TOWARDS A HEALTHY STUDENT BODY

FINDINGS FROM THE 2001 CSUSB COLLEGE HEALTH RISK BEHAVIOR SURVEY AND NEEDS ASSESSMENT

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EXECUTIVE SUMMARY

This report highlights the findings of the 2001 CSUSB College Health Risk Behavior Survey and Student Needs Assessment. The purpose of the study was to examine health risk behaviors and to determine the needs of CSUSB students surrounding health promotion and prevention efforts at California State University, San Bernardino (CSUSB). A total of 563 undergraduates were selected from a random sample of classes at CSUSB in the Fall 2001 term. Participants completed the National College Health Risk Behavior Survey and a brief numerical needs assessment.

The data from this study indicate that:

- Nearly 83% of CSUSB students wear a seatbelt when driving.
- Over 75% of CSUSB students have consumed at least one alcoholic beverage in the past 30 days preceding the survey.
- Over 36% of CSUSB students have participated in binge drinking in the past 30 days preceding the survey.
- Almost 27% of CSUSB students are regular smokers.
- Over 37% of CSUSB students used a condom the last time they had sexual intercourse. The most frequent method of birth control was the pill or withdrawal.
- Over 38% of CSUSB students are overweight and only 40% of students exercise on a regular basis.
- The top health needs of CSUSB students include a safe campus, programs and services to decrease stress and anxiety, and comprehensive health promotion and education program.

If this study has shown us anything, it is that CSUSB students participate in a number of health risk behaviors that are preventable. At the same time, this study shows us how we can meet student health needs. It is hoped that this study encourages students, faculty, administrators, and staff to take a closer look at what we can do to ensure a healthy student body.
RESULTS OF THE 2001 CSUSB COLLEGE HEALTH RISK BEHAVIOR SURVEY

Introduction

Health education and health promotion programs are important components of preventing health risk behaviors. Brener and Gowda (2001) suggest that universities and colleges are in a unique position to promote healthy behaviors by providing health education and health promotion programs to students because these institutions have the potential to reach many young adults. In the United States, more than 14 million people were enrolled in college in 1995, which includes about one fourth of all 18- to 24-year-olds nationwide. Nearly half (48%) of adults aged 18 years or over have attended college (Brener & Gowda, 2001).

Two national health objectives for the year 2010 are related to health education and health promotion in postsecondary institutions. These objectives are to (1) increase to at least 50% the proportion of postsecondary institutions with institution-wide health promotion programs for students, faculty, and staff; and (2) provide HIV education for students and staff in at least 90% of colleges and universities (CDC, 1998). They underscore the importance of providing health education and health promotion programs to students on college campuses (Brener & Gowda, 2001).

Information regarding college student health risk behaviors suggests that college students participate in a variety of health risk behaviors that place them at greater risk for diseases, disorders, and dysfunctions. The National College Health Risk Behavior Survey conducted by the Centers for Disease Control and Prevention (CDC) examines health risk behaviors in the areas of safety, unintentional injury, violence, mental health, alcohol, tobacco and other drug use, sex-related behaviors, nutrition and physical activity. The CDC last collected and reported this data in 1995.

Data from the 1995 National College Health Risk Behavior Survey (CHRBS) regarding safety and injury indicates that of students who drove cars, 9.2% rarely or never used a safety belt when driving a car. More than one fourth of all students (27.4%) reported that they had drunk alcohol and driven a car or other vehicle at least once during the 30 days
preceding the survey. Among all students, 10.2% had been involved in at least one physical
fight during the 12 months preceding the survey (MMWR, 1997).

Data from the 1995 National College Health Risk Behavior Survey (CHRBS)
indicates that 13.1% had ever been forced to have sexual intercourse against their will.
Female students were significantly more likely than male students, students aged 25 years or
more were significantly more likely than younger students, and students in 2-year institutions
were significantly more likely than those in 4-year institutions to have been forced to have
sexual intercourse. Forced sexual intercourse did not vary by race and ethnicity (MMWR,
1997).

National data regarding alcohol, tobacco and other drug use indicate that one third
(31.3%) of students had smoked cigarettes daily (at least one cigarette every day for 30 days)
at some time during their lifetimes, 29.0% were current cigarette smokers (had smoked one or
more cigarettes during the 30 days preceding the survey), and 16.5% were currently frequent
cigarette smokers (had smoked cigarettes on at least 20 of the last 30 days) (MMWR, 1997).
A major source of concern on college campuses today is the prevalence of binge drinking.
Episodic heavy drinking or “binge drinking” has been shown to be more prevalent among
college students than among their same-age peers and is strongly related to serious injuries
and injury-related deaths, particularly fatal motor vehicle crashes (Wechsler, Dowdall,
Davenport, & Castillo, 1995). Alcohol use among college students also has been shown to be
related to unsafe sexual behaviors, violent behaviors, and academic problems (Wechsler et al.
1995; Hanson & Engs, 1995). Data from the 1995 CHRBS indicates that 4.2% engaged in
current frequent alcohol use (alcohol use on at least 20 of the 30 days). About one third
(34.5%) of all students reported episodic heavy drinking (consuming five or more drinks of
alcohol on at least one occasion during the last 30 days) (MMWR, 1997). Nationally, nearly
half of all students (48.7%) had used marijuana during their lifetimes, and 14 % had used
marijuana during the 30 days preceding the survey (MMWR, 1997). Over fourteen percent
had used cocaine at some time during their lifetimes (MMWR, 1997).

Among all students, 86.1% reported they had ever had sexual intercourse, and 34.5%
reported having six or more sex partners during their lifetimes (MMWR, 1997). Among the
68.2% of students who had engaged in sexual intercourse during the 3 months preceding the

CSUSB College Health Risk Behavior Survey and Needs Assessment 7
survey (current sexual activity), only 29.6% reported they used a condom during their last sexual intercourse (MMWR, 1997).

Current epidemiological evidence supports links between diet and many chronic diseases including cardiovascular disease, cancer, diabetes, obesity, and osteoporosis. A hallmark of most student diets is fast food that is high in fat and sodium content. The college years present a distinct set of nutritional priorities and poor eating habits often worsen during this time. The 1995 CHRBS indicates that one fifth (20.5%) of all students were overweight (MMWR, 1997). Most students (78.2%) reported having eaten two or fewer servings of foods typically high in fat content (hamburgers, hot dogs, sausages, French fries, potato chips, cookies, doughnuts, pies, or cakes) during the day preceding the survey (MMWR, 1997). Thirty-seven percent reported they had participated in vigorous physical activity ("that made you sweat and breathe hard") for at least 20 minutes on 3 or more of the 7 days preceding the survey, and 19.5% reported walking or bicycling (moderate physical activity) for at least 30 minutes at a time on 5 or more of last 7 days (MMWR, 1997).

The purpose of this study was to examine the health risk behaviors of undergraduate students at California State University, San Bernardino (CSUSB). Furthermore, a needs assessment was conducted to examine areas of perceived need by the student population in a variety of areas related to health promotion and prevention. It is hoped that information from this study will guide administrators, faculty and staff in their decision making to increase the university’s ability to create a healthy student body.

Methods

Participants

A total of 563 students participated in the study. Participants were selected from a random sample of all undergraduate courses in the Fall of 2001 at CSUSB provided by the Office of Institutional Research. Each instructor was contacted to give consent for data collection in their class and to arrange a time to collect survey data. Seven instructors declined to allow their class to participate in the study.
Materials and Procedure

Data was collected during the normal course meeting by undergraduate students enrolled in a research methods course in Fall 2001. Participants were briefed and debriefed regarding the nature of the survey, the voluntary nature of the study, confidentiality of their responses, time commitment for participation in the study, and how they could contact the researcher regarding any questions they had about their participation. Consent to participate in the study was gained after the initial briefing and participants were told that they could stop at any time without penalty. Participants completed the College Health Risk Behavior Survey (CHRBS) which consists of 96 items including: a brief demographic section, unintentional injury and safety, intentional injury, alcohol, tobacco use and drug use, sex-related behaviors and STD’s, weight and height, eating behaviors, physical activity, and sources of health information (CDC, 1995). Participants also completed a brief needs assessment regarding health services, courses, and programs at CSUSB (See next section). The survey took about 20 minutes to complete. Participants were not offered any incentive to participate in the study and were treated in accordance with the “Ethical Principles of Psychologists and Code of Conduct” (American Psychological Association, 2000). This research was reviewed and approved by the Institutional Review Board of California State University, San Bernardino.

Results

Survey Demographics

A total of 563 male and female undergraduate students enrolled in classes at CSUSB in the Fall 2001 term participated in the study. Figure 1.1 shows that approximately 66% of the sample was female and 34% of the sample was male. This is approximate to the demographic distribution of the entire campus population during the same time period (63%-female, 37%-male) (CSUSB, 2002). The average age of the participants was 24.4 years of age. To insure that the sample was representative of the CSUSB student population, a t-test was computed comparing sample mean age and the population mean age (25.0). Results indicate that the mean age of the sample was not significantly different from the mean age of the population (t= 1.93, p> .05).
Figure 1.1: Gender

66% Female
34% Male

Figure 1.2 shows the ethnic distribution of the sample. Forty-three percent of the respondents are white, 29% are Hispanic/Latino, 9% are Black, 8% are Asian/Pacific Islander, 1% are American Indian or Alaskan Native, and 10% reported “Other” (i.e. mixed, “Middle Eastern”, etc.).

Figure 1.2: Ethnicity

43% White
29% Black
10% Hispanic or Latino
8% Asian or PI
9% American Indian or Alaskan Native
1% Other

Seventy-three percent of the sample reported that they are single and have never been married, 21.3% reported that they are currently married, and 5.1% were either separated, divorced, or widowed. Seven percent of the respondents report that they currently live in a college dorm or residence hall, 47% report that they live in an off-campus apartment or house, 44% report living in their parent’s home, and 2% live in some other residence.
Figure 1.3 shows the number of years students have been in college. Approximately 15.2% of the respondents are in their 1st year of college, 18.1% are in their 2nd year of college, 14.7% are in their 3rd year of college, 20.5% are in their 4th year of college, 18.5% are in their 5th year of college, and 13.0% have been in college 6 or more years.

Safety and Unintentional Injury

Over 97% of the participants reported driving a car, truck or motorcycle nearly everyday. As car drivers, nearly 83% report always wearing a seatbelt when driving (See Figure 1.1).
As passengers, participants report that 79% always wear a seatbelt and 3.3% rarely or never wear a seatbelt (See Figure 2.2).

Figure 2.2: Percentage of College Students Who Wear a Seatbelt When Riding with Others
Alcohol Use

Figure 3.1 shows that almost 70% of the participants reported that they had consumed at least one alcoholic beverage in the last 30 days. Over 14% of participants report drinking at least one alcoholic beverage on 10 or more days in the last 30 days.

Figure 3.1: Percent of College Students Who Drank at Least One Alcoholic Beverage in the Last 30 Days

Figure 3.2 shows the percentage of students who participate in binge drinking (i.e. drink 5 or more drinks of alcohol in a row in a couple of hours). The current data indicates that almost 65% of CSUSB did not binge drink in the last 30 days. However, about 15% of CSUSB students report binge drinking on at least 6 of the last 30 days. Alarmingly, about 0.4% report binge drinking every day in the last 30 days.

Figure 3.2: Percentage of College Students Who Consumed 5 or More Drinks of Alcohol in a Row within a Couple of Hours
Figure 3.3 shows the number of students who report drinking and driving in the last 12 months. Over 24.5% of student CSUSB students report drinking and driving at least one time in the last 12 months. Over 12.5% report drinking and driving 2 or more times in the last 12 months.

Figure 3.3: Percentage of College Students Who Used Alcohol While Operating a Vehicle in the Past 12 Months
The Relationship Between Gender and Alcohol Consumption

To examine the relationship of gender and drinking behavior, the item "During the past 30 days, on how many days did you have at least one drink of alcohol?", was used as the dependent variable and gender was the independent variable. A chi-square analysis revealed that there is no relationship between gender and the consumption of alcohol in the past 30 days $x^2 = (5, N = 458) = 5.94, p=.312$.

The Relationship Between Fraternity/ Sorority Membership and Binge Drinking

To examine the relationship between fraternity/ sorority membership and binge drinking, the item "During the past 30 days, on how many days did you have 5 or more drinks of alcohol in a row, that is within a couple of hours?" was used as the dependent variable. Fraternity / sorority membership was the independent variable. A chi-square analysis revealed that there is no relationship between fraternity/ sorority membership and binge drinking among CSUSB students $x^2 = (6, N = 86) = 4.45, p=.615$.

The Relationship Between Athletic Participation and Alcohol Consumption

To examine the relationship between athletic team participation and binge drinking, the item "During the past 30 days, on how many days did you have 5 or more drinks of alcohol in a row, that is within a couple of hours" was used as the dependent variable. Participation in CSUSB athletic programs was the independent variable. A chi-square analysis revealed that there is a significant relationship between athletic team participation and binge drinking $x^2 = (6, N = 249) = 12.67, p=.048$. Members of athletic teams were almost 20% more likely to have reported binge drinking in the last 30 days than students who are not members of athletic teams.
Tobacco Use

Figure 4.1 shows that almost 26% of the participants reported that they had smoked cigarettes in the last 30 days. Almost 6% of the participants report smoking at least one cigarette on 30 days in the last 30 days.

Figure 4.1: Percentage of College Students That Smoked Cigarettes in the Past 30 Days

Figure 4.2 shows that 36% of the students reported that they had tried to quit smoking in the past. Furthermore, the average age of starting to smoke was between 15 and 17 years of age.

Figure 4.2: Percentage of College Students Who Have Tried to Quit Smoking
Drug Use

Figure 5.1 shows that approximately 48% of all students report that they have used marijuana in their life.

Figure 5.2 shows that most college students who have used marijuana began using marijuana between the ages of 13 and 18.
Figure 5.3 shows that about 10.4% of students who use marijuana have used marijuana 1 to 2 times in the past 30 days, 5.7% have used marijuana 3 to 9 times in the past 30 days, 3.4% have used marijuana 10 to 19 times in the past 30 days, 3.7% have used marijuana 20-39 times in the past 30 days, and 2.2% have used marijuana 40 or more times in the past 30 days.

Figure 5.4 shows that approximately 10% CSUSB students have used cocaine in the past 30 days.

Figure 5.3: Percent of College Students Who Have Used Marijuana in the Past 30 Days

Figure 5.4: Percent of College Students Who Have Used Cocaine in the Past 30 Days
Figure 5.4: Percentage of College Students Who Have Used Cocaine in the Past 30 Days

- 90.3% have used cocaine 40 or more times.
- 4.9% have used cocaine 1 to 9 times.
- 1.6% have used cocaine 10 to 19 times.
- 1.6% have used cocaine 20 to 39 times.
- 0% have used cocaine 0 times.

The graph shows the percentage distribution of cocaine use among college students in the past 30 days.
Figure 5.5 shows that approximately 37% of CSUSB students have used crack or freebase in their lifetime. Approximately 3% of CSUSB students have used steroids in their lifetime, 8% have used inhalants (i.e. aerosol cans, gasoline, etc.) in their lifetime, and 29% have used some other drug (i.e. methamphetamine, heroin, etc.) in their lifetime.
Sexual Intercourse

Figure 6.1 shows the frequency of sexual intercourse in the past 30 days. Approximately 26.4% of the respondents report that they had not had sex in the past 30 days.

Figure 6.1: Frequency of Sexual Intercourse in the Past 30 Days
Figure 6.2 shows the percentage of students who report using a condom in the past 30 days by gender. Approximately 28% of males and 41.5% of females report they did not use a condom when they had sex in the past 30 days. Twenty-six percent (26%) of males reported that they used a condom every time they had sex while only 16% of females reported that they used a condom every time they had sex in the past 30 days. Female CSUSB students were significantly less likely than males to use condoms in the past 30 days $x^2 = (1, N = 434) = 5.16, p= .023$).

The current data indicates that only 21% of the respondents have not had sexual intercourse. The average age of first sexual intercourse was between 15 and 17 years of age. Overall, only 14% of the respondents stated that they used some method of birth control to prevent unintended pregnancy the last time they had sex. The most common type of birth control reported was the use of birth control pills or the withdrawal method. Furthermore, 9.8% of females have had sexual intercourse with another female. Almost 4.8% of males have had sexual intercourse with other males. Almost 16% of the respondents reported that
they were under the influence of alcohol or drugs that last time they had sex. Only 40% of the respondents reported that they had received an HIV antibody test. Approximately 13% of females and 5% of males reported that they had been forced to have sex against their will. In fact, females were significantly more likely than males to report that they had been forced to have sexual intercourse against their will \( x^2 = (1, N = 545) = 7.76, p= .005 \).

**Nutrition**

A Body Mass Index (BMI) was calculated using participant’s self-report of height and weight. A BMI of 19 or below indicates an individual who is underweight. A BMI between 19 and 25 indicates that an individual is at an ideal or healthy weight, and a BMI above 25 indicates that a person is overweight. Figure 7.1 shows that approximately 38% of CSUSB students are overweight, 5% are underweight, and 57% are at a healthy weight.

![Figure 7.1: Percentage of Students Who Are Underweight, Healthy, and Overweight](image)

Figure 7.2 shows that 53% of the students report that they are trying to lose weight while 17.8% of the students are trying to remain their same weight.

![Figure 7.2: College Students Behaviors to Address Body Weight](image)
The U.S. Dietary Guidelines for Americans recommends that adults ages 18- 55 eat 6-11 servings of breads, grains, pasta, and rice, 3-5 servings of vegetables, 2-4 servings of fruits, 2-3 servings of milk and dairy products, and 2-3 servings of meat and poultry each day (McCarthy, 1999). Figure 7.3 shows that 44% of respondents ate zero servings of fruit on the previous day, 30% ate 1 serving of fruit the previous day, only 25.1% ate 2 or more servings of fruits on the previous day.

Figure 7.3: Percentage of College Students Who Ate Fruit on the Previous Day

Figure 7.4 indicates that 53.7% of the respondents ate zero servings of vegetables on the previous day while only 12% ate 2 or more servings of vegetables on the previous day.

Figure 7.4: Percentage of College Students Who Ate Vegetables on the Previous Day
Figure 7.5 indicates that 35% of the respondents ate 1 serving of french fries or potato chips on the previous day while over 6% ate 2 or more servings of french fries or potato chips on the previous day.

Figure 7.5: Percentage of College Students Who Ate French Fries or Potato Chips on the Previous Day

Figure 7.6 shows that over 37% of the respondents ate 1 serving of cookies, doughnuts, cake or pie on the previous day and 10.7% of the respondents ate 2 or more servings of cookies, doughnuts, cake or pie on the previous day.

Figure 7.6: Percentage of College Students Who Ate Cookies, Doughnuts, Pie, or Cake on the Previous Day
Physical Activity

The American College of Sports Medicine (1998) recommends that adults ages 18-44 participate in aerobic exercise for at least 20-30 minutes per day, 3-4 days per week. Figure 8.1 indicates that 37% of the respondents did not exercise in the past 7 days preceding the survey. Only 40% of the respondents reported exercising 3 or more days in the past 7 days preceding the survey. Furthermore, over 55% of the students who reported exercising 1 or more times per week in the past 7 days did so in a physical education course here at CSUSB.

Figure 8.1: Percentage of College Students Who Participated in Aerobic Exercise in the Past 7 Days

Figure 8.2 shows that almost 46% of the respondents did not participate in exercise to strengthen or tone muscles. Over 54% of the respondents participated in exercise to strengthen or tone muscles in the past 7 days preceding the survey.

Figure 8.2: Percentage of College Students Who Participated in Exercise to Strengthen or Tone Muscles
Sources of Reported Health Information

Respondents were asked about their sources of health information in variety of areas. The majority of respondents (51%) stated that they had not received information regarding HIV/AIDS infection on campus. Of those who stated that they had received HIV/AIDS infection information on campus, 62% learned about HIV/AIDS from a class, 11% learned about it from the campus health center, 12.5% learned about it from a brochure, 10% learned about it from a friend, 1.5% from campus clubs or organizations, 1.5% from campus residence sessions, and 1.5% from the campus newspaper.

Respondents stated that only 35% had learned about the consequences of tobacco use from on campus sources and only 42% had learned about alcohol use and abuse from on campus sources. Forty-three percent of the respondents had received information about diet and exercise from on-campus sources. The majority of students (88%) learned this information from a class.
Selected Health Risk Behavior Items: Fall 2001 CSUSB Data vs. National Data

2001 CSUSB Data vs. 1995 National Data

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RESULTS OF THE 2001 CSUSB STUDENT HEALTH NEEDS ASSESSMENT

Introduction

A critical element in health promotion program planning is needs assessment. The definition of need is ambiguous since need is often used interchangeably with want or desire. Altsculd and Witkin (1999) define “need” as the discrepancy or gap between what people perceive is and what they perceive ought to be. Planning is essential to the development of a successful health promotion program. As a result, a comprehensive needs assessment is valuable in determining which types of health programs and services should be planned, implemented, and evaluated in a given community.

Methods

A numerical needs assessment was conducted using procedures and principals outlined in Altsculd and Witkin (2000). A survey was developed to determine the discrepancy between the current status of health related programs and services at CSUSB and the desirable status (or “what should be or what ought to be”). The questionnaire consisted of 30 items surrounding health programs, services, and activities in five areas: health services, health education and promotion, health care, health courses, and school safety and environment. A total of 354 students completed the needs assessment survey. Participants were asked to rank the current status of each activity and rank the desired status of each activity (i.e. “CSUSB should be providing low-fat meals on campus”; “CSUSB is providing low-fat meals on campus”). Participants ranked each statement using a 4-point scale from (1=Always to 4 = Never). The questionnaire took about 10 minutes to complete and followed the College Health Risk Behavior Survey (CHRBS). For more information regarding the participants and procedure of this study, see page 7 of this report.

Data was analyzed by calculating a numerical needs index. A numerical needs index is calculated by taking the current status mean and subtracting the desired status mean for each item to produce a discrepancy coefficient. A positive discrepancy coefficient indicates that the desired status is higher than the current status. Conversely, a negative discrepancy coefficient indicates that the current status is higher than the desired status. A means-
difference analysis (MDA) was calculated. The use of MDA is very similar to the concept of effect size in meta-analysis. The scores obtained from the desired status and current status are seen as representing two separate scales. They are summed, the averages are calculated, and the difference between the averages is then determined, leading to a simplified proxy for effect size (Altschuld & Witkin, 1999). For each item, the difference for the desired status score and current status score is calculated and compared to the effect size. In general, the mean difference determined across all items from the two scales would have to be approaching one standard deviation to be significant and meaningful.

Results

The results of the needs assessment highlighted several identifiable needs. Figure 2.1 shows the desired status and current status of activities, services, and programs in the area of health services. Items in this area are activities that health providers or other professionals might provide in student health and student life centers. The MDA analysis revealed that there are significant needs in providing medical insurance for students, providing health care services related to stress management and anxiety, and providing low-fat meals on campus. This is due to the fact that the desired status in these areas are significantly greater than the current status. Health services related to providing support groups (i.e. AA, NA, CA), pregnancy prevention services, vaccinations, and breast cancer screenings were not identified as meaningful needs. This is due to the fact that the desired status is not significantly greater than the current status. In no areas in health services was the current status greater than the desired status. As a result, CSUSB currently provides adequate health services in the areas of pregnancy prevention, vaccinations, and breast cancer screenings. However, there is a significant need for health services in the areas of stress/anxiety services, medical insurance, and low-fat meals on campus.

Figure 2.2 shows the desired status and current status of activities, services, and programs in the area of health education and promotion. These items focus on individual and population-based health prevention and promotion activities related to personal health and behavior change. The MDA analysis revealed that there are significant needs in stress management education, alcohol prevention education, nutrition education, and HIV/AIDS prevention education. This is due to the fact that the desired status in these areas are
significantly greater the current status. Health education and promotion activities and programs related to pregnancy prevention education was not identified as a meaningful need. This is due to the fact that the desired status is not significantly greater than the current status. In no areas in health education and promotion was the current status greater than the desired status.

Figure 2.3 illustrates the desired status and current status of regular academic courses offered at CSUSB. These items examine the need for regular academic health courses for credit at CSUSB. The MDA analysis revealed that the only significant need was in the area of stress management courses. This is due to the fact that the desired status in these areas are significantly greater than the current status. Health related courses in reproductive health and bicycling were not shown to be of significant need. This is due to the fact that the desired status is not significantly greater than the current status. Interestingly, the current status for courses in jogging/running were significantly greater than the desired status.

Figure 2.4 shows the desired status and current status of activities, services, and programs in the area of school safety and environment. These items focus on aspects of safety, overall college experience, and other areas. The MDA analysis revealed that there are significant needs in overall campus safety, student life, and providing a “hate-free” campus. This is due to the fact that the desired status in these areas are significantly greater than the current status. School safety and environment activities related to conflict management, and providing campus information to students using email/WWW were not identified as meaningful needs. This is due to the fact that the desired status is not significantly greater than the current status. In no areas in school safety and environment was the current status greater than the desired status.

Figure 2.5 reveals the desired status and current status of activities, services, and programs in the area of health information and dissemination. These activities would include various media (print, video, etc.) activities related to health education. The MDA analysis revealed that there are significant needs in stress management information, school safety information, exercise and fitness information, and HIV/AIDS prevention information. This is due to the fact that the desired status in these areas are significantly greater the current status. Health information activities of tobacco control and alcohol use were not identified as a significant need. This is due to the fact that the desired status is not significantly greater than
the current status. In no areas in health information was the current status greater than the desired status.

Table 1 shows the numerical needs index in rank order. Those needs where the discrepancy coefficient significantly exceeded the standard deviation for the overall effect size are noted with an asterisk. The greatest need identified by CSUSB students fall in the area of stress management. Students also have identifiable needs for campus safety and comprehensive health education programs.
Figure 2.1: Health Services

- Providing low fat meals on campus
- Providing medical insurance for students
- Providing assistance in anxiety/stress management
- Providing support groups on campus (i.e. AA, NA, CA)
- Providing pregnancy prevention services
- Providing peer educators/counselors
- Providing medical care for students
- Providing vaccinations for students
- Providing breast cancer screenings

Mean for the What Should Be Status
Mean for the What Is Status
Figure 2.2: Health Education and Promotion Programs

- Stress Management Education
- Alcohol Prevention Education
- HIV/AIDS Prevention Education
- Nutrition/Healthy Eating
- Pregnancy Prevention Education
- Tobacco Use Prevention Education

Bar chart showing the mean for what should be status and what is status for each category.
Figure 2.3: Health-Related Courses

![Bar chart showing health-related courses: Jogging/Running, Reproductive health, Stress Management, Bicyling. The chart compares the mean for what should be with the mean for what is.](image)
Figure 2.4: School Safety and Environment

- Provide a safe campus
- Provide a good college experience
- Provide education on date rape
- Provide a "hate-free" campus
- Provide education on conflict management

Legend:
- Mean for the What Should Be Status
- Mean for the What Is Status
Figure 2.5: Health Information and Dissemination

![Bar chart showing the mean for the what should be status and the what is status for dealing with stress, safety, HIV/AIDS prevention, fitness, and alcohol use.](chart.png)
Table 1: Numerical Needs Index

<table>
<thead>
<tr>
<th>Area</th>
<th>Factor</th>
<th>Size of Discrepancy</th>
<th>Rank Order of Discrepancy</th>
<th>Exceeds Discrepancy Standard in Means*</th>
</tr>
</thead>
<tbody>
<tr>
<td>School Safety and Env.</td>
<td>Provide a safe campus</td>
<td>1.36</td>
<td>1</td>
<td>*</td>
</tr>
<tr>
<td>Health Information</td>
<td>Dealing with stress</td>
<td>1.20</td>
<td>2</td>
<td>*</td>
</tr>
<tr>
<td>Health Care</td>
<td>Providing low fat meals on campus</td>
<td>1.15</td>
<td>3</td>
<td>*</td>
</tr>
<tr>
<td>Health Care</td>
<td>Providing medical insurance for students</td>
<td>1.12</td>
<td>4</td>
<td>*</td>
</tr>
<tr>
<td>School Safety and Env.</td>
<td>Provide a good college experience</td>
<td>1.12</td>
<td>5</td>
<td>*</td>
</tr>
<tr>
<td>School Safety and Env.</td>
<td>Provide education on date rape</td>
<td>1.11</td>
<td>6</td>
<td>*</td>
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<tr>
<td>Health Care</td>
<td>Providing assistance in anxiety/stress management</td>
<td>1.10</td>
<td>7</td>
<td>*</td>
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<tr>
<td>Health Courses</td>
<td>Courses in Stress Management</td>
<td>1.10</td>
<td>8</td>
<td>*</td>
</tr>
<tr>
<td>Health Education</td>
<td>Stress Management Education</td>
<td>1.07</td>
<td>9</td>
<td>*</td>
</tr>
<tr>
<td>Health Information</td>
<td>Information on School Safety</td>
<td>1.03</td>
<td>10</td>
<td>*</td>
</tr>
<tr>
<td>School Safety and Env.</td>
<td>Provide a &quot;hate-free&quot; campus</td>
<td>1.01</td>
<td>11</td>
<td>*</td>
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<tr>
<td>Health Information</td>
<td>HIV/AIDS Prevention</td>
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<td>12</td>
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<td>Health Education</td>
<td>Alcohol Prevention Education</td>
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<td>Health Education</td>
<td>HIV/AIDS Prevention Education</td>
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<td>14</td>
<td>*</td>
</tr>
<tr>
<td>Health Education</td>
<td>Nutrition/ Healthy Eating Education</td>
<td>0.98</td>
<td>15</td>
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<td>Health Information</td>
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<tr>
<td>Health Education</td>
<td>Pregnancy Prevention Education</td>
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<td>Information on Alcohol Use</td>
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<tr>
<td>Health Care</td>
<td>Providing support groups on campus (i.e. AA, NA, CA)</td>
<td>0.86</td>
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</tbody>
</table>

Note: * denotes that current need exists
<table>
<thead>
<tr>
<th>Area</th>
<th>Factor</th>
<th>Size of Discrepancy</th>
<th>Rank Order of Discrepancy</th>
<th>Exceeds Discrepancy Standard in Means*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health Information</td>
<td>Tobacco Use Prevention Education</td>
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<tr>
<td>Health Care</td>
<td>Providing pregnancy prevention services</td>
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<td>Health Courses</td>
<td>Courses in Reproductive health</td>
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<tr>
<td>Health Care</td>
<td>Providing peer educators/ counselors</td>
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<td>Health Care</td>
<td>Providing medical care for students</td>
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<tr>
<td>Health Care</td>
<td>Providing vaccinations for students</td>
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<td>Health Courses</td>
<td>Courses in Bicycling</td>
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<tr>
<td>Health Care</td>
<td>Providing breast cancer screenings</td>
<td>0.56</td>
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<tr>
<td>School Safety and Env.</td>
<td>Provide information to students via email</td>
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<td>29</td>
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<td>Health Courses</td>
<td>Courses in Jogging/ Running</td>
<td>0.09</td>
<td>30</td>
<td></td>
</tr>
</tbody>
</table>

Note: * denotes that current need exists.
CONCLUSIONS AND RECOMMENDATIONS

The purpose of this study was to determine the health risk behaviors and health promotion needs of undergraduate students attending California State University, San Bernardino. This report as well as national trends in students health-risk behaviors make it clear that preventable problems are exist among college students. However, this report not only identifies areas of preventable needs but also areas of opportunity.

An assumption made in any needs assessment is that there is a willingness to explore ideas, problems, and opportunities to change on the part of policy makers, administrators, and key decision leaders. This study highlights several health and human service needs at CSUSB. The greatest area of need is clearly in the area of stress management. Stress-related disorders are responsible for some 60% to 90% of all visits to healthcare professionals nationwide (Zapka & Love, 1986). In fact, a number of unique stressors are present in the collegiate environment: examinations, public speaking, interpersonal relationships, and the transition from structured home environments to independent living conditions. How students cope with such stressors can have major lifetime consequences. Stress contributes to many of the emotional and physical symptoms common in the college population, such as fatigue, hypertension, headaches, depression, anxiety, and an inability to cope. Excessive stress reduces academic achievement and results in negative long-term consequences, including alcohol, tobacco and other drug addiction, crime, depression, poor academic performance, and school dropout (McKee, 1993).

The second area of need is campus safety. Table 1 shows many other needs that should be addressed including the need for a comprehensive college health promotion program on campus. There is considerable evidence that students' exposure to violence is associated with both antisocial behavior and psychological trauma (e.g., depression, anxiety, anger, post-traumatic stress disorder) (Flannery & Quinn-Leering, 2000).

The third area of need is for a comprehensive college health promotion program. Respondents identified the need for HIV/STD prevention, alcohol, tobacco, and other drug prevention, and nutrition/physical fitness promotion. Current research regarding the efficacy of a comprehensive prevention approach show that a well-planned and evaluated program can play a significant role in preventing a wide variety of health problems.
How can these health risk behaviors and needs be addressed? First, a comprehensive college health promotion program will not occur unless there is a paradigm shift from an individual curative- treatment oriented framework to a population- based prevention framework. Such an agenda calls for professionals with preparation in health promotion that have experience in developing implementing, and evaluating college health promotion programs. Second, a comprehensive health promotion program at CSUSB would address the health needs of students at the primary, secondary, and tertiary levels. Such an approach would require the use of health educators, counselors, and health providers. Furthermore, this approach should collaborate work with students and community- health educators in program planning activities. This would meet the U.S. Surgeon General’s recommendations outlined in Healthy People 2010 that aims to increase the proportion of postsecondary institutions with comprehensive health promotion programs for students, faculty, and staff. Third, a comprehensive health promotion program at CSUSB would require a commitment from college administrators, faculty, and students. This commitment would ensure that a thorough program planning and evaluation model be utilized to maximize resources and determine program effectiveness. The university should continue to support and expand on research and program evaluation in the area of health promotion. Evaluation research, even if it is conducted at a very basic level, is an essential component of an effective health promotion program. The combination of good intentions, hopefulness, and group support that accompanies an exciting new approach can otherwise produce a dangerous closing of our collective minds that not only explains away contradictory results but also subtly discourages inquiry (Keeling, 2000). No matter how hopeful we feel about the prospects for success (i.e. a social norms approach, peer education, etc.) of any new approach in health promotion, we must, from the very beginning, question it.

Finally, health is not only the absence of disease or disorders but it is also the presence of healthy behaviors. CSUSB should attempt not just to help students avoid illness and injury but also to promote better health. A comprehensive health promotion approach, which is designed to reinforce individual and collective behaviors, is especially effective during the college years before students have an opportunity to develop fully the unhealthy lifestyles in adulthood. CSUSB can do this with a clear focus on developing a campus that promotes a healthy student body.
REFERENCES


