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HEALTH AND FITNESS PROFILES OF COLLEGIATE UNDERGRADUATE STUDENTS

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ABSTRACT

HEALTH AND FITNESS PROFILES OF COLLEGIATE UNDERGRADUATE STUDENTS. **Simpson WF, Brehm HN, Rasmussen ML, Ramsay J, Probst JC. JEPonline. 2002;5(3):14-27.** One goal of Healthy People: 2000 (HP:2000) and HP:2010 is to assist Americans to live healthier and improve quality of life. College students represent future consumers of health care services. Preventive measures and habits formed as young adults may have an impact on health care delivery in the 21st century. The purpose of this investigation was to compare the health habits/fitness profiles from two cohorts of undergraduate students. During the spring semesters of 1994 (SP94) and 1996 (SP96) a total of 428 male and 460 female underclass students enrolled in a general wellness class. A physical fitness assessment and a health/exercise survey were administered. Students fell within normal limits (WNL) for height, weight, BMI and percent fat. VO₂max estimated from a cycle ergometer test revealed average fitness levels. Subjects reported less than 3 days/week were spent participating in aerobic activities. Males responded spending 2.2 days/week resistance training and females 0.9 days/week. A decrease in organized physical activity after high school was reported. Overall, >75% males and >67% females reported drinking alcohol. Males consumed >15 drinks/week and females >5 drinks/week with beer being the choice drink. Thursdays - Saturdays were the common nights for consumption. Cigarette smoking for both genders in SP94 was 13% with males reported 12% and females 17% in SP96. Marijuana use during SP94 was 27% and 16% increasing to 57% and 34% for males and females respectively. These college student's fitness categories and body composition were within normal limits. However, self-reports of exercise were below HP:2000 objectives. Alcohol consumption and marijuana smoking exceeded expected goals. Women reported an increase in cigarette smoking in SP96. These data suggest that the trend for these young adults towards unhealthy health practices is present at the studied university. The need for preventative education programs to prevent these habits is essential if the Healthy People goals are to be met.

Key Words: Prevention, Wellness, Physical Fitness, Alcohol, Tobacco, Drugs

INTRODUCTION

Health promotion has shifted since the 1970's. The fact that the World Health Organization's definition of health incorporated physical, mental, and social well-being, and not merely the absence of disease and infirmity has been a major breakthrough in fostering a change in attitude and thought regarding physical activity and health (1). As a result of these reported shifts, in 1990 the Healthy People:2000 (HP:2000) goals and objectives were introduced and recently the Healthy People:2010 (HP:2010) updated goals and objectives were released. In 1995 the introduction of joint guidelines for exercise from the Centers For Disease Control (CDC) and the American College of Sports Medicine (2) were released. These works contributed to the eventual release of the 1996 Surgeon General's Report on Physical Activity. Attitudes regarding alcohol consumption have slowly changed during this time period, as has the decreased acceptance of public smoking and exposure to secondhand smoke.

According to the 1999 National Health and Nutrition Examination Survey (NAHANES III), 61% of adults are either overweight or obese (3). Further, 13% of 6-11 year olds and 14% of 12-19 year olds are overweight (4). To complicate matters, a diabetes epidemic has been declared based on data from the HP:2000 summary report which indicated that there are 800,000 new cases of diabetes/year and 2,200 new cases each day (5). Causative factors cited for these trends were increased insulin resistance in adults and the lack of physical activity, obesity and improper nutrition in teenagers. The prevalence of insulin resistance, dyslipidemia and hypertension has been labeled Syndrome "X", and when obesity is added to this model it has been cleverly called the "Deadly Quartet" (6).

Today's undergraduate students will become tomorrow's eventual middle aged and elder adult. The addition of a more mechanized society will introduce a number of unique challenges for these individuals. Genesis of poor health habits in young adulthood will only increase the likelihood of the prevalence of chronic disease. The need to adhere to a healthy lifestyle and habits will be imperative in order to have a better chance of decreasing one's risk of suffering from a chronic disease. Students who develop unhealthy habits (smoking, excessive drinking and physical inactivity) at an early age reflect a profile that increases their risk of early morbidity and mortality. One goal of health promotion programs is to decrease health care costs. It is imperative to instill young adults during their college years the importance of healthy lifestyles and taking ownership of one's health through preventive measures.

Questions have arisen regarding college students and their amount of physical activity once they take residence in a college dorm or an apartment nearby campus. More time is left for sedentary behaviors / poor lifestyle choices including cigarette smoking and excessive drinking. For many students this is their first time away from home and away from the supervision of their parents or guardians. If future health care costs are to remain affordable and attainable by all, then we in allied health and health promotion need to increase the message to young and old alike.

Results from the college Health Risk Behavior Survey were also being collected (7). Similar attributes were described such as 38% reported participation in vigorous exercise, 34% consumed >5 drinks/session and 49% had used marijuana. Patrick and co-workers (8) also reported in a cohort of California college students that 17.6% had used marijuana, less than 44% exercised regularly and 35% of their survey respondents reported binge drinking within the past 30 days. These trends in undergraduate students are alarming.

Chronic diseases such as coronary heart disease, cancer and chronic obstructive pulmonary disease are not caused by any one particular agent or behavior. Sedentary behavior, tobacco use, and excessive alcohol intake all contribute to cumulative risk that one may develop one of these diseases over time. For example, major risk factors of heart disease include hypertension, elevated cholesterol, sedentary lifestyle and cigarette smoking. No

single factor “causes” heart disease. However, factoring in perhaps age, gender, family history and any of the major risk factors will increase one’s risk of developing heart disease (9).

The purpose of this investigation was to survey a sample of freshman and sophomore students at the University of Wisconsin-Stevens Point (UW-SP) as to their health and exercise habits, and gain insight to the underclassmen's profile. Data would then be used to compare the cohort to the typical college population and assist the health service staff to better serve the student’s needs on campus.

METHODS

Each semester, 880 students enroll in an introductory health and wellness class. These students are from all 4 colleges (College's of Professional Studies, Natural Resources, Letters and Science and Communication) within the university and therefore represent a random sample of the student population. As part of the coursework, students are required to fill out a health hazard appraisal designed by the health service physicians, The Par-Q (10), and a nutritional analysis using the Food Processor III software program which was available on the campus wide computer network. During the two semesters of data collection (Spring semesters, 1994 and 1995), students were asked to voluntarily fill out a questionnaire addressing various health habits and activity patterns. The instrument from spring 1994 can be found in Appendix A and spring 1996 in Appendix B. The instrument from the 1996 cohort was administered by different students and included modifications from the original instrument which was constructed by another undergraduate student. In addition each student also completed a physical fitness assessment. If a student opted out of the survey, they still completed the physical assessment as this was a portion of the Healthy American class. All data from the assessment was given only to the student and was not used in this investigation. The protocol and survey instrument for this investigation was reviewed and approved by the Institutional Review Board for the protection of human subjects.

After a licensed physician or physician’s assistant reviewed the student’s health history, the student scheduled an appointment at the exercise physiology laboratory for a physical fitness assessment. If at any time a student was assessed to have any contradictory reasons not to exercise or undergo an assessment they were referred for a complete health and physical examination and were not included in the respective cohort. The contraindications to participation included a blood pressure >140/90, tachycardia, pregnancy, and history of heart disease or other chronic disease (10).

Eighteen and 19-year-old students were used since less than 10% of the total enrolled students were over 20. All assessments were conducted by an exercise physiology laboratory assistant using a computer based assessment package from MicroFit® (11,12). After arriving for their appointment, each student read and signed an informed consent. Pre-exercise heart rate and blood pressure were accessed by auscultation. Guidelines from the American College of Sports Medicine were followed for all testing procedures (10). Body composition was attained by using computerized skinfold calipers. A three-site skinfold equation was used to estimate %fat (1). An electronic scale accessed body weight and an isometric tension box accessed biceps strength for the muscular strength component. Flexibility was accessed by an electronic sit and reach box. Cardio-vascular assessment was obtained by the use of a Monark 818E cycle ergometer interfaced with the computer. A modified Astrand-Ryning protocol contained in the software predicted the subject’s VO_2max . Blood pressure was monitored by an automated blood pressure cuff that was also interfaced with the software. A polar heart monitor was used to obtain heart rate and was interfaced with the computer. If the automated cuff or the Polar heart rate monitor were to fail, both measures could be taken manually and entered into the software in order to continue with the test (11,12).

After completing the physical fitness assessment each student received a two-page copy of his/her results along with an interpretation. For this investigation, a copy of the results were maintained and logged. Body mass index

was calculated by methods previously described [weight [kg]/height [m]²] (13). All questionnaire and assessment data was analyzed using a Statview® 4.0 statistical package (14) on a Macintosh Quadra 660.

RESULTS

A total of 888 [428 males, 460 females] 18 and 19 year old students enrolled in the Healthy American Class and participated in this investigation during the two semesters surveyed. The overall demographics may be found in Table 1. We found that the present cohorts were average height for men (1.8±0.07 m) and women (1.7±0.14m) (3).

With respect to body composition, mean values for men were 11.4% for body fat and a mean weight of 77.1 kg. The overall Body Mass Index [BMI] for male students was 23.6. These data can be classified within normal limits for this age group (1). Female students were similar falling within healthy limits. Body fat was 23.3% with a mean weight 62.8 kg. BMI for women was also within normal limits with a mean of 22.6.

Table 1. Subject demographics from both cohorts (1994 and 1996). Mean±SD data.

	MALES n = 463	FEMALES n = 428
Height (m)	1.8±0.07	1.7±0.14
Weight (kg)	77.1±13.9	62.8±10.5
Percent Fat	11.4±4.9	23.3±4.8
BMI [m/kg²]	23.6±3.9	22.6±3.8
Resting Heart Rate (b/min)	72.3±14.5	76.1±13.1
Systolic BP (mmHg)	130.1±12.1	119.1±15.6
Diastolic BP (mmHg)	72.8±11.2	67.8±11.1
VO₂ (ml/kg/min)	47.3±9.9	40.9±9.7

Resting values for heart rate were in healthy ranges although systolic blood pressure for men was 130 mmHg. It should be noted that these values although referred to as resting data should not be interpreted as true resting values. Although participants were instructed not to engage in exercise at least two hours before their scheduled assessment, laboratory personnel reported that a number of subjects would report for assessments following a workout or athletic team practice. In addition, participants were also asked to abstain from nicotine or caffeine-containing products, numerous individuals disregarded these suggestions. Due to large number of assessments, it was not practical to reschedule students who fell into these categories. Students who were ill or had other compromising situations were allowed to reschedule for another appointment. Further, the apprehension of having an assessment, the so-called "white coat hypertension" may have contributed to higher than expected values.

Males attained a mean estimated oxygen consumption of 47.3 ml/kg/min [13.5 METS] and women 40.9 ml/kg/min [11.7 METS]. These data suggest that the cohort is recreationally active, but not highly trained.

Exercise and health habits are summarized in Tables 2, 3 and 4. Males and females in both age groups in each semester reported exercising aerobically less than 3 days per week. Participation in high school sports was >75% for all groups with a noticeable decline in college to <20% participation in concert with only 20 to 30% of men participating in intramural activities and less than 20% of women participating in intramural programs. When asked in the 1996 cohort about club sports less than 10% indicate any participation.

Table 2. Results from physical assessments and surveys, Spring 1994.

	<i>MALES</i>		<i>FEMALES</i>	
	18	19	18	19
<i>Age (yrs)</i>				
<i>Aerobic workouts / week*</i>	2.8±2.4	2.6±2.2	2.3±1.6	2.3±1.6
<i>High school sports#</i>	0.88; 0.82-0.94	0.89; 0.84-0.94	0.75 0.68-0.82	0.75; 0.67-0.83
<i>Intramurals#</i>	0.33; 0.23-0.42	0.33; 0.25-0.40	0.20 0.13-0.32	0.19; 0.11-0.27
<i>College sports#</i>	0.16; 0.09-0.23	0.19; 0.12-0.26	0.08 0.04-0.12	0.09; 0.03-0.14
<i>Smoke cigarettes#</i>	0.13; 0.07-0.19	0.13; 0.07-0.18	0.13 0.07-0.18	0.19; 0.11-0.26
<i>Drink alcohol#</i>	0.78; 0.69-0.87	.77; 0.68-0.86	0.77 0.67-0.87	0.72; 0.64-0.79
<i>Smoke marijuana#</i>	0.31; 0.22-0.39	0.23; 0.16-0.30	0.14 0.09-0.19	0.18; 0.11-0.25

* Mean±SD data; #Percent responding "YES"; 95% Confidence interval

Table 3. Results from physical assessments and surveys, Spring 1996.

	<i>MALES</i>		<i>FEMALES</i>	
	18	19	18	19
<i>Age (yrs)</i>				
<i>Aerobic workouts / week*</i>	2.8±1.6	2.5±1.3	2.5±1.6	2.5±1.4
<i>Resistance training /week*</i>	2.3±1.6	2.2±1.6	0.87±1.3	0.84±1.3
<i>High school sports#</i>	0.91; 0.84-0.97	0.87; 0.81-0.93	0.77; 0.69-0.85	0.82; 0.75-0.89
<i>Intramurals#</i>	0.20; 0.10-0.29	0.31; 0.23-0.39	0.17; 0.09-0.24	0.09; 0.03-0.15
<i>College sports#</i>	0.20; 0.19-0.29	0.11; 0.05-0.17	0.10; 0.04-0.16	0.06; 0.01-0.10
<i>Club sports#</i>	0.06; -0.01-0.13	0.10; 0.05-0.15	0.05; 0.007-0.09	0.05; 0.005-0.09
<i>Smoke cigarettes#</i>	0.17; 0.08-0.26	0.10; 0.05-0.15	0.16; 0.09-0.23	0.19; 0.11-0.27
<i>Chew tobacco#</i>	0.11; 0.03-0.18	0.11; 0.05-0.15	0	0.01; -0.09-0.03
<i>Drink alcohol#</i>	0.78; 0.68-0.88	0.81; 0.74-0.88	0.64; 0.55-0.73	0.71; 0.62-0.79
<i>Smoke marijuana#</i>	0.34; 0.23-0.45	0.30; 0.22-0.38	0.21; 0.13-0.28	0.22; 0.14-0.30

* Mean±SD data; #Percent responding "YES"; 95% Confidence interval

Table 4. Drinking habits, 1996 cohort.

	<i>MALES</i>		<i>FEMALES</i>	
	18	19	18	19
<i>Drink socially</i>	0.44; 0.32-0.56	0.40; 0.31-0.49	0.52; 0.42-0.62	0.59; 0.49-0.69
<i>Drink to get drunk</i>	0.43; 0.31-0.55	0.49; 0.40-0.58	0.15; 0.08-0.21	0.22; 0.14-0.30

Percent responding "YES"; 95% Confidence interval

In 1994 all groups reported that 13 % smoked cigarettes. In 1996 these numbers increased to 16 and 19 % for 18 and 19 year old women and to 17 % for 18 year old men. Greater than 64 % of all groups reported drinking alcohol. When asked about drinking habits, over 40 % of men reported that they drank socially yet also reported that >40 % drank simply to get drunk. In contrast, women reported social drinking at a slightly higher rate of 52 and 59 % for 18 and 19 year olds respectively and less than 22 % reported drinking to get drunk. Over 30 % of men in 96 and 21% of women reported using marijuana. In the 96 cohort 11 % of men in both age groups reported using chewing tobacco.

DISCUSSION

The goals and objectives of Healthy People:2000 have been well established since the early 90's and have been updated with the release of HP:2010 goals and objectives. These data represent two separate cohorts of underclass students at the University of Wisconsin - Stevens Point. In regards to the basic demographic data, this cohort is certainly not obese or significantly out of shape based upon the oxygen consumption and body

composition data. Further the resting heart rate and blood pressure data although not totally representative of true baseline data are certainly within healthy limits (1). However, based upon the current exercise habits and participation in unhealthy behaviors such as days per week engaging in exercise, alcohol and smoking habits these students are not achieving the standards suggested by Healthy People:2000 and the Centers For Disease Control/American College of Sports Medicine (2).

Both males and females report failing to participate in aerobic exercise for a minimum of three days per week. Since they report a high incidence of high school sports participation versus low college sport and activity participation, a concern arises about what these individuals are doing during their spare time. It does stand to reason that many students who participated in high school athletics will forgo college participation for a number of reasons including being cut or having no interest in athletics at the collegiate level. Habits acquired during this time may lay a foundation for a sedentary lifestyle once the student leaves the college environment. This university has a very active intramural program, however, according to our data few students, particularly females are actively participating in it on a regular basis. Haberman and Luffey (15) reported that 39% of 392 surveyed students at a large urban university reported exercising aerobically 3 or more times per week and 50% reported having BMI's >26. These data for exercising are similar to the present study, however, the data for BMI's in this study suggest a better outlook for these students at this time. Perhaps the contrast from an urban to rural setting of the universities may have contributed to this disparity. Results from the 1995 National Health Risk Behavior survey revealed that only 3% of respondents exercised 3 or more times per week (7).

In contrast, the prevalence of cigarette smoking has been increasing in all students with the exception of 19-year-old males. HP:2000 objective 3.1 of having 15% of youth <age 20 being regular cigarette smokers is now no longer achieved in females on this campus and is exceeded by 18 year old males (16). This trend of increasing tobacco use mirrors the reports that teenage smoking is on the rise in the United States (17). Douglas and co workers (7) reported that 31% of students smoked regularly in their lifetime while Wiley and co-workers (18) reported over one third of Texas college students surveyed reported being regular smokers. These data strongly suggest that the college population is becoming out of touch with the national trends for cigarette smoking. Although no data are available from 1994 the data from 1996 show the use of smokeless tobacco also exceeds the HP:2000 objective 3.9 of 4% in males. Often smokeless tobacco is ignored as a problem, its health risks still are present (16,17). HP:2000 Objective 4.6 for marijuana use is 7.8% with a 1987 baseline of 15.5% for this age group. Both cohorts exceed this baseline (16). This is similar to the trend with tobacco where there are reports of an increase in marijuana usage in teenagers. It is only logical that these teens are now attending college and are bringing their habits with them to campus.

Alcohol abuse is a problem for the State of Wisconsin (19). Recent reports have revealed that Wisconsin has one of the highest DWI arrests and a high incidence of women drinking excessive amounts of alcohol during pregnancy (19). With these trends throughout the state, it is not surprising that 18 and 19 year olds report a high drinking prevalence. The suggestion from this data is that male students are drinking more to get drunk when compared to female students and that female students drink more socially. It is difficult to access this from this survey since it is impossible to tell if the reason less women report drinking to get drunk is embarrassing to them and wish not to reveal the truth or men are inflating the numbers to appear more "macho" (20,21). HP:2000 Objective 4.67 for college age student drinking is to have no more than 32% of students drinking heavily (16). The present data suggests that UW-SP underclass students have far exceeded this objective. Arrests for underage drinking and public intoxication have increased due to increased enforcement by UW-SP security and the Stevens Point Police Department. This trend of enforcement began in the mid-1990's.

This data reveals that many college freshman choose unhealthy habits and increase their use of alcohol and other drugs. However, many are coming to campus with attitudes and behaviors instilled in them during the junior and senior high school years. Since smoking prevalence has increased, the need for more education and enforcement

of tobacco laws is needed at the secondary school level. Drinking behavior is unfortunately engrained in Wisconsin society, therefore the lessons of responsible drinking and choices need to be stressed not only on campus, but also at the secondary school level.

These students do continue to maintain a healthy physical profile in regards to body composition, vital signs and aerobic capacity. However, their profiles will not last a lifetime if these young adults become middle aged sedentary smokers. A major concern in regards to these students is although at the time these assessments were done, they were generally in average shape, not obese and relatively healthy overall (1). Yet if at the college age years most students are only aerobically exercising <3 days/week now, one must ask what will their exercise habits become once they enter the professional world having a fulltime job along with the typical family and social obligations. Time is always a considerable factor when it comes to activity and recreation. UW-SP has a state of the art athletic and recreational complex in concert with numerous athletic/sports fields along with walking/jogging/cross country skiing trails adjacent to campus. The local YMCA is also adjacent to campus therefore accessibility is not an issue.

If these students are becoming more sedentary along with an increase of cigarette smoking and a high prevalence of tobacco chewing in males, another concern is the eventual impact these habits will have on the development of coronary heart disease. When these data are contrasted with results of the National College Health Risk Behavior Survey, which found that 31% of respondents had reported smoking cigarettes regularly during their lifetime. We have enjoyed a decrease in smoking behavior from >60% in the 1950s to less than 25% today. Data from the Minnesota Partnership For Action Against Tobacco (21) has recently reported that 20% of Minnesota residents are current smokers [MN Health, 2001]. The present increase in smoking behavior on campuses may suggest that in the near future smoking statistics may show an increase of smoking behavior, subsequently increasing the morbidity and mortality from smoking related diseases.

These data would be used to compare to a typical college population and assist the university's health service staff to better serve student's needs while on campus. Often many choose to ignore the problems that are taking place on campus. However, the long-term consequences ultimately may contribute to higher health costs and potential changes in the way we see health care delivered secondary to the extra burden placed upon the current health care system.

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**APPENDIX A
SPRING 1994 SURVEY INSTRUMENT**

**PLEASE NOTE: ALL INFORMATION CONTAINED IN THIS SURVEY WILL REMAIN
CONFIDENTIAL.**

NAME _____ SECTION # _____ SS# _____

AGE AS OF 1/1/94 _____ RACE _____ GENDER MALE ___ FEMALE ___

DO YOU ATTEND SCHOOL AS A FULL TIME ___ PART TIME ___ STUDENT?

MARITAL STATUS

SINGLE ___ MARRIED ___ DIVORCED ___ WIDOWED ___ REMARRIED ___

PLACE OF BIRTH _____

CURRENT RESIDENCE _____

MAJOR(S) _____ MINOR(S) _____

WHILE ATTENDING SCHOOL, DO YOU RESIDE:

DORMS _____ APARTMENT/HOUSE _____ WITH PARENTS _____

IF YOU LIVE BEYOND STEVENS POINT, HOW FAR IS YOUR COMMUTE, ONE
WAY _____ MILES.

FINANCING FOR SCHOOL INCLUDES: SAVINGS _____ PARENTS _____ LOANS _____
[CHECK ALL THAT APPLY] GRANTS/SCHOLARSHIPS _____ WORK STUDY _____

DO YOU CURRENTLY WORK OUTSIDE OF THE UNIVERSITY? YES ___ NO ___

HOW MANY BROTHERS DO YOU HAVE? ___ AGES _____ DECEASED _____

HOW MANY SISTERS DO YOU HAVE? ___ AGES _____ DECEASED _____

FATHER'S AGE _____ IF DECEASED, AGE AT DEATH _____ CAUSE _____

HIGHEST GRADE COMPLETED _____

MOTHER'S AGE _____ IF DECEASED, AGE AT DEATH _____ CAUSE _____

HIGHEST GRADE COMPLETED _____

ARE YOU THE FIRST GENERATION OF YOUR FAMILY TO ATTEND COLLEGE? YES ___ NO ___

AT THE CURRENT TIME, HOW WOULD YOU RATE YOUR OVERALL FITNESS LEVEL?

EXCELLENT _____ GOOD _____ FAIR _____ POOR _____

WHAT DO YOU PERCEIVE YOUR PERCENT BODY FAT DO BE ? _____

GENERALLY, A HEALTHY RANGE FOR MALES IS 10%-22% AND WOMEN 15% -26%

HOW MANY TIMES PER WEEK DO YOU WORK OUT IN AN AEROBIC FASHION? _____
[ANY ACTIVITY WHICH SUSTAINS YOUR HEART RATE GREATER THAN 140 BEATS PER MINUTE FOR TWENTY MINUTES OR MORE. ACTIVITIES SUCH AS WEIGHT LIFTING DO NOT APPLY]

IN HIGH SCHOOL, DID YOU PARTICIPATE IN INTERSCHOLASTIC ATHLETICS? YES _____
NO _____

WHICH SPORTS _____
WHICH POSITIONS/EVENTS _____

DO YOU CURRENTLY PARTICIPATE IN INTRAMURALS AT UW-SP? YES ___ NO _____

WHICH ACTIVITIES _____
DO YOU CURRENTLY PARTICIPATE IN INTERCOLLEGIATE SPORTS AT US-SP? YES ___ NO _____

WHICH SPORTS _____
WHICH POSITIONS/EVENTS _____

IF NOT CURRENTLY PARTICIPATING IN INTERCOLLEGIATE SPORTS, DID YOU IN THE PAST?
YES ___ NO _____

WHICH SPORTS _____
WHICH POSITIONS/EVENTS _____

WHAT WAS/WERE YOUR REASONS FOR NOT CONTINUING?

CUT ___ INJURY ___ NO TIME ___ LOST INTEREST ___ TIME CONFLICTS ___ HAD TO WORK ___

ANY INTEREST IN RETURNING TO PARTICIPATION IN THE FUTURE? YES ___ NO _____

DO YOU CURRENTLY SMOKE CIGARETTES? YES ___ NO ___ PIPE? YES ___ NO ___
CIGARS YES ___ NO _____

IF YOU USE TO SMOKE, HOW LONG AGO DID YOU QUIT? ___ YEARS ___ MONTHS

DO YOU DRINK ALCOHOL? YES ___ NO _____ YOUR FIRST DRINK WAS AT AGE _____
HOW MANY DAYS PER WEEK DO YOU DRINK? _____

DURING AN AVERAGE WEEK, HOW MUCH DO YOU CONSUME OF:
MUGS/GLASSES OF BEER _____ [12 OZ]
GLASSES OF WINE _____ [8 OZ]
SHOTS OF HARD LIQUOR _____ [1 1/2 OZ]
MIXED DRINKS _____ [1 1/2 OZ OF HARD LIQUOR]

HAVE YOU EVER USED ILLEGAL DRUGS? YES ___ NO _____
CHECK ALL THAT APPLY MARIJUANA ___ COCAINE ___
CRACK ___ UPPERS/DOWNERS ___ OTHER _____

DO YOU USE OVER THE COUNTER DRUGS?

ASPIRIN/TYLENOL_____ SINUS/COLD MEDS_____ COUGH MEDICINE_____ ANTACIDS_____
LAXITIVES_____

ARE YOU CURRENTLY TAKING ANY PRESCRIPTION DRUGS? PLEASE INCLUDE
PRESCRIPTIONS FROM ANY AND ALL DOCTORS, DENTISTS, FOOT DOCTORS OR EYE DOCTORS
YES _____ NO_____

FOR WOMEN :

DO YOU MENSTRUATE ON A REGULAR BASIS? YES___ NO_____

HOW MANY DAYS SINCE YOUR LAST MENSTRUAL PERIOD?_____

ARE YOU CURRENTLY TAKING ORAL CONTRACEPTIVES? YES___NO_____

HOW OLD WERE YOU WHEN YOU HAD YOUR FIRST PERIOD? _____

THANK YOU FOR YOUR TIME AND EFFORT!!

**APPENDIX B
SPRING 1996 SURVEY INSTRUMENT**

PLEASE ANSWER THE FOLLOWING QUESTIONS AS BEST AS YOU CAN. ALL INFORMATION WILL BE HELD IN STRICTEST CONFIDENCE.

NAME _____ SECTION _____ SS # _____

AGE AS OF 9/1/96 _____ RACE: WHITE AFRICAN AMERICAN ASIAN HISPANIC OTHER

GENDER: MALE FEMALE MARITAL STATUS: SINGLE MARRIED DIVORCED OTHER

DO YOU ATTEND SCHOOL FULL TIME _____ OR PART TIME _____?

MAJOR _____ MINOR _____

TO THE BEST OF YOUR KNOWLEDGE, PLEASE ANSWER THE FOLLOWING QUESTIONS.

DO ANY OF THE FOLLOWING RELATIVES HAVE A HISTORY OF HEART DISEASE? [CHECK ALL THAT APPLY]

FATHER _____ MOTHER _____ UNCLES _____ AUNTS _____ COUSINS _____
BROTHERS _____ SISTERS _____ GRANDFATHER _____ GRANDMOTHER _____

HAVE ANY OF THE FOLLOWING RELATIVES DIED FROM HEART DISEASE?

FATHER _____ MOTHER _____ UNCLES _____ AUNTS _____ COUSINS _____
BROTHERS _____ SISTERS _____ GRANDFATHER _____ GRANDMOTHER _____

DO ANY OF THE FOLLOWING RELATIVES HAVE A HISTORY OF CANCER?

FATHER _____ MOTHER _____ UNCLES _____ AUNTS _____ COUSINS _____
BROTHERS _____ SISTERS _____ GRANDFATHER _____ GRANDMOTHER _____

PLEASE INDICATE TYPE OF CANCER _____

HAVE ANY OF THE FOLLOWING RELATIVES DIED DUE TO CANCER?

FATHER _____ MOTHER _____ UNCLES _____ AUNTS _____ COUSINS _____
BROTHERS _____ SISTERS _____ GRANDFATHER _____ GRANDMOTHER _____

PLEASE INDICATE TYPE OF CANCER _____

AT THE CURRENT TIME, HOW WOULD YOU RATE YOUR OVERALL FITNESS LEVEL?

EXCELLENT _____ GOOD _____ FAIR _____ POOR _____
EXERCISE 4-5 TIMES/WEEK EXERCISE 1-3 TIMES/WEEK EXERCISE 1 TIME/WEEK SEDENTARY

WHAT DO YOU PERCEIVE YOUR PERCENT BODY FAT TO ? _____

GENERALLY, A HEALTHY RANGE FOR MALES IS 10% - 22%, WOMEN 15% - 28%

HOW MANY TIMES PER WEEK DO YOU ENGAGE IN AEROBIC EXERCISE? _____
[ANY ACTIVITY WHICH SUSTAINS YOUR HEART RATE GREATER THAN 140 BEATS PER MINUTE FOR MORE THAN 15 MINUTES, SUCH AS JOGGING, BIKING, SWIMMING]

HOW MANY TIMES PER WEEK DO YOU ENGAGE IN WEIGHT LIFTING ACTIVITIES? _____
[INCLUDING FREE WEIGHTS, NAUTILUS, AND EXERCISE MACHINES]

FOR THE NEXT FOUR QUESTIONS, PLEASE USE THESE CODES:
1 FOOTBALL 2 SOCCER 3 CROSS COUNTRY 4 VOLLEY BALL 5 GOLF 6 TENNIS 7 BASKETBALL 8 SOFTBALL 9 BASEBALL 10 TRACK 11 SWIMMING/DIVING 12 WRESTLING 13 GYMNASTICS 14 ICE HOCKEY 15 OTHER

WHILE IN HIGH SCHOOL, DID YOU PARTICIPATE IN INTERSCHOLASTIC ATHLETICS Y__N__?
WHICH SPORTS ? 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 LIST_____

DO YOU CURRENTLY PARTICIPATE IN INTRAMUALS AT UW-SP? Y____ N _____
WHICH SPORTS ? 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 LIST_____

DO YOU CURRENTLY PARTICIPATE IN CLUB SPORTS AT UW-SP? Y__ N ____
WHICH SPORTS ? 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 LIST_____

DO YOU CURRENTLY PARTICIPATE IN INTERCOLLEGIATE SPORTS AT UW-SP? Y__ N____
WHICH SPORTS ? 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 LIST_____

IF YOU ARE NOT PARTICIPATING AT UW-SP AND DID IN HIGH SCHOOL, WHAT WAS YOUR REASON FOR NOT PARTICIPATING? [CHECK ALL THAT APPLY]

CUT___ INJURY ___ NO TIME ___ LOST INTEREST ___ TIME CONFLICTS ___ HAD TO WORK ___ CONFLICT WITH COACH ___ OTHER

DO YOU CURRENTLY SMOKE CIGARETTES? Y____ N ____ CHEW TOBACCO? Y ___ N ____

IF CURRENTLY SMOKING OR CHEWING, AT WHAT AGE DID YOU BEGIN ? _____

IF YOU USE TO SMOKE AND/OR CHEW AND QUIT, HOW LONG AGO DID YOU QUIT _____

DO YOU DRINK ALCOHOL? Y ____ N ____ YOUR FIRST DRINK WAS AT AGE _____

DURING AN AVERAGE WEEK, HOW MUCH DO YOU CONSUME OF:

- MUGS/GLASSES OF BEER _____ [12OZ]
- GLASSES OF WINE _____ [8 OZ]
- SHOTS OF LIQUOR _____ [1 1/2 OZ]
- MIXED DRINKS _____ [1 1/2 OZ]

TYPICALLY, WHICH DAYS DO YOU DRINK ? MON TUES WED THURS FRI SAT SUN

DO YOU TEND TO DRINK SOCIALLY [ONE-THREE DRINKS]_____ OR TO GET DRUNK_____?

HAVE YOU EVER USED MARIJUANA _____ COCAINE _____ CRACK _____ OTHER _____

ARE YOU CURRENTLY TAKING ANY OVER THE COUNTER MEDICATIONS [IE ASPIRIN] Y____
N_____

ARE YOU CURRENTLY TAKING ANY PRESCRIPTION MEDICATIONS Y____ N_____

FOR WOMEN

DO YOU MENSTRUATE ON A REGULAR BASIS Y____ N_____

HOW MANY DAYS SINCE YOUR LAST MENSTRUAL PERIOD Y____ N_____

ARE YOU CURRENTLY TAKING ORAL CONTRACEPTIVES Y____ N_____

HOW OLD WERE YOU WHEN YOU HAD YOUR FIRST PERIOD Y____ N_____

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