder postcard one week after initial mailing. In the 1991 survey, 3 weeks after the initial mailing, a second survey and explanatory letter were sent to nonrespondents in the sample population. Completed surveys were returned through campus mail in envelopes sealed by responding students. Response rate for 1988 was 38%; response rate for 1991 was 58%.

TABLE 1
Survey Respondent Characteristics

	1988		*1989*	
	n	%	n	%
Gender				
Male	262	46	438	50
Female	308	54	439	50
Class				
Upper-class persons	154	27	228	26
Lower-class persons	416	73	649	74
Response	570	38	877	58

RESULTS

Selected results of the longitudinal analyses are presented here to illustrate cross-time surveying's value to program planning. Descriptive respondent statistics of respondents to the 1988 and 1991 surveys are presented in Table 1. In general, the two sample populations are evenly matched as to gender and class-standing distributions.

Findings presented represent selected program areas of interest and concern to study investigators: student level of knowledge of health issues, the influence of various drugs on personal behaviors and relationships, and actions taken to prevent HIV infection. Results are displayed according to three strata: gender, class standing, and sexual activity. Self-reported level of sexual activity was a survey item in both surveys. Chi-square tests were conducted on within-strata contrasts for the 1988 and 1991 surveys. Cross-time chi-square tests (1988 vs. 1991) were not available.

LEVEL OF KNOWLEDGE

The level of knowledge students possess about health-related issues presumably may influence decision making and actions they take related to health behaviors. Our overall findings (Table 2) for 1988 and 1991 indicate student respondents are most knowledgeable about (in descending order): alcohol and other drugs, birth control, AIDS,

TABLE 2
Self-Reported Respondent Percentages for 1988 and 1991 Surveys

	1988	*1991*
Level of knowledge		
Very knowledgeable about AIDS	35	40
Very knowledgeable about alcohol and drugs	51	55
Very knowledgeable about birth control	50	45
Very knowledgeable about sexually transmitted diseases	22	25
Influence of drugs on personal relationships and behaviors		
Respondent use of drugs sometimes or often interfered with family relationships	6	5
Respondent use of drugs sometimes or often interfered with academic performance	8	4
Other person's drug use sometimes or often interfered with respondent's family relationships	27	20
Other person's drug use sometimes or often interfered with respondent's other relationships	26	23
Personal behaviors: Sex and drugs		
Respondents sometimes or often use intoxication as an excuse to engage in sexual activity	14	9
Respondents sometimes or often, while intoxicated, engaged in unwanted sexual activity	15	12
Respondents sometimes or often, while intoxicated, coerced someone into doing something they didn't want to do	6	3
Respondents reporting "not" or "somewhat" concerning the effectiveness of using condoms in reducing the risk of HIV infection	28	16
Respondents reporting "not" or "somewhat" concerning the effectiveness of abstinence in reducing the risk of HIV infection	10	10
Respondents reporting "not" or "somewhat" concerning the effectiveness of avoiding anal intercourse to reduce the risk of HIV infection	40	32
Respondents reporting being "not at all" or "somewhat" comfortable with purchasing condoms	54	53

and sexually transmitted diseases. Some important changes in the response category *very knowledgeable* occurred between 1988 and 1991. The percentage of responses to this category increased for the issues of alcohol and other drugs, AIDS and STDs.

Being very knowledgeable about these issues implies a working familiarity with the balance of risks and benefits associated with an issue as it affects one's personal health. Health issues with higher

proportions of respondents being *very knowledgeable* indicates a higher potential for making informed, positive health decisions.

In general, a substantial canyon of ignorance still exists about these health issues surveyed, and deepens in the case of birth control. One area of concern is that *very knowledgeable* respondents about birth control decreased from 1988 to 1991. Even though the category of alcohol and other drugs has the highest percentage reports of very knowledgeable respondents, it still indicates that almost 50% of the respondents are only *somewhat* or *not at all knowledgeable* regarding these health issues.

INFLUENCE OF DRUGS ON PERSONAL RELATIONSHIPS AND BEHAVIORS

We attempted to discover what problems might be associated with the use of alcohol or drugs on campus. Students were asked if their own drug use had ever interfered with important relationships or academic performance. Results are seen in Table 2. We consider responses in the *sometimes* and *often* categories to indicate areas of possible concern for both students and health professionals. Students reporting they sometimes or often find their lives interfered with by their own use of drugs may be indicating a potential erosion of self-control that could have a variety of serious negative future consequences.

Overall, there was a decline in percentage reports in the *sometimes* and *often* categories between the 1988 and 1991 surveys for each question asked (i.e., family relationship, academic performance, other relationships). These are positive findings. We then asked the question: "Has other persons' drug use ever interfered with your family relationships or other relationships?" These "other" persons may be family members, significant others, or friends. Between the 1988 and 1991 surveys there was a decline in the percentage of respondents answering in the *sometimes* and *often* response categories.

However, family relationships of respondents were seriously interfered with by other persons' drug use. Twenty-seven percent of respondents in 1988, and 20% in 1991 reported that their family relationships were *sometimes* or *often* interfered with by another's drug use. "Other" types of relationships fared even worse. Over 26%

of respondents in 1988 and 23% in 1991 reported "other" relationships had been interfered with by drugs.

These findings draw serious attention to personal relationships and the effects of alcohol and drugs on them. Well over a quarter of the surveys' respondents indicated that either a family member or someone close to them had a drug use experience that interfered with these relationships. The survey data cannot tell us what drug(s) or which person(s) create interference in the student respondents' relationships. What the data do show is a substantial level of ongoing disturbance in important personal relationships due to alcohol and drugs.

PERSONAL BEHAVIORS: SEX AND DRUGS

Three out of four of our health risk survey categories relate to sexual behaviors. Because survey respondents reported that they were most knowledgeable about alcohol and other drugs, compared to other health issues, we were interested in the relationship of alcohol and drugs with sexual behaviors. Our hypothesis was that a respondent's knowledge of the effects of alcohol and drugs on decision making and judgment should provide a means of avoiding health risks when it comes to engaging in sexual activity.

Results show that between 1988 and 1991 the percentage of respondents using intoxication as an excuse to engage in sexual activity *sometimes* or *often* decreased from 14% to 9%. We then asked respondents the extent to which they engaged in sexual activity they were not sure they wanted, while they were under the influence of drugs or alcohol. This question probes the delicate question of willing consent to sex as a function of intoxication. Those responding to the *sometimes* or *often* response categories represent 15% of respondents in 1988 and 12% in 1991.

Finally, we asked respondents the extent to which they, while under the influence, coerced or became aggressive with someone to get them to do something that the respondent knew the other person did not want to do. Results from 1988 show that overall, nearly 6% of respondents had *sometimes* or *often* engaged in such acts. The results from 1991 indicate a dramatic reduction in responses to this survey category. These are positive changes that stress the continued empha-

sis on health programs targeting the connection between sexual assault and alcohol abuse.

SEXUAL ACTIVITY AND AIDS PREVENTION

The presence of AIDS in our society is an important health issue. We were interested in knowing more about college students' beliefs concerning sexual activities in the environment of AIDS. Risk-avoiding behaviors are partially a function of knowledge about the balance of benefits and risks associated with particular health practices. Because of the continued broad dissemination of information about AIDS prevention in the period 1988 to 1991, we wanted to know the extent of students' thinking about AIDS risk and sexual behaviors to detect any changes over the 3-year period. We asked respondents how effective they thought specific behavioral changes were in reducing the risk of infection from the AIDS virus.

There was, overall, an increase in the percentage of responses to the category *very effective* for the following AIDS prevention behaviors: use of condoms and avoiding anal intercourse. The largest percentage increase was seen in use of condoms as a preventive measure.

At the same time, we found the persistence of ignorance about the risks of contacting the HIV virus from engaging in anal intercourse. Respondents reported very high levels of believing that avoiding anal intercourse was *not* or *somewhat effective* in reducing risk of HIV infection. For example, 40% of respondents in 1988 and 32% in 1991 reported that this risk-avoiding behavior was ineffective in preventing HIV infection. Although there were improvements in this level of misunderstanding from 1988 to 1991, there appears to be a substantial need for health information and education intervention.

Use of condoms represented the most dramatic positive change in AIDS prevention effectiveness beliefs from 1988 to 1991. In 1991, there was nearly a two-fold decrease in responses to the *not* and *somewhat effective* categories for use of condoms as a preventive behavior. Abstinence from any sexual activities was reported as *not* or *somewhat effective* in AIDS prevention by about 10% of respondents, from both surveys.

Because use of condoms appears to be gaining popularity as a perceived effective method of preventing AIDS, we asked respondents to indicate their comfort level in purchasing condoms. Our hypothesis was that people who felt comfortable about purchasing condoms might also feel comfortable in using them. Results show that the general comfort level in purchasing condoms has improved from 1988 to 1991. For example, responses to the *very comfortable* category increased about 50% in 1991 over 1988.

However, 50% of persons surveyed responded that they were *not at all* or *somewhat comfortable* purchasing condoms for 1988 and 1991. This suggests that these persons may be reluctant to buy condoms and/or to use condoms.

Statistically significant differences within our study strata are reported in Table 3. In general, these significant differences tend to fall in the gender strata (1988). Females reported being more knowledgeable about birth control than males. They also reported having another person's drug use interfering more with the respondent's family relationships and other relationships than males. By contrast, female respondents reported themselves as less likely, when intoxicated, to coerce someone into doing something they did not want to do than males. Similarly, females reported themselves as less uncomfortable with purchasing condoms than males, by a substantial margin.

Our study design also permits reporting of results by strata. This allows us to observe, within and across strata, contrasts that may reveal particular niches of health programming need. These strata results are reported in Tables 4-6, by respondent's gender, class standing, and level of sexual activity. Across all strata, level of knowledge increased between 1988 and 1991 in all study categories of interest except birth control. Across strata, male and sexually active respondents reported an increase in being very knowledgeable about birth control.

The influence of drugs on personal relationships and behaviors is indicated by our results within particular strata. For instance, females reported higher percentages of family interference by another's drug use than did males for 1988 and 1991. Respondents who were sexually active reported a marked decline between 1988 and 1991 for

(Text continues on page 92)

TABLE 3
Statistically Significant Differences Within the 1988(a) and 1991(b) Survey Results

	Females	*Males*	*Upper-class Persons*	*Lower-class Persons*	*Sexually Active*	*Not Sexually Active*
Respondents very knowledgeable about birth control (a)	59***	40***			61***	40***
Respondent use of drugs sometimes or often interfered with academic performance (a)			11*	7*		
Other person's drug use sometimes or often interfered with respondent's family relationships (a)	32*	23*				
Other person's drug use sometimes or often interfered with respondent's other relationships (a)	30**	20**				
Respondents sometimes or often, while intoxicated, coerced someone into doing something the other person didn't want to do (a)	3***	9***				
Respondents reporting being "not at all" or "somewhat" comfortable with purchasing condoms (a)	46***	64***				

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

TABLE 4

Survey Results by Respondent Gender (percentages)

	1988		*1991*	
	Females	*Males*	*Females*	*Males*
Respondents very knowledgeable about AIDS	37	32	40	40
Respondents very knowledgeable about alcohol and drugs	52	52	53	57
Respondents very knowledgeable about birth control	59**	40**	44	45
Respondents very knowledgeable about sexually transmitted diseases	24	20	25	25
Has respondent's use of drugs sometimes or often interfered with family relationships?	4	8	3	6
Has respondent's use of drugs sometimes or often interfered with academic performance?	7	8	5	4
Has other person's drug use sometimes or often interfered with respondent's family relationships?	32	23	21	19
Has other person's drug use sometimes or often interfered with respondent's other relationships?	30*	20*	27	20
Has respondent sometimes or often used intoxication as an excuse to engage in sexual activity?	12	15	9	8
Has respondent sometimes or often, while intoxicated, engaged in unwanted sexual activity?	17	13	14	9
Has respondent sometimes or often, while intoxicated, coerced someone to do something he or she didn't want to do?	3**	9**	4	3
Respondents reporting "not" or "somewhat" about the effectiveness of condom use in reducing risk of HIV infection	27	28	18	14
Respondents reporting "not" or "somewhat" about the effectiveness of abstinence in reducing risk of HIV infection	10	9	8	11
Respondents reporting "not" or "somewhat" as to the effectiveness of avoiding anal intercourse in reducing risk of HIV infection	40	41	30	37
Respondents reporting being "not at all" or "somewhat" comfortable with purchasing condoms	46**	64**	53	51

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

TABLE 5

Survey Results by Respondent Class Standing (percentage)

	1988		*1991*	
	Upper-Class	*Lower-Class*	*Upper-Class*	*Lower-Class*
Respondents very knowledgeable about AIDS	38	32	40	41
Respondents very knowledgeable about alcohol and drugs	51	52	55	57
Respondents very knowledgeable about birth control	48	50	46	45
Respondents very knowledgeable about sexually transmitted diseases	20	23	29	24
Has respondent's use of drugs sometimes or often interfered with family relationships?	8	5	6	4
Has respondent's use of drugs sometimes or often interfered with academic performance?	11*	7*	5	4
Has other person's drug use sometimes or often interfered with respondent's family relationships?	29	27	20	20
Has other person's drug use sometimes or often interfered with respondent's other relationships?	26	27	22	24
Has respondent sometimes or often used intoxication as an excuse to engage in sexual activity?	13	14	9	8
Has respondent sometimes or often, while intoxicated, engaged in unwanted sexual activity?	14	16	7	14
Has respondent sometimes or often, while intoxicated, coerced someone to do something he or she didn't want to do?	8	5	2	4
Respondents reporting "not" or "somewhat" about the effectiveness of condom use in reducing risk of HIV infection	32	27	17	16
Respondents reporting "not" or "somewhat" about the effectiveness of abstinence in reducing risk of HIV infection	6	11	12	9
Respondents reporting "not" or "somewhat" as to the effectiveness of avoiding anal intercourse in reducing risk of HIV infection	47	38	34	33
Respondents reporting being "not at all" or "somewhat" comfortable with purchasing condoms	55	54	48	54

*$p \leq .05$.

TABLE 6

Survey Results by Respondent Level of Sexual Activity (percentage)

	1988		*1991*	
	Sexually Active	*Not Sexually Active*	*Sexually Active*	*Not Sexually Active*
Respondents very knowledgeable about AIDS	34	35	38	42
Respondents very knowledgeable about alcohol and drugs	53	50	56	54
Respondents very knowledgeable about birth control	61**	40**	48	43
Respondents very knowledgeable about sexually transmitted diseases	24	21	26	24
Has respondent's use of drugs sometimes or often interfered with family relationships?	6	5	5	4
Has respondent's use of drugs sometimes or often interfered with academic performance?	8	8	4	4
Has other person's drug use sometimes or often interfered with respondent's family relationships?	32	22	20	21
Has other person's drug use sometimes or often interfered with respondent's other relationships?	25*	22*	25	22
Has respondent sometimes or often used intoxication as an excuse to engage in sexual activity?	18	10	9	8
Has respondent sometimes or often, while intoxicated, engaged in unwanted sexual activity?	20	10	14	10
Has respondent sometimes or often, while intoxicated, coerced someone to do something he or she didn't want to do?	8	4	3	4
Respondents reporting "not" or "somewhat" about the effectiveness of condom use in reducing risk of HIV infection	24	31	17	15
Respondents reporting "not" or "somewhat" about the effectiveness of abstinence in reducing risk of HIV infection	12	8	11	8
Respondents reporting "not" or "somewhat" as to the effectiveness of avoiding anal intercourse in reducing risk of HIV infection	39	42	35	32
Respondents reporting being "not at all" or "somewhat" comfortable with purchasing condoms	68	43	55	50

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

person's drug use sometimes or often interfering with the respondent's family relationships.

For personal behaviors related to sex and drugs, survey strata results show large cross-strata declines in respondent reports of using intoxication as an excuse to engage in sexual activity. Highest at risk for engaging in possibly unwanted sexual activity while intoxicated were female, under-class students and sexually active respondents. Finally, respondents reporting that they, while under the influence, sometimes or often became aggressive with someone to coerce him or her into doing something the respondent knew the other person did not want to do, were highest in the male, upper-class student and sexually active strata.

DISCUSSION

The survey results suggest several themes. The first is that there are some positive changes in students' health beliefs and practices between 1988 and 1991, but college students still do not know enough about the potentially dangerous things they do to their bodies and to other persons' bodies. Second, drug use on campus, although declining, remains a persistent widespread reality that negatively affects interpersonal relationships and academic performance. Third, drugs and sex combine to put a nontrivial number of partners at risk for involuntary sexual relations, even though what students say they are most knowledgeable about are alcohol and drugs. Fourth, many students still do not know how to prevent AIDS despite numerous and wide-ranging public information campaigns. Fifth, many students do not feel comfortable purchasing condoms.

TARGETED INTERVENTIONS

Based on the results of these analyses, trend information and magnitudes of differences in response to various health issues, according to strata, permits the making of targeted policy decisions. With this information programs can focus interventions' efforts either according

to within-strata strategies, across-strata strategies, or both, given budget limitations.

The results of this study provide one approach to priority setting for programs. Because the strata selected for reporting results are gender, class standing, and level of sexual activity, one can observe which strata contrasts (e.g., female vs. male) indicate clear areas for targeting. For instance, in the area of how knowledgeable respondents are about health issues, there are minor differences between genders, class standing, or levels of sexual activity. However, those responding *very knowledgeable* in 1991 indicated that they knew least about sexually transmitted diseases (STDs), AIDS, birth control, and alcohol and drugs, in that order. Therefore, in this knowledge category, a program would be advised to target STDs first, then AIDS, and so forth.

In a similar fashion, certain strata emerge for targeting. For example, in the category of knowing about the effectiveness of HIV risk-avoiding behaviors, results show that (for most surveyed items), males, upper-class persons and sexually active persons have higher needs for education about effective risk-avoiding behaviors than women, under-class persons, and those not sexually active.

Each program could select its strata of interest. This study reports on three strata of interest to the university and to the university health service. Other strata of interest might include race and ethnicity, religious belief, family composition (e.g., single parent, two parents, divorced parents), and other program areas.

SUMMARY

Our cross-time survey results indicate that change is occurring in college students' health beliefs and practices. These results can serve to inform policymakers interested in targeting and prioritizing health programs, especially when overall budgets are constrained. By periodically and systematically surveying student populations, better informed planning decisions may be made.

By designing programs so that they correspond with particular targeted need areas (e.g., first-year females, upper-class sexually active students, and so on) the appeal of the intervention message may

be better received. This can make for more efficient use of health education dollars, time, and effort.

For the rest of this century it is imperative that college health policymakers and planners carefully assess student health needs, evaluate ongoing programs, conduct marketing research, and develop interventions based on these information sources. With declining budgets, health promotion efforts may continue to expand their programming efforts by collaborating with other departments and units. Integrating certain issues such as sexual assault and alcohol abuse is an example. In addition, drawing on student feedback from surveys, program evaluations, and focus groups increases the likelihood for higher program attendance, use, and possibly compliance with the intended messages (Keeling, 1991).

Obviously there is more research that needs to be conducted on the issue of college health target marketing. Our results suggest one approach. We believe this approach, combined with others, may assist in increasing program effectiveness and efficient use of increasingly scarce resources.

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