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CONTENT VALIDITY ASSESSMENT OF THE
UNIVERSITY STUDENT HEALTH SURVEY INSTRUMENT

by

Lianne Patricia Jeffs

A thesis submitted in conformity with the requirements
for the Degree of Master of Science,
Graduate Department of Nursing Science, in the
University of Toronto

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Content Validity Assessment of the University Student Health Survey Instrument

Degree of Master of Science, 1998

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Abstract

This study examined the content validity of the University Student Health Survey Instrument (USHSI) which was adapted from a health survey instrument that had been used in a large urban university and also included questions based on relevant research findings. The USHSI was organized according to the Determinant of Health dimension of the Population Health Promotion Model (PHPM) (Hamilton & Bhatti, 1996). The study sample included twenty two students who participated in focus group discussions and nine staff/faculty who participated in individual interviews. The participants were asked to assess the content validity of the USHSI using Lynn’s (1986) content validity index (CVI) rating scale and to respond to three open-ended questions. The total CVI rating for the USHSI was 0.84 indicating that the instrument showed evidence of content validity. Based on the study’s findings, five questions were eliminated, five questions were modified and twelve questions were added to increase the content validity of the USHSI. Social support networks and health services emerged as important determinants of health that were not addressed in the initial USHSI. Implications for research, theory and nursing practice are discussed. This research is an initial step which could lead to a greater understanding of the health behaviours and the determinants of health of university students.
Acknowledgements

Asking the proper question is the central action of transformation-in fairy tales, in analysis, and in individuation. The key question causes germination of consciousness. The properly shaped question always emanates from an essential curiosity about what stands behind. Questions are the keys, that cause the secret doors of the psyche to swing open.

Clarissa Pinkola Estes
“Women Who Run With The Wolves”

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At last, I am now ready to run with the wolves.
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Chapter 1: Problem and Purposes

Background to the Problem

The field of health promotion in Canada has grown in response to increasing health care costs and to the concern of individuals, agencies, and communities that are committed to fostering health in addition to focusing on the elimination and prevention of disease (Pederson, O'Neill, & Rootman, 1994). The broadened definition of health and the identification of the social, economic, environmental, and political determinants related to health have expanded the scope of what constitutes health promotion (Robertson & Minkler, 1994). Health promotion research includes studies about the identification of patterns of life and health, patterns of health-related behaviours, and patterns for policy making in health. These studies rely on comprehensive health promotion models for data collection and analysis. Active involvement of the community of interest is also a part of the research process (McQueen, 1994).

The university student population is a community of interest because the health behaviours people establish during the transition to adulthood often will persist later in life (Rosen, Xiangdong, & Blum, 1990). Although much is known about the prevention and treatment of disease in young adults, less is known about health promotion among university students, including how they view their health and the factors that influence their health behaviours. Furthermore, many university students live away from home and under the influence of social norms created by peer groups (Ramsum, Marion, & Mathias, 1993).

In recent studies, university students have reported engaging in behaviours that
may have short-term and long-term negative health consequences. These behaviours are related to (a) alcohol use (Gliksman, Newton-Taylor, Adlaf, Dewit, & Giesbrecht, 1994; Wechsler, Dowdall, Davenport, & Castillo, 1995a; Wechsler, Moeykens, Davenport, Castillo, & Hansen, 1995b; Werner, Walker, & Greene, 1995), (b) sexual practices (Joffe & Radius, 1993; King et al., 1988; Kusseling, Wenger, & Shapiro, 1995; Myers & Clement, 1994; Wendt & Solomon, 1995), (c) dietary practices (Fredenberg, Berglund, & Dicken, 1996; Gliksman et al., 1994; Krahn et al., 1996; Pemberton, Vernon, & Lee, 1996; Rush & Sexsmith, 1994), and (d) exercise (Brevard & Ricketts, 1996; Gliksman et al., 1994; Pinto & Marcus, 1995).

Alcohol use in the university population, particularly heavy episodic drinking, has been associated with short-term health problems including accidental serious injury or death (Werner, Walker, and Greene, 1995), unplanned and unsafe sex (Meilman, 1993; Wechsler et al., 1995b), assault, and aggressive behaviour. It has also been associated with academic consequences, such as absence from classes, which can lead to lower academic grades (Gliksman et al., 1994; Isralowitz & Peleg, 1996; Wechsler et al., 1995a).

Some university students have reported engaging in unprotected sexual intercourse, and some have reported multiple sexual partners (Baggaley et al., 1997; Joffe & Radius, 1993; King et al., 1988; Myers & Clement, 1994). Having multiple sexual partners and unprotected sexual intercourse are associated with short-term health problems including unwanted pregnancy and contracting a sexually transmitted disease (Raab et al., 1995; Remis & Sutherland, 1993). If left untreated, sexually transmitted
diseases could lead to infertility, sterility, and ectopic pregnancy, and in the case of AIDS, death (Remis & Sutherland, 1993). In 1992, AIDS was the leading cause of death in Canada for persons between 25 and 34 years old (Remis & Sutherland, 1993). Because of the exceptionally long period between HIV infection and the development of AIDS, usually up to 10 years, the analysis of reported AIDS cases and trends reflects the behavioural patterns of people in their late teens and early 20s (Remis & Sutherland, 1993).

Some studies have found that healthy nutritional practices and participation in regular exercise have been associated with such long-term health benefits as a decrease in the risk of illness and premature death caused by hypertension and cardiovascular disease (Keys, Christ, & Blackburn, 1972) and osteoporosis (Jacobson, Beaver, & Grubb, 1984). The short-term health benefits associated with participating in regular exercise include decreased anxiety and depression (Topp, 1989) and improved self-esteem (Trujello, 1983).

Only a few of the research studies that examined university students' health behaviours and determinants of their health behaviours have included reports on the validity of the data collection instruments used in those studies (DiIorio et al., 1993; Kelley & Lowing, 1997; Ministry of Health, 1992; Pemberton, Vernon, & Lee, 1996; Stephens, 1993; Taggart & Connor, 1995; Werner et al., 1995; Werner, Walker, & Greene, 1994), while others reported that only sections of their data collection instruments showed evidence of content validity (Eagleson, 1992; Isralowitz & Peleg, 1996; Rush & Sexsmith, 1994; Steptoe et al., 1996; Torrible, 1992). Yet, content validity is a significant
part of an instrument's validity and is crucial to the understanding of the research findings and their relevance for practice and theoretical application (Lynn, 1986).

This investigator's experience working as a health promotion nurse in a health services clinic at a large urban university revealed that the only university-based health data available are from students who use the health services. No baseline information is available on the health behaviours and the determinants of health behaviours of the general student population. But accurate baseline information, collected using valid instruments, is essential for effective health promotion program planning, implementation, and evaluation (Green & Kreuter, 1991; Ministry of Health, 1992). Research, therefore, is needed to identify the health behaviours and the broader determinants of health including social, economic, environmental, and political factors that influence students attending university.

Problem Statement

Although several studies have identified some specific health behaviours of university students and, to a lesser extent, the factors that influence these health behaviours in the university population, few studies have used valid instruments or have reported on the validity of the instruments used for data collection. A greater understanding of the health behaviours and the social, economic, environmental and political factors which influence health behaviours may assist in the development of health promotion programs specific to the university student population. The University Student Health Survey Instrument (USHSI) (see Appendices A & B) is a data collection instrument that the researcher and thesis supervisor adapted with permission from a health
survey instrument that had been used in a large urban university (see Appendix C). This adaptation used the Population Health Promotion Model (PHPM) as its organizational framework and includes 23 questions from the health survey instrument and 9 questions developed based on findings from research studies. This study assessed the content validity of the USHSI (see Appendices A & B).

Review of Related Literature

Studies related to alcohol use, safer sexual behaviours, dietary practices, and exercise among university students will be analysed critically in this review. The review will focus mainly on studies published over the last 5 years. It is organized under the following headings: alcohol use, safer sexual behaviours, dietary practices, exercise, and sociodemographic factors. A summary of each study is included in Appendix D.

Alcohol use. Alcohol remains the drug of choice for university students (Gliksman et al., 1994). From 74-95% of university students report some alcohol use (Gliksman et al., 1994; Isralowitz & Peleg, 1996; Steptoe et al., 1996; Wechsler et al., 1995a; Werner, Walker, & Greene, 1995). Moreover, these percentages are considerably higher than those reported by the general adult population (54-87%) (Ad alf, Smart, & Canale, 1991). The prevalence of alcohol use among students has been related to legal accessibility and the social acceptibility of drinking in a campus environment (Gliksman, Engs, & Smythe, 1989; Haines & Spear, 1996; Werner, Walker, & Greene, 1995).

Gliksman et al. (1994) reported that, on average, students consumed 13 drinks a week. In a study conducted in the U.S., Wechsler et al. (1995a) reported that 44% of the total student population engaged in heavy episodic drinking which was defined as having
more than 4 drinks for females and 5 drinks for males on one occasion. In a study conducted in the U.K., Webb, Ashton, Kelly, & Kamali, (1996) found that 31% of male students and 24% of female students reported engaging in heavy episodic drinking on a weekly basis (>21 drinks per week for males and >14 drinks per week for females). Haines & Spear (1996), who examined "binge drinking" over a 5 year period, reported that binge drinking among the college student samples ranged between 34.2% and 43%.

University students' decision to consume alcohol has been linked to personal, genetic, and social influences (Power & Estaugh, 1990; Power, Estaugh, & Estaugh 1990). Descriptive research has suggested that university students consume alcohol to reduce tension, enhance pleasure (Selby, Weinstein, & Bird, 1991; Webb, Ashton, Kelly, & Kamali, 1996; Williams & Kleinfelter, 1989), or increase confidence (Webb et al., 1996). Regarding social influences, alcohol consumption is considered acceptable behaviour in the university culture (Gliksman et al., 1994; Haines & Spear, 1996).

Other studies have explored alcohol's effects on one's physical and psychological health and one's social well-being (Gliksman et al, 1994; Isralowitz & Peleg, 1996; Wechsler et al., 1995a). These descriptive studies found that alcohol use was associated with aggressive behaviour (Gliksman et al., 1994; Wechsler et al., 1995a), sexual assault, and unplanned and unprotected sexual intercourse (Meilman, 1993; Wechsler et al., 1995b). The academic consequences that were reported included absences from classes (Isralowitz & Peleg, 1996), memory loss and lower grades (Gliksman et al., 1994; Wechsler et al., 1995a). In a study exploring the effects of heavy alcohol use on other students, Wechsler et al. (1995b) found that the odds of experiencing at least one problem
from other students' drinking was 3.6 to 1 when non-heavy drinking students who
attended schools with reported high student drinking levels were compared to non-heavy
drinking students who attended schools with reported lower student drinking levels
(Wechsler et al., 1995b). Students reported experiencing the following problems: (a) 44%
had to "babysit" another student who had too much to drink, (b) 43% had sleep or study
time interrupted, (c) 13% were hit or assaulted, (d) 12% experienced property damage,
and (e) 2% suffered unwanted sexual advances (Wechsler et al., 1995b).

Wechsler et al. (1995a) found that the odds of university/college students' binge
drinking were greater when students lived in a residence or fraternity (OR= 6.96, 95%
CI=5.54,8.73), had a history of binge drinking in the past year (OR= 4.86, 95% CI=4.86,
5.21), or had used marijuana in the month before the survey (OR= 7.13, 95% CI=6.36,
7.99). Gliksman et al. (1994) found that first-year students living in residences reported
drinking more alcohol than students living off campus, who in turn reported drinking more
than students living with their parents (mean number of drinks per week=15, 11, and 7,
respectively).

Most studies about university students' alcohol use have been surveys (Gliksman et
al., 1994; Haines & Spear, 1996; Isralowitz & Peleg, 1996; Meilman, Gaylord, Turco, &
Stone, 1990; Wechsler et al., 1995a; Werner, Walker, & Greene, 1995; Werner, Walker,
& Greene, 1994). Evidence of content validity of data collection instruments was
discussed in only four studies (Isralowitz & Peleg, 1996; Steptoe et al., 1996; Werner,
Walker, & Greene, 1995; Werner, Walker, & Greene, 1994). The majority of studies
were conducted on campuses in the U.S. where the legal drinking age is 21 (Meilman,
1993; Wecshler et al., 1995a; Werner, Walker, & Greene, 1994). Consequently, results from these studies may not reflect the alcohol use patterns of Canadian students, whose legal drinking age is 19. Other methodological limitations of studies on alcohol consumption in the university population include lack of theoretical or conceptual frameworks and non-standardized measures of data collection and analysis. This makes comparisons across studies extremely difficult.

**Safer sex behaviours.** The majority of research about safer sexual behaviours among university students has been related to condom use (DiLorio et al., 1993; Joffe & Radius, 1993; Kusseling, Wenger, & Shapiro, 1995; Myers & Clement, 1994; Tyden, Bjorkelund, Odlind, & Olsson, 1996; Wendt & Solomon, 1995), HIV prevalence, and HIV-related risk factors (Baggaley et al., 1997; Raab et al., 1995; Remis & Sutherland, 1993). Research has demonstrated that, if used properly, a latex condom effectively prevents pregnancy, as well as transmission of HIV and other sexually transmitted diseases (Conant et al., 1986). However, in recent studies, 63-89% of university students reported inconsistent condom use (Baggaley et al., 1997; Eagleson, 1992; King et al., 1988; Kusseling, Wenger, & Shapiro, 1995; Torrible, 1992).

In a follow-up study of students' attitudes towards the use of condoms, Tyden, Bjorkelund, Odlind, & Olsson (1996) found that students in the 1994 sample reported more positive attitudes towards using condoms than students in the 1989 sample. Students in the 1994 sample also reported that their actual use of condoms had increased from 40% to 60% both at the first intercourse and when changing partners (Tyden, Bjorkelund, Odlind, & Olsson, 1996). In contrast, Myers and Clement (1994) found that
although females reported a more positive attitude towards condom use and a greater belief in their own ability to practice safer sex than their male partners, 64% of female students reported having unprotected sexual intercourse in the 3 months before the study. Sixty-three percent of male participants in the study reported having unprotected sexual intercourse in the 3 months before the study (Myers & Clement, 1994). The non-random sampling technique used in this study limits the generalizability of the results.

King et al. (1988) found that 71% of university and college students reported having sexual intercourse at least once in the past year; however, only 19% of males and 11% of females reported that they used a condom while engaging in sexual intercourse. Ten percent of the students who were sexually active reported having been infected with at least one sexually transmitted disease (King et al., 1988). This study made an important contribution to the knowledge of the sexual behaviours of young people in Canada because of its large representative sample from across the country.

Joffe & Radius (1993) found that frequency of past condom use ($\beta=0.26$, $p<.001$), perceived ability to talk to partner about condom use ($\beta=0.18$, $p<.001$), and enjoyment of sex while using a condom ($\beta=0.17$, $p<.001$) explained only 16% of the variance of sexually active males' intention to use condoms. Frequency of past condom use ($\beta=0.40$, $p<.001$) and perceived ability to enjoy sex while using condoms ($\beta=0.24$, $p<.005$) explained only 29.8% of sexually active females' intentions to use condoms (Joffe & Radius, 1993). Results of this study must be viewed with caution because the study sample was predominately white and may not reflect the cultural diversity of a large urban university.
Ramsum, Marion, and Mathias (1993) found that although students had high knowledge levels about AIDS and safer sexual behaviours (mean scores of 37.6 and 38.5 out of 42 in the 1988 and 1992 samples, respectively), no relationship was reported between this knowledge and actual safer sex behaviours. Other research studies with university students in Canada (Svenson & Varnhagen, 1990), in the U.K. (Baggaley et al., 1997) and in the U.S. (DiIorio et al., 1993, Strader & Beaman, 1989) also identified the lack of a relationship between knowledge and use of condoms and safer sexual behaviours. Wendt and Solomon (1995), who examined barriers to condom use, found that significant relationships existed between a low perceived need for condom use and being in a monogamous relationship (females: $t(198)=-6.17$, $p<.001$, males: $t(87)=-3.35$, $p<.001$) or being in a relationship for a longer period of time (females: $r=.21$, $p<.5$, males: $r=.33$, $p<.5$). Raab et al. (1995) also found that condom use was more common amongst partners of shorter acquaintance than amongst those in long-term monogamous relationships. Only three of these studies about safer sexual behaviours included evidence of content validity of the data collection instruments (DiIorio et al., 1993; Eagleson, 1992; Torrible, 1992).

**Dietary practices.** Although research on nutrition and dietary practices of university students is limited, recent studies found that university students reported a higher fat intake and more frequent use of fast food restaurants, meal skipping, and snacking compared to the general young adult population (Brevard & Ricketts, 1996; McGowan, Joffe, Duggan, & McKay 1994; Shields & Young, 1990). McGowan, Joffe, Duggan, & McKay (1994) also reported that students have a difficult time adhering to a
low fat, low cholesterol diet because they have little control over the food choices offered on campus.

Brevard and Ricketts (1996) compared the dietary intake and physical activity levels of students who lived on campus to those who lived off campus. They found that the Body Mass Indexes (BMI) for both male and female students were within healthful ranges, whether or not they lived on or off campus. However, the mean reported intake of total fat was higher than the recommended level of 30% of total calories for the two groups (Brevard & Ricketts, 1996). Hampl and Betts (1995) also found that in the 18-24 age group, 85% of males and 75% of females (N= 1062) reported having a dietary intake of more than 30% of total calories from fat.

Dieting and eating disorders amongst female university students have been investigated. Krahn et al. (1996) found that 23% of their female sample, reported engaging in “intense” dieting, and 21% reported engaging in “severe” dieting. In Rush and Sexsmith's (1994) study, 15% of the females (n=21) reported being on a weight loss diet. Other studies found that eating disorders, including anorexia and bulimia, were reported by 2-18% of female university students (Fredenberg, Berglund, & Dicken, 1996; Krahn et al., 1996; Pemberton, Vernon, & Lee, 1996).

Only two studies were found that reported the incidence and prevalence of weight loss, dieting, and eating disorders of both male and female university students. Gliksman et al. (1994) reported that 42% of participants (N=5926) had dieted to lose weight in the previous year; 6% of the total sample of which were 4% female students and of which 2% were male students, had engaged in eating disorder behaviours (anorexia or bulimia).
Pemberton, Vernon, & Lee (1996) found that 17% of participants (N=1152) were dieting at the time of the study, 43% reported a history of dieting, and 5.6% had engaged in eating disorder behaviours (bulimia/anorexia). Only three of the studies about the eating practices of university students included evidence of the data collection instrument’s content validity (Pemberton, Vernon, & Lee, 1996; Krahn et al., 1996; Rush & Sexsmith, 1994).

**Exercise.** Research about exercise and university students has also been limited in nature and numbers. Steptoe et al. (1996) found (N=177) that 63% of male students and 53% of female students engaged in hard or moderate exercise or cycled for transport. From a convenience sample of 238 first-year black students, Kelley and Lowing (1997), reported that 62% of males and 38% of females participated in moderate to heavy physical activity. Gliksman et al. (1994) stated that only 36% (N=5926) of the Canadian university student participants reported 5 or more hours of weekly exercise activities.

Population-based surveys (Ministry of Health, 1992; Stephens, 1993) and other research studies about exercise and university students (Brevard & Ricketts, 1996; Felton & Parsons, 1994; Pintos & Marcus, 1995) have also reported low levels of physical activity among young adults. Results from the Ontario Health Survey indicated a drop in the percentage of males who reported weekly physical activity from 75% of 12-19 year olds to 50% of 20-44 year olds. Likewise, the number of females who reported weekly physical activity decreased from 65% of 12-19 year olds to 35% of 20-44 year olds (Ministry of Health, 1992). Similar results were found in the Canada Health Promotion Survey (Stephens, 1993). Both surveys can be considered important contributions to
knowledge about the physical activity of young people in Canada because of their large representative samples of youth from across the province and the country, respectively.

With regard to exercise among university students, Brevard & Ricketts (1996) found that only 29% of the students living on campus and 26% of the students living off campus reported having a moderate to high level of physical activity. Steptoe et al. (1996) reported a decrease in the average number of sessions of physical activity per week between the non-exam period and the exam period. In their study, Felton and Parsons (1994) demonstrated that perceived control of health, race, interpersonal support, and regular participation in organizations and groups explained 18% of the variance in the physical activity scores for overweight females (Felton & Parsons, 1994). However, the four factors explained only 9% of the variance in physical activity scores for average weight women attending university (Felton & Parsons, 1994). No studies were found in which the factors related to exercise in the male university student population were examined.

Taggart and Connor (1995) investigated the relationship of knowledge of osteoporosis, perceived susceptibility to osteoporosis, perception of barriers, and benefits to preventive action in relation to physical activity. A low correlation ($r=.25, p=.01$) was found between knowledge and understanding the benefits of exercise and personal susceptibility to osteoporosis (Taggart & Connor, 1995).

Methodological limitations of studies on exercise behaviours include the fact that only three descriptive research studies (Kelley & Lowing, 1997; Steptoe et al. 1996; Taggart & Connor, 1995) and two population-based surveys (Stephens, 1993, Ministry of
Health, 1992) reported evidence of content validity of data collection instruments.

**Sociodemographic factors.** Some relationships have been found in the literature between age, gender, and living arrangements, and health behaviours among university students. Wechsler et al. (1995a) found that the odds of binge drinking were much higher for students below the age of 24 than for those above it (OR= 2.25, 95% CI= 2.06, 2.46). Furthermore, epidemiological studies concerning physical activity have demonstrated that as age increases, activity levels decrease (Gliksman et al. 1994, Stephens, 1993).

Gliksman et al. (1994) observed that males were more likely to report greater alcohol consumption per week than females (mean number of alcoholic drinks 18.3 vs. 9.2) and to have consumed more than 15 drinks per week (mean 38.2% vs. 20.7%). Isralowitz and Peleg (1996) also reported that males were more likely than females to use alcohol on a weekly basis ($x^2=12.25$, $p<0.01$). Similarly, Pinto and Marcus (1995) found gender differences in physical activity patterns, especially when intensity of activity was considered. Female students were significantly more likely than male students to report participation in aerobics and walking ($x^2=16.97$, $p<.010$) (Pinto & Marcus, 1995). Male students were significantly more likely than female students to report participation in weight lifting ($x^2 = 9.95$, $p<.01$; Pinto & Marcus, 1995). Wechsler et al. (1995a) and Gliksman et al. (1994) found that students living in residences reported consuming more alcohol than those students who lived off campus or with their parents (mean number of drinks per week 15, 11 & 7 respectively).

Previous research has also shown that perceived health status is a fairly reliable and valid measure of health among the general population because those who rate their health
as poor are more likely to have poor physical health and engage in fewer health promotion practices (Ferraro & Yu, 1995; Ministry of Health, 1992). No studies were found that examined perceived health status of the university student population.

**Summary of related literature.** Research indicates that university students are engaging in potentially unhealthy behaviours related to alcohol consumption, sexual behaviours, dietary practices, and exercise. Yet, gaps exist within the current literature regarding the incidence and prevalence of those behaviours. Most important, only a few research studies and population-based surveys reported using data collection instruments that were tested for content validity (DiIorio et al., 1993; Kelley & Lowing, 1997; Ministry of Health, 1992; Stephens, 1993; Taggart & Connor, 1995; Werner, Walker, & Greene, 1995, Werner, Walker, & Greene, 1994), while others reported that only parts of their data collection instruments showed evidence of content validity (Eagleson, 1992; Isralowitz & Peleg, 1996; Pemberton, Vernon, & Lee, 1996; Rush & Sexsmith, 1994; Steptoe et al., 1996; Torrible, 1992). Furthermore, most of the research available was conducted in the United States; therefore it may not accurately reflect factors that influence these behaviours among Canadian university students.

Consequently, further research using valid data collection instruments is needed to identify both university students' current health behaviours and the personal, social, and environmental factors that underlie these behaviours. Such baseline data may assist in the development of interventions that promote healthy behaviours in this population at the individual, group, community, and policy levels and in the evaluation of programs that are provided.
Organizational Framework

A modified version of the Population Health Promotion Model (Hamilton & Bhatti, 1996) provided the organizational framework for this study. The Population Health Promotion Model (PHPM) integrates the concepts of the Population Health Model (Minister of Supply and Services Canada, 1994) with those concepts of the Ottawa Charter for Health Promotion (WHO, 1986). The PHPM is proposed as a framework to explain the relationship between population health and health promotion. The data that are identified in a population health approach can then be used to design health promotion programs and direct health policy strategies that will enable people to gain control over and improve their health (Minister of Supply and Services, 1994; WHO, 1986).

Underlying the PHPM are the following assumptions:

1. A comprehensive and collaborative approach involving the key stakeholders must be taken regarding all determinants of health and using knowledge gained from practice and research (Hamilton & Bhatti, 1996).

2. The health of individuals is a combined result of their own health practices and the impact of the physical and social environment. Therefore solutions to health problems include changing social values and structures based on the principles of social justice (Hamilton & Bhatti, 1996).

3. Meaningful participation of people in the development and implementation of policies and programs is essential for them to influence the decisions that affect their health (Hamilton & Bhatti, 1996).

The PHPM consists of the following three dimensions: 1) Comprehensive Action
Strategies, 2) Various Levels of Action, and 3) Determinants of Health. The Comprehensive Action Strategies dimension includes a set of action strategies (strengthening community action, building healthy public policy, creating supportive environments, developing personal skills, and reorienting health services) to bring about the necessary changes to increase the population's health (Hamilton & Bhatti, 1996). The Various Levels of Action dimension includes the targets for action within a society, sector/system, community, family and/or the individual necessary to promote the population’s health (Hamilton & Bhatti, 1996).

The Determinants of Health dimension, which provided the framework for the USHSI (see Appendices A & B), is a synthesis of available evidence about the key factors and conditions that determine health status (Hamilton & Bhatti, 1996). It was adapted from the Strategies for Population Health document (Ministry of Supply and Services, 1994). The Determinants of Health dimension, includes such factors as income and social status, social support networks, education, working conditions, physical environments, biology and genetics, personal health practices and coping skills, healthy child development, and health services.

In this study, the university student population was identified as the sector in society (Various Levels of Action) and the USHSI (see Appendices A & B) was organized using the Determinants of Health dimension of the PHPM. Figure 1 provides a schematic representation of this study’s organizational framework. The USHSI (see Appendices A & B), is a data collection instrument that the researcher and thesis supervisor adapted from a health survey instrument that had been used in a large urban university. This
adaptation includes 23 questions from the health survey instrument and 9 questions developed based on findings from research studies. The 32 questions in the USHSI were organized under the following determinants of health from the PHPM: income and social status (marital & employment status), education (type & year in program), physical environment/working conditions (living arrangements & stress of student life), biology and genetics (age & gender), and personal health practices (alcohol use, safer sexual behaviours, dietary practices, & exercise).

**Figure 1:** The Organizational Framework of this Study

**DETERMINANTS OF HEALTH**

It is important to use a theoretical or organizational framework when developing
an instrument that will be used to measure relevant dimensions of the concept of interest. This provides direction for the content of the items comprising the instrument, thereby enhancing the validity of the instrument. The Determinants of Health dimension was an appropriate framework to use in the development of a population-based questionnaire, because it involves the current factors and conditions that have been demonstrated to influence population health (Ministry of Supply and Services, 1994). No instruments were located which used the PHPM as the organizational framework (Hamilton & Bhatti, 1996).

**Definition of Terms**

The following terms were defined for this study:

1. **alcohol use**: refers to self-reported consumption of wine, beer, liquor, or other alcoholic drink(s). A drink refers to an 8-ounce bottle of beer, a 5-ounce glass of wine, and 1 and 1/2 ounces of liquor. Questions related to alcohol use are included in the USHSI (see Appendices A & B, Q# 9, 10, 11, 12, 13, & 14).

2. **safer sexual behaviour**: refers to self-reported use of a latex condom during sexual intercourse. Questions related to safer sex behaviour are included in the USHSI (see Appendices A & B, Q# 15, 16, 17, & 18).

3. **dietary practices**: refers to self-reported eating patterns. Questions related to dietary practices are included on the USHSI (see Appendices A & B, Q# 19, 20, 21, & 22).

4. **exercise**: refers to self-reported participation in physical activity including jogging, swimming, racquet sports, team sports, weight training, aerobics, dancing, and brisk walking. Questions related to exercise behaviour are included in the USHSI (see
Appendices A & B, Q# 23, 24, & 25).

Purposes of the Study

The immediate purpose of this study was to determine the content validity of the USHSI. But the ultimate purpose of this study was to contribute to the development of a valid instrument that could be used in a study related to health, health behaviours, and their determinants in university students.

Research Questions

In this study the content validity of the University Student Health Survey Instrument (USHSI) was assessed with expert staff, faculty, and students. The specific questions were:

1. What is the relevance of the questions included in the USHSI to the various determinants of health in a university student population?

2. What changes should be made to the USHSI to capture the various determinants of health in a population of university students?
Chapter 2: Methodology

Study Design

A descriptive design, using both quantitative and qualitative methods of data collection, was used to investigate the content validity of the USHSI. The quantitative aspect of the design consisted of having participants rate the relevance of each question in the USHSI using the Content Validity Index (CVI). The qualitative aspect of the design consisted of asking participants to respond to three open-ended questions in order to obtain their perspective about the relevance of the USHSI items.

Setting

Data for this study were collected at a large university campus in an urban area. The locations for the three focus groups included the peer education program drop-in centre, a student residence, and a classroom in the nursing faculty. Interviews were conducted either in the staff/faculty office or at another location convenient for the staff/faculty study participant.

Sample and Inclusion Criteria

The sample included staff, faculty and students at a large, urban university. Participants in the staff/faculty individual interviews had to be employees of a large urban university and have the ability to speak, read, write, and understand the English language. As well they were known to the researcher and her thesis supervisor to have an interest in health promotion. Participants in the student focus groups had to be full-time students at a large urban university, with the ability to speak, read, write, and understand the English language.
Sample Size

The sample consisted of 31 people: 9 staff/faculty members and 22 students (with 9, 7, & 6 participants in the three focus groups, respectively). The size of the student focus groups were in agreement with the number of focus group participants (6-12) recommended by Stewart & Shamdasani (1990) and with the recommended number of experts (5-10) needed to assess content validity of an instrument (Lynn, 1986).

Data Collection Procedures

The researcher collected data from both the staff/faculty members and the student focus groups between February 1997 and May 1997.

Recruitment of staff/faculty individual interview participants. The staff/faculty members were selected by the researcher and her thesis supervisor based on the inclusion criteria. Initially, they were asked to participate in the study with a phone-call from the researcher (see Appendix E), followed by the mailing/faxing and/or dropping-off of the study package (see Appendices A, F & G). Faculty members were recruited from physical and health education, nursing, behavioural sciences and nutritional science departments and staff were recruited from student services and health services.

Recruitment of student focus group participants. An initial attempt to recruit students for the study involved posting flyers in visible and accessible areas in various locations on campus. This method of recruitment was chosen to obtain students from different programs and different stages in their educational programs. The flyers included the reason for the focus group, the fact that food would be provided, the scheduled dates, times, and locations for the groups as well as a contact phone number to register or
inquire about the study (see Appendix H). Students were asked to call the researcher to register for the groups and receive an explanation of the study from the researcher (see Appendix I). However, there was no response to any of the advertised focus groups on campus.

The researcher then contacted group leaders from three existing campus student groups and provided them with an overview of the study (see Appendix J). Each group leader was requested to ask 6 - 10 members from his or her group to consider participating in the study. A written explanation of the study was provided by the researcher (see Appendix J). These groups included the Student Administrative Council, nursing students, and members from the peer outreach education program in Student Health Services. The peer education program consists of students who have an interest in promoting the health of the university student population. The students offer health education and promotion sessions to other students on campus.

**Staff/faculty individual interviews.** Individual interviews were selected as the data collection method for staff/faculty participants. This method allowed the interviewer to probe participants' responses, thereby, decreasing the possibility of vague answers (Polit & Hungler, 1987). The staff/faculty who agreed to participate were provided with the study package which included the USHSI with the CVI rating scale (see Appendix A) along with a covering letter (see Appendix F) and a question sheet consisting of three open-ended questions (see Appendix G). The participants were asked to rate the relevance of each question's content to the domain(s) of health behaviours measured by the USHSI by using a 4-point scale (see Appendix A) and to be prepared to discuss their
responses to the open-ended questions (see Appendix G) with the researcher. The researcher made a second phone call approximately 2 weeks after the study package was given to the staff/faculty to establish a convenient time for the interview.

At the scheduled interview, staff/faculty were asked to provide their responses to the three open-ended questions about the USHSI (see Appendix G). Verbal responses were recorded by the researcher. The time for the staff/faculty interview ranged from 30-40 minutes. The content validity ratings of the USHSI (see Appendix A) were collected from the participants, by the researcher, and were stored with the documented responses to the open-ended questions in a locked drawer to which only the researcher and thesis supervisor have access.

**Student focus groups.** Focus groups were selected as the data collection method for student participants. Focus groups are commonly used to obtain general background information about a topic. Often they facilitate the initial design of questionnaires and survey instruments (Stewart & Shamdasani, 1990). Focus groups enable the researcher to interact directly with respondents. Thus the researcher has opportunities to clarify and probe responses, and to ask follow-up questions (Stewart & Shamdasani, 1990).

The researcher acted as the facilitator of the focus groups. In order to create an atmosphere conducive to participation, the facilitator briefly outlined the purpose of the focus group (see Appendix I) and explicitly stated that all members were encouraged to contribute equally to the discussion of the USHSI. Students who participated in the focus groups were provided with food and non-alcoholic beverages to compensate for their time. The presence of food tends to relax participants and it encourages participation by
eliminating concerns about meals (Stewart & Shamdasani, 1990).

Students who attended the focus groups were asked to review the USHSI. After the students reviewed the USHSI, they were asked to rate the relevance of each question using the 4 point CVI rating scale that was included in the USHSI (see Appendix B). Demographic information, to determine the nature of the sample, was also collected from the focus group participants (see Appendix K). Both the CVI ratings and demographic information sheets were filled out by each individual focus group study participant.

Subsequently the students were asked to respond to three open-ended questions about the USHSI (see Appendix L). The facilitator introduced the first question and moved on to the next question(s) when group members had no further comments to make. The facilitator encouraged members to clarify or broaden their responses when necessary.

A research assistant documented the students' comments on a flip chart. The focus groups lasted approximately 1 hour. At the completion of the focus group the instruments and demographic sheets were collected by the researcher. The USHSI with the CVI ratings included, demographic sheet and the documented responses to the open-ended questions are stored in a locked drawer to which only this researcher and the thesis supervisor had access.

**Ethical Considerations**

**Informed Consent.** The staff/faculty and student participants were not asked to sign consent forms. For both the staff/faculty members and the student group participants, agreement to participate in the interview or focus group (see Appendices E,
F, I, & J) indicated their consent to participate. Prior to data collection, an explanation of the study was provided and instructions were given to the study participants (see Appendices F & I). Study participants were advised that they had the right to refuse to answer any question and that they had the right to withdraw from the study at any time (see Appendices F & I).

**Risks and Benefits.** The risk of this particular study was that participants may have experienced some discomfort about being asked to respond to questions regarding sensitive subject areas such as alcohol use, sexuality, eating, and exercise behaviour. However, all participants were advised that they had the right to decline to answer any of the questions and/or to withdraw from the study at any time (see Appendices E, F, I, & J). Participants may have experienced an increased awareness of health behaviours and the determinants of health but did not benefit directly from this study.

**Confidentiality.** Participants in the individual interviews and the focus groups were informed that all results reported would represent the entire sample and that individual responses would not be identified. Staff/faculty participants were told not to put their name on the questionnaire and question sheet. Participants in the focus groups were also informed that they should not put their names on the questionnaire or demographic sheet or wear a tag with their name on it during the group session.

**Instruments**

**Demographic profile.** In this study, a questionnaire developed by the researcher (Appendix K), was used to collect sociodemographic data from the student focus group participants. No sociodemographic information was collected from the staff/faculty key
informant group participants.

**University student health survey instrument.** The USHSI is a data collection instrument that the researcher and thesis supervisor adapted from a health survey instrument that had been used in a large urban university. This adaptation used the Population Health Promotion Model as its organizational framework and includes 23 questions from the health survey instrument as well as 9 questions that the researcher and thesis supervisor developed based on findings from research studies. Permission was obtained to use questions from the previous university health survey for the purpose of this study (see Appendix C). The content domains assessed in the USHSI included the following: (a) perceived health status (1 item) and perceived health problems (1 item); (b) physical environment & working conditions (3 items); (c) income & social status (3 items); (d) personal health practices of alcohol use (6 items), safer sexual behaviours (4 items), dietary practices (4 items), exercise (3 items) and general health practices (1 item); (f) biology & genetics (4 items), and (g) education (2 items). Responses to the questions in the USHSI vary. For some questions, a four point Likert-type response format is used (see Appendices A & B, Q# 3, 8, 13, 17, 22, 26, 28, & 32). For other questions, a multiple-choice response format is used where respondents are asked to check off the appropriate option (see Appendices A & B, Q # 1, 5, 7, 9, 14, 15, 18, 23, 25), and for still the other questions, respondents are asked to fill in responses to open-ended questions (see Appendices A & B, Q # 2, 4, 10, 11, 12, 16, 24, 27, 29, 30, & 31).

**The content validity index.** The Content Validity Index (CVI) (Lynn, 1986) was used to assess the content validity of the USHSI. It was selected because it provides a
A rigorous method for assessing and quantifying the content validity of an instrument. Using the CVI method, participants rate the relevance (whether it captures the domain being measured by the tool) of each item in the tool on a 4 point rating scale (1=not relevant, 2=unable to assess relevance without item revision, or item in need of such revision that it would no longer be relevant, 3=relevant but needs minor alterations, 4=very relevant & succinct). A score of 3 or 4 would indicate that the item rated was considered to be valid (Lynn, 1986). The CVI of each item is determined by calculating the proportion of experts who rate it as valid. A CVI equal to or greater than 0.80 is evidence that the item has content validity (Lynn, 1986). The CVI rating scale was included beside each of the 32 questions in the USHSI (see Appendices A & B).

Data Analysis

The content validity index. For this study, each of the questions in the USHSI was analysed using the CVI (Lynn, 1986). The CVI ratings for the staff/faculty group and student focus groups were computed separately and weighted equally. The staff/faculty CVI ratings represent the average between the staff/faculty participants (see Appendix M) and the focus group CVI ratings represent the average between the three focus groups' CVI ratings (see Appendix N). The total CVI rating for each question was calculated by averaging the CVI ratings from both the staff/faculty participants and student focus group participants.

Open-ended responses. The responses to the three open-ended questions were combined into two separate documents, one for the staff/faculty participants and one for
the three student focus groups. Responses, to the three questions were documented by the researcher for faculty/staff and by a research assistant for the focus groups. The data included key phrases, direct quotes, and handwritten comments on the data collection instrument. The responses to each question were analyzed for common themes. The frequency of each response was determined for the staff/faculty group by the number of staff/faculty who gave that response and for the student focus groups, by the number of focus groups in which the responses were mentioned. When responses suggested areas of modification or elimination of items, these responses were then organized according to the USHSI question they addressed. When areas of omission were reported, these areas were grouped according to the corresponding determinant of health (income and social status, physical environment and working conditions, education, biology and genetics, personal health practices, social support networks, and health services) of the Population Health Promotion Model.

Content validity criteria. In this study the following criteria were used to decide which questions should be included in the USHSI:

1. If the question received a total (ie. average of both staff/faculty and student groups) CVI rating of \( \geq 0.80 \), and no areas of elimination, modification and/or omission were identified that would increase the relevance of the question, the question remained as originally stated in the USHSI.

2. If the question received a total CVI rating of \(< 0.80\), and no areas of modification were identified that would increase the relevance of the question, the question was eliminated from the USHSI.
3. If an area of modification to increase the relevance of the question was identified by the majority of student and staff/faculty study participants (at least two out of three student focus groups and the staff/faculty member), the appropriate revision(s) to that question was made.

4. If an area of omission to the USHSI was identified by the majority of student and staff/faculty study participants (at least two out of three student focus groups and the staff/faculty member), a question addressing the area of omission was included in the USHSI.

**Demographic profile.** Demographic data (age, gender, marital status, type & year of program, and living arrangements) collected from the student participants were described in terms of frequency distribution.
Chapter 3: The Results

This section will provide an overview of the results obtained from the Content Validity Index (CVI) ratings and the responses to the three open-ended questions. The study results will be reported to answer the research questions under the following headings: response rate, description of the sample, content validity index ratings of the USHSI, and responses to the open-ended questions.

Response Rate

Nine staff/faculty who were approached by the researcher agreed to participate in the study as key informants and completed the interview. The 22 students who were also key informants were recruited as focus group participants by three different student group representatives. No information was obtained about students who declined to participate.

Description of the Sample

Demographic information was not collected from the staff/faculty key informant group. However, a demographic profile of the student focus group participants was obtained (see Table 1). The majority of the sample were single females. The mean age of the sample was 22.1 years. Students reported, being enrolled in various types of programs, with the largest portion of students enrolled in the nursing program (n=8). Almost half of the students were in their fourth year or beyond (n=10).
Table 1
Demographic data from the focus group study sample (n=22)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Category</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>19-21</td>
<td>5 (22.7)</td>
</tr>
<tr>
<td></td>
<td>22-24</td>
<td>9 (41.9)</td>
</tr>
<tr>
<td></td>
<td>25-28</td>
<td>7 (31.8)</td>
</tr>
<tr>
<td></td>
<td>No response</td>
<td>1 (4.5)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>22</td>
</tr>
<tr>
<td><strong>Sex</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>6 (27.3)</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>16 (72.7)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>22</td>
</tr>
<tr>
<td><strong>Marital Status</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Single</td>
<td>21 (95.5)</td>
</tr>
<tr>
<td></td>
<td>No response</td>
<td>1 (4.5)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>22</td>
</tr>
<tr>
<td><strong>Program Level</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>First Year</td>
<td>1 (4.5)</td>
</tr>
<tr>
<td></td>
<td>Second Year</td>
<td>8 (36.4)</td>
</tr>
<tr>
<td></td>
<td>Third Year</td>
<td>2 (9.1)</td>
</tr>
<tr>
<td></td>
<td>Fourth Year</td>
<td>10 (45.5)</td>
</tr>
<tr>
<td></td>
<td>or beyond</td>
<td></td>
</tr>
<tr>
<td></td>
<td>No response</td>
<td>1 (4.5)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>22</td>
</tr>
<tr>
<td><strong>Program</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Nursing</td>
<td>8 (36.4)</td>
</tr>
<tr>
<td></td>
<td>Physiology</td>
<td>2 (9.1)</td>
</tr>
<tr>
<td></td>
<td>Physical Health Education</td>
<td>2 (9.1)</td>
</tr>
<tr>
<td></td>
<td>Psychology</td>
<td>2 (9.1)</td>
</tr>
<tr>
<td></td>
<td>International</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Development Studies</td>
<td>1 (4.5)</td>
</tr>
<tr>
<td></td>
<td>Philosophy</td>
<td>1 (4.5)</td>
</tr>
<tr>
<td></td>
<td>Nutritional Science</td>
<td>1 (4.5)</td>
</tr>
<tr>
<td></td>
<td>Computer Software</td>
<td>1 (4.5)</td>
</tr>
<tr>
<td></td>
<td>Business</td>
<td>1 (4.5)</td>
</tr>
<tr>
<td></td>
<td>History</td>
<td>1 (4.5)</td>
</tr>
<tr>
<td></td>
<td>No response</td>
<td>2 (9.1)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>22</td>
</tr>
</tbody>
</table>
Living Arrangements off campus (total): 19 (86.4)
on campus (total): 2 (9.1)
No response 1 (4.5)
Total: 22

Content Validity Index Ratings of the USHSI

This section will present the Content Validity Index (CVI) ratings which include the focus groups' responses (average of three focus groups) and the staff/faculty's responses. According to the criteria established for the study, only questions which received a CVI rating of $\geq 0.80$ were considered valid.

Table 2

<table>
<thead>
<tr>
<th>USHSI Question</th>
<th>CVI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Question # 1: In general, compared to other persons your age, would you say your health is?</td>
<td>0.91</td>
</tr>
<tr>
<td>Question # 2: Do you have a chronic or persistent health problem that limits your academic, physical, or recreational activity in any way?</td>
<td>0.93</td>
</tr>
<tr>
<td>Question # 3: As a student, would you describe your life as?</td>
<td>1.00</td>
</tr>
<tr>
<td>Question # 4: What are the three main sources of stress in your life right now?</td>
<td>0.91</td>
</tr>
<tr>
<td>Question # 5: Where are you living this semester?</td>
<td>0.83</td>
</tr>
<tr>
<td>Question # 6: This semester are you working at a job for pay? If yes, how many hours do you work for pay?</td>
<td>0.89</td>
</tr>
<tr>
<td>Question # 7: Which of the following sentences best describes the importance of your earnings?</td>
<td>0.89</td>
</tr>
<tr>
<td>Question # 8: Marital Status</td>
<td>0.80</td>
</tr>
<tr>
<td>Question #</td>
<td>Text</td>
</tr>
<tr>
<td>------------</td>
<td>----------------------------------------------------------------------</td>
</tr>
<tr>
<td># 9</td>
<td>During the past 12 months, have you consumed any alcoholic beverages (wine, beer, or any drink containing liquor)?</td>
</tr>
<tr>
<td># 10</td>
<td>On average, what is your weekly consumption of drinks?</td>
</tr>
<tr>
<td># 11</td>
<td>How many alcoholic drinks do you consume at one time?</td>
</tr>
<tr>
<td># 12</td>
<td>In the past 12 months, how many times have you consumed 5 or more drinks on one occasion?</td>
</tr>
<tr>
<td># 13</td>
<td>During the last 12 months, have any of the following happened as a result of your drinking?</td>
</tr>
<tr>
<td># 14</td>
<td>During the last 12 months, are any of the following reason(s) why you consumed alcoholic drinks?</td>
</tr>
<tr>
<td># 15</td>
<td>Have you been sexually active in the past three months and do you intend to be sexually active in the next three months?</td>
</tr>
<tr>
<td># 16</td>
<td>How many partners have you had sexual intercourse with in the past three months?</td>
</tr>
<tr>
<td># 17</td>
<td>In the past three months, how often did you and your partner use a condom?</td>
</tr>
<tr>
<td># 18</td>
<td>During the last episode of unprotected sexual intercourse, please check off any of the following reason(s) why you did not use a condom?</td>
</tr>
<tr>
<td># 19</td>
<td>Sometimes people are unable to afford nutritious food. How often do you have difficulty finding the money to purchase good food?</td>
</tr>
<tr>
<td># 20</td>
<td>Do you have access to cooking facilities and a refrigerator where you live?</td>
</tr>
<tr>
<td># 21</td>
<td>In the average week, how often do you eat at a restaurant, cafeteria and fast food outlet?</td>
</tr>
<tr>
<td># 22</td>
<td>During the school year, how often do you do each of the following- skip breakfast, diet to lose weight, diet to gain weight, engage in bingeing, purging and/or fasting?</td>
</tr>
<tr>
<td># 23</td>
<td>How often do you exercise?</td>
</tr>
<tr>
<td># 24</td>
<td>On average, how many minutes do you exercise each time?</td>
</tr>
<tr>
<td># 25</td>
<td>If you do not exercise regularly, are any of the following reason(s) for you not exercising?</td>
</tr>
</tbody>
</table>
Question #26: Please indicate if you have any concerns about any of the following issues in your daily life at present by checking one answer in each row

<table>
<thead>
<tr>
<th>Question</th>
<th>CVI Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Question #27: What is your age?</td>
<td>0.89</td>
</tr>
<tr>
<td>Question #28: What is your gender?</td>
<td>0.87</td>
</tr>
<tr>
<td>Question #29: What is your height?</td>
<td>0.72</td>
</tr>
<tr>
<td>Question #30: What is your weight?</td>
<td>0.93</td>
</tr>
<tr>
<td>Question #31: In what program are you enrolled in at the university?</td>
<td>0.55</td>
</tr>
<tr>
<td>Question #32: Program Level</td>
<td>0.62</td>
</tr>
</tbody>
</table>

Note. CVI ratings are rounded up to the second decimal point

CVI rating of the entire USHSI. Twenty-seven questions out of thirty-two obtained content validity index ratings greater than 0.80. The overall CVI for the USHSI was 0.84.

USHSI questions with CVI ratings of less than 0.80. There were five questions in the USHSI that were not valid when the CVI ratings from the student focus group participants and staff/faculty group were averaged (Table 2). These five questions, including the entire education (see Appendices A & B, Q # 15, 20, 29, 31 & 32) were eliminated from the USHSI.

Responses to the Open-Ended Questions

The responses to the three open-ended questions were analyzed for common themes for the student focus groups and staff/faculty interviews according to the content validity criteria (see page 29). Study participants recommended modification to five questions in the USHSI. A minor modification was recommended for question # 5 on
living arrangements in the physical environment and working conditions section. Participants recommended that this question be an open-ended question as they stated that the close-ended nature of the question limited the responses that could be given. In the personal health practices section, a shorter time frame for question #12; definitions for nutritious food for question #19; and bingeing, purging, and fasting for question #22, and separating question #21 into three sub-sections. These modifications were recommended by study participants to increase the clarity and understanding of the questions in the personal health practices section of the USHSI.

Study participants also identified areas of omission that they felt were important to add to the USHSI in order to increase the content validity. Questions on date rape/acquaintance rape, smoking behaviour, caffeine and drug use, and sleeping patterns were identified by study participants as important content areas that were missing from the personal health practices section. A question on ethnic affiliation was identified by study participants as an area of omission in the biology & genetics section. Questions on students’ child and family responsibilities, religion, social isolation, support groups, and accessing and utilization of health services were identified by study participants as areas of omission.

Areas of elimination. No areas of elimination to the USHSI, in response to the open-ended question, were identified by either student focus group participants and/or staff/faculty key informant participants.
Chapter 4: Discussion of Results

This discussion will focus on how the results obtained from the staff/faculty individual interviews and student focus groups influenced the actual content of the USHSI, including the wording of questions and development of new questions. The results will also be discussed in relation to the study's organizational framework. Support from the literature for the modification and addition of items to increase the relevance of the USHSI is also presented.

Data Collection Methods

The recruitment method for the focus groups with students was difficult. An initial attempt to recruit students by using flyers posted in visible areas around campus was not successful. One possible explanation is that health promotion may not be a salient issue to those who saw the flyer. However it is likely that the use of flyers alone, may not be the most effective way to recruit students. In this study, personal contact with student group representatives was instrumental in recruiting the twenty-two study participants who took part in the focus group discussions.

It was important to involve the students and the staff/faculty, as a collaborative approach to the development of the USHSI was important to the researcher. This approach was also recommended when using the PHPM in practice (Hamilton & Bhatti, 1996). Both the individual interviews and the focus groups included the participation of key stakeholders. Staff/faculty study participants said they were willing to participate because they wanted to have an opportunity to voice their concerns about health behaviours and determinants of health of university students. Student focus group
participants welcomed the opportunity to have input into the design of the USHSI. For the most part, the study participants provided positive feedback about the USHSI and offered important content areas for the researcher to include in the revised instrument.

The open-ended questions, included in both the interview and focus group data collection procedures, allowed for an in-depth discussion about areas of modification and omission in the USHSI. The informality of the focus group discussion encouraged candidness, spontaneity, and the sharing of ideas and concerns about the USHSI. The rich data obtained added depth and would not have been achieved by the use of the CVI ratings alone. The collective interaction in the focus groups can reveal changes which both the researcher and participants were completely unaware of before the discussion (Stevens, 1996). Furthermore, the study participants identified important content areas that the researcher should add to the USHSI which adds strength to the comprehensiveness of the organizational framework.

Determinants of Health

The twenty-seven questions that received CVI ratings of greater or equal to 0.80, support the inclusion of these questions in the USHSI (see Appendix O). Each question in the USHSI was designed to capture the data on one of the determinants of health documented in the Population Health Promotion Model. Four out of five determinants of health of the PHPM were supported by the study participants as showing evidence of content validity. Thus, there was support for questions on the four determinants of health (physical environment and working conditions, income and social status, personal health practices, and biology and genetics). As well there was support for perceived health status
and health problems to be included in the USHSI.

The USHSI section that was eliminated, based on the content validity assessment, was education. The questions in the education section were originally intended to elicit demographic data of the university population. Support for education as a determinant of health included that research has demonstrated that a relationship exists between health status and the level of education in that the higher one's level of education the more likely they are to report good health (Ministry of Supply and Services). An explanation for the incongruency between this study's findings and previous research is that the level of education for this study's sample was homogeneous, as the population of interest was university students. Another possible explanation is that study participants did not find the two questions in this section to be salient.

Areas of Modification

The areas of modification identified by study participants involved increasing the clarity of the questions. The development of a questionnaire should include using words and phrases to enhance respondents' understanding and hence, to enhance data quality (O'Brien, 1993). For example, many of the study participants reported that they were not sure what was meant by nutritious food in question 19. A similar discussion occurred for question 22. To incorporate the study participants' perspectives, the USHSI defined: nutritious food; bingeing, purging, and fasting more carefully. Question # 19 includes a definition of nutritious food which was based on the Canada Food Guide (see Appendix O, Q # 22). Question # 22 includes definitions from previous research studies for bingeing (Kurth, Krahn, Nairn, & Drewnowski, 1995), purging (Wiederman & Pryor, 1996) and
fasting (Green, Elliman, & Rogers, 1995) (see Appendix O, Q # 24). By including definitions, the future use of the USHSI would likely obtain accurate responses.

The way which the question is worded is also important to consider when developing a questionnaire (O'Brien, 1993). As initially stated, the questions on living arrangements, past alcohol use, and where one eats most frequently, could have yielded ambiguous responses. Posing the question on living arrangements as open-ended; shortening the time frame from 12 months to 3 months for the question on past alcohol consumption; and separating the question of where one eats into three sub-sections, according to the study participants' suggestions, will assist in enhancing the respondents' understanding of the questions (see Appendix O, Q # 5, 12, & 23 respectively).

Areas of Omission

For both the staff/faculty individual interviews and student focus groups, most of the discussion focused on recommended content areas that should be included to increase the relevance of the USHSI. Study participants made excellent recommendations for the questions they would add to the USHSI. It is anticipated that these questions will capture important data about the determinants of health of university students and strengthen the comprehensiveness of the USHSI.

Personal health practices. Study participants thought that important content areas were missing from the personal health practices. The content areas recommended to include in the personal health practices section of the USHSI were: smoking, caffeine, illicit drug use, acquaintance rape, and sleeping patterns. Smoking has been identified as a personal health practice that seriously affects health and well-being since it is the leading
cause of lung cancer and a major risk factor for cardiovascular disease (Ministry of Supply and Services, 1994). Furthermore, other research studies were found that supported the inclusion of a question on students' tobacco use (Foote et al., 1996; Steptoe et al., 1996; Webb, Ashton, Kelly, & Kamali, 1996). Webb, Ashton, Kelly, & Kamali (1996) found that 26% of male students and 25% of female students attending university, reported they smoked; the mean number of cigarettes smoked per day was 10.6 for males and 9.8 for females. Similar findings were reported by Foote et al. (1994) and Steptoe et al. (1996).

Research has also demonstrated that both caffeine and illicit drug use have affects on health and well being (Lane et al., 1994; Webb, Ashton, Kelly, & Kamali, 1996). A positive association has been found between caffeine consumption and blood cholesterol levels (Lane et al., 1994). In one study that included a question on university students' caffeine use, it was reported that the majority of students (N=3075) consumed medium to high levels of caffeine daily (Webb, Ashton, Kelly, & Kamali, 1996).

Health and social risks, including overdose and dependence, are associated with illicit drug use (Webb, Ashton, Kelly, & Kamali, 1996). One study (Webb, Ashton, Kelly, & Kamali, 1996) and one university population-based survey (see Appendix C) were found that included a question on student drug use. In a sample of students from 10 universities, Webb, Ashton, Kelly, & Kamali (1996) found that 60% of male students and 55% of female students reported having used cannabis once or twice, and 20% of the sample reported regular cannabis use (weekly or more often). Experiences with other illicit drugs were reported by 33% of the sample, most commonly LSD (lysergic acid diethylamide), amphetamines, ecstasy, and amyl/butyl nitrate. According to Webb,
Ashton, Kelly, & Kamali (1996), illicit drug use among university students has increased considerably. Although a question on drug use was included in a similar survey at another urban university, no published findings are currently available.

One study was found about the prevalence of acquaintance rape in the university student population (Oswalt & Finkelstein, 1995). In a sample of 140 female college students, 5% had reported being a victim of date rape (Oswalt & Finkelstein, 1995). It is estimated that one out of every six college women will be assaulted sometime during their university years and that over 85% of these assaults will come from either friends or family of the victim (Ellis, 1994). Physical consequences (sexually transmitted diseases, unwanted pregnancy, physical harm and injury) and psychological disturbances (loss of self-esteem, depression, nightmares, and stress related injuries) have been associated with unwanted intercourse (Ellis, 1994). In one study that examined the prevalence of acquaintance rape in a sample of high school students (Davis, Peck, & Storment, 1994); one out of five students reported they had experienced forced sex. Only 50% of the students had told anyone about the experience (Davis, Peck, & Storment, 1994). Another study with a high school sample (N=707), 39.3% of the respondents reported perpetrating dating violence and 38.2% reported being victimized in a dating context (Malik, Sorenson, & Anenshensel, 1997).

Study participants also identified sleeping patterns and lack of sleep as behaviours that influences the health and well-being of students. No studies were found that examined university students' sleeping patterns; however, one university health survey included a question about it.
Biology and genetics. Ethnic affiliation was also identified as an important area that was omitted from the USHSI. It is important to collect baseline information about ethnic affiliation as it has been linked to predisposing certain individuals to particular diseases and/or health problems (Ministry of Supply and Services, 1994). Few studies were found that asked university students about their ethnic affiliation (Haines & Spear, 1996; Hampl & Betts, 1995; Joffe & Radius, 1993; Kelley & Lowing, 1997; Myers & Clement, 1994; Pemberton, Vernon, & Lee, 1996; Webb, Ashton, Kelly, & Kamali, 1996; & Wechsler et al., 1995a, 1995b). However, two studies were found that identified racial/ethnic differences (DiLorio et al., 1993; Felton & Parsons, 1994). In one study, differences in the levels of physical activity that black female students and white female students were reported (Felton & Parsons, 1994), and another study found that black male students reported more misconceptions about safer sex practices than white male students did ($r=.12, p<.045$) (DiLorio et al., 1993).

Social support networks. Perhaps one of the most significant areas of omission in the USHSI that study participants identified, was a section that addressed social support of students. Social support has been identified as an important moderator of the effects of stress and the practice of healthy behaviours and lifestyles (Muhlenkamp & Sayles, 1986; Steptoe et al., 1996). Perceived support has also been shown to buffer the impact of academic examinations on emotional well-being (Steptoe et al., 1996). Beaton, Murphy, Pike, & Corneil (1997), however, noted that social relationships may themselves be sources of stress. Social support networks are identified as a determinant of health in the PHPM. Support from family, friends, and acquaintances may help people solve problems,
deal with adversity, and maintain a sense of mastery and control over life's circumstances (Hamilton & Bhatti, 1996; Minister of Supply and Services, 1994).

Only one study was found that addressed social support and the university student. When Steptoe et al., (1996), surveyed a sample of university students, they found that students with high social support reported a decrease in consumption of grams of alcohol of 17.5% but those with low social support reported an average increase of 18.5% between baseline and exam sessions. During the same time frame, female students with low social support reported an average increase in smoking of 3.22 cigarettes per day.

**Health services.** Health services utilization was also identified by the study participants as an area of omission in the USHSI. Health services is identified as a determinant of health in the PHPM. Health services, specifically those designed to maintain and promote health and prevent disease, contribute to the improved health status of a population (Hamilton & Bhatti, 1996). But, no studies were located that addressed the health services utilization of university students on or off campus. Over the last few years, questions have been raised on whether the health services on the downtown campus is a duplication of services in an area that is thought to be rich in health care resources. The questions recommended by study participants to be included in the USHSI would provide baseline information on the prevalence of students using the campus health services.

Recommendations from study participants and support from research literature led directly to the inclusion of additional questions to the determinants of health that were addressed in the original USHSI on the following content areas: personal health practices
(smoking, caffeine, illicit drug use, acquaintance rape, and sleeping patterns) and biology and genetics (ethnic affiliation). Two additional determinants of health social support networks (religion, child and family responsibilities, social isolation, and support groups); and health services (access and utilization of services) were added to the revised USHSI (see Appendix O, Q # 15; 16; 17; 21; 28; 31; 34, 35, 36, & 37; and 38 & 39 respectively). These two areas are included in the PHPM but were not included in the initial USHSI.

None of the research studies on personal health practices, biology and genetics, and social support networks demonstrated evidence of content validity. Thus, further content validity assessment of the USHSI is needed.

Overall Assessment of the USHSI

The USHSI's CVI rating of 0.84, is evidence of its content validity. Moreover, the inclusion of all but one range of determinant in the USHSI was supported by the study participants as they identified perceived health status and perceived health problems; income and social status; physical environment and working conditions; personal health practices; and biology and genetics as important content areas. These results indicate that, for this study's sample, the Population Health Promotion Model (PHPM) was an appropriate organizational framework to use in the development of a population-based data collection instrument on health behaviours and determinants of health. One explanation for the usefulness of the PHPM is the comprehensiveness of the range of determinants of health. The PHPM moves away from the focus on individual health behaviours and victim-blaming and moves towards a broader population health promotion approach which encompasses personal behaviours, social, economic, environmental, and
political factors that determine health. Data identified in the population health approach can be used to design health promotion programs and direct health policy strategies which enable people to gain control over and improve their health (Minister of Supply and Services, 1994; WHO, 1986).

Summary

The results of this study supported the use of the PHPM as the organizational framework for the development and design of a population-based data collection instrument on health behaviours and determinants of health for this study's sample.
Chapter 5: Summary of Study, Implications of Research, Theory and Practice

A descriptive design was used to evaluate the content validity of the USHSI. The USHSI was developed based on relevant research findings and a previous survey in order to assess health behaviours and determinants of health behaviours of university students. The review of literature demonstrated that few research studies and population-based surveys reported using data collection instruments that demonstrated content validity. The organizational framework used for the data collection instrument was the Determinants of Health dimension of the Population Health Promotion Model (Hamilton & Bhatti, 1996).

A convenience sample of 22 students participated in focus group discussions, and 9 staff/faculty participated in individual interviews. Quantitative data that were collected from study participants included content validity index ratings which were analysed using Lynn's (1986) method for examining an instrument’s content validity. Qualitative data were collected as responses to three open-ended questions about areas of omission, elimination and/or modification of items in the USHSI. These data were analysed according to common themes and identified modifications, deletions, and additions to the questions in the USHSI.

Results of this study indicated that 27 questions had CVI ratings equal to or greater than 0.80 and were thus accepted for inclusion in the revised USHSI (see Appendix O). Five questions had CVI rating of less than 0.80 and were thus eliminated from the original USHSI. Some modifications were suggested to increase the clarity of the questions and these modifications were completed. These included: a) posing question # 5, in the physical environment and working conditions section, as an open-ended
question; b) decreasing the time frame for question # 12 in the alcohol use section of personal health practices; c) adding definitions for questions # 19 and 22 and d) dividing question # 21 into three sub-sections in the dietary practices section of personal health practices (see Appendix O, Q # 5, 12, 22, 24 & 23 respectively).

Areas of omission that were identified in the original USHSI were included in the revised USHSI. These include questions about personal health practices related to smoking, caffeine use, illicit drug use, sleeping patterns, and acquaintance rape; and on biology and genetics related to ethnic affiliation (see Appendix O, Q # 15, 16, 17, 28, 21 & 32 respectively).

Social support networks and health services were identified as two additional determinants of health, identified by the participants, that should be addressed in order to increase the content validity of the USHSI. In the social support network, questions were added related to religion, students' child and family responsibilities, social isolation, and their support networks (see Appendix O, Q# 34, 35, 36 & 37). In the area of health services, questions about the accessibility and utilization of health services were added (see Appendix O, Q# 38 & 39).

Implications For Research, Theory and Practice

The results of this study led to revisions of the USHSI and demonstrated the importance of obtaining evidence of an instrument’s content validity, founded on empirical evidence and theoretical rationales (Goodwin, 1997). The following section will discuss implications of this study's findings for research, theory, and practice within the field of health promotion. Theory, research, and practice are closely connected as theory should
give direction to both research and practice. Research serves as a medium through which theories are developed, tested, and refined and practice serves as the vehicle from which theory can be generated, tested, and used (Wilson-Thomas, 1995).

Implications For Research

The content validity of the USHSI was tested and revisions were made to the original USHSI based on the study participants' recommendations about what would increase the relevance of the items. In future research, the content validity of the new items included in the revised USHSI should be assessed with a sample of university students and staff/faculty by using methodology similar to the one applied in this study. Multiple types of evidence are necessary to determine whether a measure is valid for a particular use or interpretation (Goodwin, 1997). The content validity of the USHSI will need to be continually assessed as long as the instrument is modified or items are added to it. Establishing the validity of an instrument is not an absolute; rather it is a matter of degree (Nunally, 1977) and an ongoing process (Goodwin, 1997).

Currently, reliability has not been established for this tool. Therefore, it is recommended that, as part of the development of a new instrument, reliability of the tool be estimated (Burns & Grove, 1997). Reliability is the degree of consistency with which an instrument measures the attribute it is designed to measure (Polit & Hungler, 1987). The reliability of the USHSI could be estimated by means of a test-retest method. This would involve administering the USHSI to the same sample of students on two separate occasions (Burns & Grove, 1997). A reliability coefficient would then be calculated to determine test-retest reliability of the USHSI.
The data collection process provided further support for the community of interest's active involvement and collaboration in the research process. Relying on a combination of student focus groups and staff/faculty interviews allowed for the collection of rich data. Furthermore, aggregating results from multiple informants reduces the bias associated with systematic error and increases the validity of findings (Hughes & Preski, 1997; Lynn, 1986). Focus group participants built on each other's experiences, interpretations, and evaluations of other student members which is a major strength of the focus group method (Stewart & Shamdasani, 1990). During the informality of group discussions and interviews, participants identified key areas that were omitted from the USHSI, such as social support networks and health services, and thus identified additions that should be made to the range of determinants originally included in the USHSI.

The limitations of self-administered questionnaires, such as the one used for data collection in this study, include individual differences in interpretation of questions, differences in literacy skills, and the potential for social desirability response bias (Burns & Grove, 1997). Assessing the content validity of an instrument by using focus groups addresses these limitations (Lynn, 1986). Consequently, assessing the content validity of the USHSI and subsequently revising of the instrument were crucial initial steps that will assist in the understanding of future research findings and their practical and theoretical applications (Lynn, 1986).

Implications for Nursing and Health Promotion Theory

The CVI rating of the entire USHSI indicated that the instrument showed evidence of content validity. Social support networks and health services, both determinants of
health included in the PHPM, emerged as areas where questions could be included to increase the relevance of the USHSI. These results support using the PHPM as an organizational framework for the development of a population-based data collection instrument. Such a framework is useful because it incorporates a broad definition of health and explains the relationship between population health and health promotion. Theory provides a framework for enquiry, and there is a continued need to validate, challenge, modify, and create nursing and health promotion theories relevant to the everchanging world (Wilson-Thomas, 1995). Further work exploring theoretical underpinnings and concepts of the PHPM with other populations is recommended.

Implications for Practice

Further validity and reliability must be established before the use of the USHSI as a data collection instrument in every day practice can be investigated. Once they have been established, the USHSI could be used to provide baseline information about this target population. Accurate baseline information of health behaviours and determinants of health behaviours of university students should be incorporated into the development of effective and relevant health promotion programs for students (Fish & Nies, 1996). Furthermore, health promotion and disease prevention strategies should reflect social, economic, environmental, and political factors that determine health and be tailored to meet the needs of individuals, small groups, schools, families and communities (Fish & Nies, 1996).

Conclusion

The primary purpose of this study was to determine the content validity of the USHSI, an instrument designed to collect data about the health behaviours and
determinants of health of university students. The instrument was developed by using the Determinants of Health dimension of the Population Health Promotion Model and relevant research findings. Based on the findings of this study, the PHPM was found to be an appropriate organizational framework for the USHSI, and revisions were made to the original USHSI in order to increase the instrument's relevance. Further estimation of the USHSI's psychometric properties is needed.
REFERENCES


Appendix A
UNIVERSITY STUDENT HEALTH SURVEY INSTRUMENT
Staff/Faculty Individual Interviews

I am a graduate student of Nursing Science, conducting a study under the supervision of Professor Dorothy Craig of the Faculty of Nursing at the University of Toronto. We developed a questionnaire to obtain students' perceptions about health behaviours and determinants of health of university students. The questionnaire consists of the following parts: 1) perceived health status 2) health problems 3) physical environment/working conditions 4) income and social status 5) personal health practices (alcohol use, safer sexual behaviours, dietary practices, and exercise) 6) biology and genetics and 7) education.

I am requesting your assistance because of your experience working with students to review the content of this questionnaire to determine its relevance and adequacy to assess the self-reported health status and health behaviours of university students. The ultimate purpose of the questionnaire is to determine the health status, health behaviours and factors that influence these behaviours of university students. Relevance refers to assessing whether the items/questions included in the questionnaire validly capture the various dimensions of health (perceived health status, health problems, physical environment/working conditions, income & social status, personal health practices, biology & genetics and education) in a university student population. I am asking you to first carefully read each item/question in the questionnaire and then rate its relevance for determining the health status, health behaviours and factors that influence these behaviours of university students.

Next to each question, you will see the numbers 1-4. The numbers refer to the following degrees of relevance 1= not relevant, 2= slightly relevant, 3= relevant, 4= very relevant. For each item/question, please circle the number you think indicates its degree of relevance.

For the scheduled interview you will be asked to 1) comment on any aspect or part of questionnaire 2) state whether any important content is missing 3) state whether any content should be omitted. If you were unable to assess the relevance of an item your suggestions about the item such as deletion or revision would be welcomed.

RELEVANCE
Please Circle
Your Response

PERCEIVED HEALTH STATUS
Q# 1 In general, compared to other persons your age, would you say your health is

1 __ Excellent
2 __ Very Good
3 __ Good
4 __ Fair
5 __ Poor

1 2 3 4
Appendix B

UNIVERSITY STUDENT HEALTH SURVEY INSTRUMENT
Student Focus Group Participants

I am a graduate student of Nursing Science, conducting a study under the supervision of Professor Dorothy Craig of the Faculty of Nursing at the University of Toronto. We developed a questionnaire to obtain students' perceptions about health behaviours and determinants of health of university students. The questionnaire consists of the following parts: 1) perceived health status 2) health problems 3) physical environment/working conditions 4) income and social status 5) personal health practices (alcohol use, safer sexual behaviours, dietary practices, and exercise) 6) biology and genetics and 7) education.

I am requesting your assistance because of your experience as a student to review the content of this questionnaire to determine its relevance and adequacy to assess the self-reported health stats and health behaviours of university students. The ultimate purpose of the questionnaire is to determine the health status, health behaviours and factors that influence these behaviours of university students. Relevance refers to assessing whether the items/questions in included in the questionnaire validly capture the various dimensions of health (perceived health status, health problems, physical environment/working conditions, income & social status, personal health practices, biology & genetics and education) in a university population. I am asking you to first carefully read each item/question in the questionnaire and then rate its relevance for determining the health status, health behaviours and factors that influence these behaviours of university students.

Next to each question, you will see the numbers 1-4. The numbers refer to the following degrees of relevance 1= not relevant, 2= slightly relevant, 3= relevant, 4= very relevant. For each item/question, please circle the number you think indicates its degree of relevance.

After each member in the group has rated each item/question in the questionnaire, you will be asked to 1) comment on any aspect or part of questionnaire 2) state whether any important content is missing 3) state whether any content should be omitted. If you were unable to assess the relevance of an item/question, your suggestions about the item such as deletion and revision would be welcomed.

RELEVANCE
Please Circle Your Response

PERCEIVED HEALTH STATUS
Q# 1 In general, compared to other persons your age, would you say your health is
1 _____ Excellent
2 _____ Very Good
3 _____ Good
4 _____ Fair
5 _____ Poor

1 2 3 4
PERCEIVED HEALTH PROBLEMS
Q# 2 Do you have a chronic or persistent health problem that limits your academic, physical, or recreational activity in any way?

Yes - please describe this health problem

__________________________________________________________________________

No _______________________________________________________________________

PHYSICAL ENVIRONMENT/WORKING CONDITIONS
Q# 3 As a student, would you describe your life as

1 2 3 4

Very Stressful  Fairly Stressful  Not Very Stressful  Not at all Stressful

Q# 4 What are the three main sources of stress in your life right now

1. _______________________________________________________________________

2. _______________________________________________________________________

3. _______________________________________________________________________

Q# 5 Where are you living this semester?

_____ with both of your parents
_____ with one of your parents
_____ in the home of another relative
_____ in the home that you own
_____ in a campus residence, fraternity house, or co-op
_____ off campus in an apartment
_____ off campus in a room
_____ other, specify _______________________________________________________________________

INCOME & SOCIAL STATUS
Q# 6 This semester are you working at a job for pay?  YES  NO

If No - Please go to Question 8

If Yes - How many hours do you work per week?

_____ (number of hours per week)
Q# 7 Which one of the following sentences best describes the importance of your earnings?

___ You need the income to continue your studies.
___ You could continue to study without the income, but under considerable hardship.
___ You could continue to study without this income, but the income allows you to buy things that make your life easier or more enjoyable.
___ Your reasons for working were not primarily financial (for job experience, help in family business, etc).
___ None of the above - PLEASE GIVE YOUR MAIN REASON FOR WORKING: ______________________

Q# 8 Marital Status

1 Single
2 Married
3 Common-Law
4 Widowed
5 Other (please specify)

This next section will ask you to respond to questions about alcohol use. A drink refers to an 8 ounce bottle of beer, a 5 ounce glass of wine, and a 1 and a 1/2 shot of liquor, or prepared liquor or wine coolers.

Q# 9 During the past 12 months, have you consumed any alcoholic beverages (wine, beer, or any drink containing liquor)?

Yes ___  No ___

Q# 10 On average, what is your weekly consumption of drinks?

___ (number of drinks per week)

Q# 11 How many alcoholic drinks do you consume at one time?

___ (number of drinks)

Q# 12 In the past 12 months, how many times have you consumed 5 or more drinks on one occasion?

___ (times)
Q# 13 During the last twelve months, have any of the following happened as a result of your drinking?

<table>
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<tr>
<th></th>
<th>Never</th>
<th>Once or Twice</th>
<th>3 - 5 Times</th>
<th>More than 5 Times</th>
</tr>
</thead>
<tbody>
<tr>
<td>Friends have complained about your drinking</td>
<td>1 2 3 4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>You feel badly about your drinking</td>
<td>1 2 3 4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drinking has interfered with school (absences, lower grades)</td>
<td>1 2 3 4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drinking had interfered with your memory</td>
<td>1 2 3 4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>You've been concerned about the amount or frequency of your drinking</td>
<td>1 2 3 4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>You've had unprotected intercourse</td>
<td>1 2 3 4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>You experienced aggressive behaviour</td>
<td>1 2 3 4</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Q# 14 During the last twelve months, are any of the following reason(s) why you consumed alcoholic drinks?

- [ ] being in a place where alcohol is available (bar, party)
- [ ] feeling pressured by peers to drink
- [ ] non-alcoholic drinks were not available
- [ ] difficulty refusing alcohol drinks when offered
- [ ] convenient to purchase alcohol drinks
- [ ] reduces tension
- [ ] enhances pleasure
- [ ] drinking is socially acceptable/
it's cool to drink
- [ ] other (please specify) ____________________________

This section will ask you to respond to questions regarding your sexual behaviours. Sexual behaviours refers to the use of a condom during oral, anal, and/or vaginal intercourse.

Q#15 Have you been sexually active in the past three months?

Yes ______  No ______
b) Do you intend to be sexually active in the next three months?

Yes ___ No ___

If you answered No to both of these questions, please go to Question #19 in the survey.
If you answered Yes to at least one of the two questions please go to Question #15 in the survey.

Q#16 How many partners have you had sexual intercourse with in the past three months?

___ (number of sexual partners)

Q#17 In the past 3 months, how often did you and your partner use a condom?

<table>
<thead>
<tr>
<th>Never</th>
<th>A Few</th>
<th>Some of the Time</th>
<th>Often</th>
<th>Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>(0%)</td>
<td>(25%)</td>
<td>(50%)</td>
<td>(75%)</td>
<td>(100%)</td>
</tr>
</tbody>
</table>

1 2 3 4

Q# 18 During your last episode of unprotected sexual intercourse, please check any of the following reason(s) why you did not use a condom?

___ was with regular partner
___ thought we were safe
___ did not have a condom
___ did not want to use one
___ not having sex with anyone else
___ sex is exciting without condom
___ partner did not want to use one
___ did not think of using one
___ was using alcohol or drugs
___ long time since had sex
___ could not talk about it
___ find condoms painful
___ was embarrassed to buy
___ could not afford to buy condom
___ condom was not available
___ spoils the mood
___ reduces pleasure
other (please specify)

Please circle Your response

1 2 3 4
This next section will ask you to respond to questions about your dietary practices.

Q# 19 Sometimes people are unable to afford nutritious food. How often do you have difficulty finding the money to purchase good food?

[ ] Never
[ ] For very short periods, occasionally
[ ] Fairly often
[ ] Much of the time
[ ] This is a constant problem for me

Q# 20 Do you have access to cooking facilities and a refrigerator where you live?

[ ] Yes, both
[ ] Only cooking facilities
[ ] Only a refrigerator
[ ] Neither

Q# 21 In the average week, how often do you eat at a restaurant, cafeteria or fast food outlet?

[ ] Never
[ ] Once or twice
[ ] 3-5 times
[ ] 6-10 times
[ ] More than 10 times

Q# 22 During the school year, how often do you do each of the following?

<table>
<thead>
<tr>
<th></th>
<th>Never</th>
<th>Once or Twice</th>
<th>Several Times a Year</th>
<th>About Once a Year</th>
<th>About Once a Month</th>
<th>About Once a Week</th>
<th>Several Times a Week</th>
<th>Every Day</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skip breakfast</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td>Diet to lose weight</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td>Diet to gain weight</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td>Engage in bingeing</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td>Engage in purging</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td>Engage in fasting</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>1</td>
</tr>
</tbody>
</table>
This section will ask you questions about your exercise. Please respond to the following:

Q# 23 How often do you exercise? (please include jogging, swimming, team sports, weight training, dancing, skiing, brisk walking, aerobics, bicycling, racquet sports etc.,)

______ Every day of the week
______ 5 to 6 times per week
______ 3 to 4 times per week
______ 1 to 2 times per week
______ about once a week
______ 2 to 3 a month
______ once a month
______ Never

Q# 24 On average, how many minutes do you exercise each time?

______ minutes

Q# 25 If you do not exercise regularly, are any of the following reason(s) for you not exercising?

______ inconvenient to engage in physical activity/exercise
______ not enough time to exercise
______ too difficult to exercise
______ cannot afford to exercise
______ there is no place to exercise
______ do not have anyone to exercise with
other (please specify)

Q# 26 Please indicate if you have any concerns about any of the following issues in your daily life at present by checking one answer in each row.

<table>
<thead>
<tr>
<th></th>
<th>Not Concerned</th>
<th>Mildly Concerned</th>
<th>Moderately Concerned</th>
<th>Very Concerned</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nutrition</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Your physical activity</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Your mental health</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Your smoking</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Alcohol/Drug use</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Topic</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>--------------------------------------------------</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Stress</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eating disorders</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Campus safety</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unfair treatment because of gender</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unfair treatment because of race</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Unfair treatment because of age</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unfair treatment because of sexual orientation</td>
<td></td>
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<tr>
<td>Sexual harassment in personal relationships</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Housing situation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Financial situation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sexually transmitted diseases</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contraception</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AIDS/HIV</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**BIOLOGY & GENETICS**

Q# 27 What is your age? _____ years

Q# 28 What is your gender?

1 Male
2 Female

Q# 29 What is your height? _____cm or _____feet/inches

Q# 30 What is your weight? _____kg or _____ lbs

**EDUCATION**

Q# 31 In what program are you enrolled in at this university?

1 2 3 4
<table>
<thead>
<tr>
<th>Q# 32 Program Level</th>
<th>RELEVANCE 73</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 First Year</td>
<td>Please circle your response</td>
</tr>
<tr>
<td>2 Second Year</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>3 Third Year</td>
<td></td>
</tr>
<tr>
<td>4 Fourth Year or beyond</td>
<td></td>
</tr>
</tbody>
</table>
Appendix C
Permission to Use and Adapt the Ryerson Health Survey

Dear Lianne:

This is a follow-up letter in response to your request of replicating the Ryerson Health Survey for your thesis work at the Faculty of Nursing.

I hereby give you permission to replicate and/or modify any questions on the Ryerson Health Survey for the purposes of your master's thesis.

Please feel free to contact me at 979-5000 ext. 7501 for further information or clarification on the survey.

Good luck in your research endeavour.

Sincerely,

Theresa Agnew RN, BScN, MSc(candidate)
### Appendix D
Summary of Literature Review

#### Table A-1
Alcohol Use

<table>
<thead>
<tr>
<th>Investigators/ Purpose</th>
<th>Sample</th>
<th>Methods</th>
<th>Relevant Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Isralowitz et al. (1996)</td>
<td>n= 1276 undergraduate cohort sample, convenience sample</td>
<td>- 165 item including predisposition, illicit &amp; licit drug use, problems &amp; awareness of the consequences related to drug use - content validity was reported - analysis Chi-square univariate approach</td>
<td>- 74% of students reported alcohol use - males were more likely than females to use alcohol on a weekly basis (p&lt;0.001 x²=51.97)</td>
</tr>
<tr>
<td>Steptoe et al. (1996)</td>
<td>n= 180, 115 exam group (51 females &amp; 64 males), 65 control group (49 females &amp; 16 males) university students, convenience sample</td>
<td>- self-administered questionnaire - Perceived Stress Scale General Health Questionnaire - State Trait Anxiety Inventory - Social Support Questionnaire - health behaviours - analysis repeated measure ANOVA/post hoc Tukey test</td>
<td>- 75% of females &amp; 76.3% of males reported consuming alcohol</td>
</tr>
<tr>
<td>Haines et al. (1996)</td>
<td>n= 644 (1988), 779 (1989), 716 (1990), 792 (1991), 814 (1992) undergraduates in health education class, convenience sample</td>
<td>- 45 item survey instrument included questions on alcohol consumption and peer drinking norms - demographic profile - analysis x²</td>
<td>- media campaign designed to change student perceptions of the amount of binge drinking showed a 18.5% drop in number of students who perceived binge drinking as the norm (69% to 51.2%) - a corresponding reduction in self-reported binge drinking of 8.8% (43.0% to 34.2%)</td>
</tr>
<tr>
<td>Investigators/Purpose</td>
<td>Sample</td>
<td>Methods</td>
<td>Relevant Results</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>-----------------------------</td>
<td>----------------------------------------------</td>
<td>-----------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Webb et al. (1996)</td>
<td>n= 3075</td>
<td>- lifestyle questionnaire on alcohol &amp; drug use</td>
<td>- binge drinking (14 drinks per week for females &amp; 21 drinks per week for males was reported by 31% of males &amp; 24% of females)</td>
</tr>
<tr>
<td>examined the prevalence of</td>
<td>1610 males</td>
<td>- Hospital Anxiety</td>
<td>- reasons for drinking included pleasure (89% of males &amp; 92% of females); habit (31% of males &amp; 22% of females); increase confidence (22 for males &amp; 33 for females); anxiety/stress (17% for males &amp; 21% for females) and for social pleasure (16% for males &amp; 12% for females)</td>
</tr>
<tr>
<td>alcohol &amp; drug use among</td>
<td>1447 females</td>
<td>Depression (HAD) scale</td>
<td></td>
</tr>
<tr>
<td>university students</td>
<td>university students</td>
<td>demographic information</td>
<td></td>
</tr>
<tr>
<td>random sample/</td>
<td>anonymous</td>
<td>analysis x² tests</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wechsler et al. (1995a)</td>
<td>n=17592</td>
<td>- 20 page questionnaire asking for detailed information on drinking behaviours and other variables</td>
<td>- 44% of the sample reported that they binge drink (4 drinks for females &amp; 5 drinks for males on one occasion)</td>
</tr>
<tr>
<td>examined the individual</td>
<td>- random sample</td>
<td>- constructed to include items that previous research identified as important predictors of binge drinking in college</td>
<td>- strongest predictor of college binge drinking were:</td>
</tr>
<tr>
<td>correlates of college student</td>
<td>- 140 campuses</td>
<td>- no report of reliability, validity, or pilot-testing</td>
<td>- residence in a fraternity or sorority (95%CI=5.54, 8.75, OR 6.96)</td>
</tr>
<tr>
<td>binge drinking</td>
<td>- 69% response rate</td>
<td>- analysis was done by a two step modelling process</td>
<td>- adoption of a party-centred lifestyle (95%CI=4.86, 5.21, OR 4.86)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- engagement in other risky behaviours (95%CI=6.36, 7.99, OR 7.13)</td>
</tr>
<tr>
<td>Investigators/ Purpose</td>
<td>Sample</td>
<td>Methods</td>
<td>Relevant Results</td>
</tr>
<tr>
<td>------------------------</td>
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</tr>
<tr>
<td>Wechsler et al. (1995b) examined the impact of heavy episodic drinking on other college students</td>
<td>n=17592 random sample 140 campuses 69% response rate</td>
<td>binge drinking was defined as 5 drinks for males &amp; 4 drinks for females on one occasion 20 page questionnaire asking for detailed information on drinking behaviours and other variables constructed to include items that previous research identified as important predictors of binge drinking in college no report of reliability, validity, or pilot-testing analysis was done by a two step modelling process</td>
<td>Odds ratio of 3.6 to 1 (p=0.0001) experiencing at least 1 problem from another student’s drinking when non-heavy drinking students at high drinking level schools were compared to non-heavy drinking students at lower drinking level schools 66% reported having experiencing at least one adverse consequence from other students’ drinking (hit or assaulted, property damage, unwanted sexual advances, interruption in sleep, argument, babysat another student who had too much to drink, insulted and/or humiliated)</td>
</tr>
<tr>
<td>Werner et al. (1995) evaluated the relationship of alcohol expectancies to problem drinking among college women</td>
<td>n=120 white female students 16-20 years old random sample</td>
<td>questionnaire 1st sent out in fall term, 2nd sent out in spring term problem drinking score based on previous studies on adolescent alcohol use Comprehensive Effects of Alcohol Questionnaire (CEOA) reported construct validity, adequate internal consistency &amp; temporal stability analysis Chi square, student t-tests</td>
<td>Expectancies about alcohol explained 33% of the variance in subsequent drinking (F=6.17, p&lt;.0004) &amp; 20% of the variance in alcohol-related problems occurring during the year (F=3.26, p&lt;.02)</td>
</tr>
<tr>
<td>Investigators/ Purpose</td>
<td>Sample</td>
<td>Methods</td>
<td>Relevant Results</td>
</tr>
<tr>
<td>------------------------</td>
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</tr>
<tr>
<td>Werner et. al. (1994)</td>
<td>- n= 492 (weighted) 248 females &amp; 244 males - 16-20 years of age living in residence - random selection</td>
<td>-questionnaire asking questions on drinking patterns (quantity/frequency index), risk factors for problem drinking, Perceived Benefit of Drinking Scale (PBDS), CAGE, Children of Alcoholic Screening Test (CAST), as well as alcohol related problems index - CAGE, CAST, PBDS reported validity &amp; reliability - Analysis Chi square, Spearman Correlation Coefficient &amp; Student t-tests</td>
<td>- higher scores on the CAGE, PBDS, use of tobacco, best friend's drinking pattern, and younger age at first drinking were associated with higher scores on the quantity/frequency index and health index - explained 40-51% of the variance in drinking habits &amp; alcohol related problems</td>
</tr>
<tr>
<td>Gliksman et al. (1994)</td>
<td>- n= 5926 (weighted) response rate (52.9%) - random sample</td>
<td>-questionnaire asking questions on drinking patterns &amp; practices as well as other health behaviours and knowledge &amp; attitudes of health behaviours -data collected using Dillman technique -mail-out survey - validation study compared to 1990 Ontario Health Survey, discussed differences but no report of validity or reliability</td>
<td>- 94% had drank alcohol in the past year - average weekly consumption was 3 alcoholic drinks - students living in residence report more drinking that those living off campus, who in turn, report drinking less than those living at home - 52% of students reported having more than 5 drinks per occasion - 4% reported being sexually assaulted while drinking - 9% reported being coerced to having sex while drinking - 1% were victims of date rape while drinking</td>
</tr>
<tr>
<td>Investigators/ Purpose</td>
<td>Sample</td>
<td>Methods</td>
<td>Relevant Results</td>
</tr>
<tr>
<td>------------------------</td>
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</tr>
<tr>
<td>Meilman (1993)</td>
<td>- n=299 (response rate 68.1%) undergraduates &amp; graduate students - 17-53 years old</td>
<td>questionnaire included 60 items from the Core Alcohol &amp; Drug Survey (CADS), with a modified time frame of since coming to school - no report of reliability or validity of (CADS)</td>
<td>- 39% of undergraduates &amp; 21.2% of graduate students participated in sexual activity while under the influence of alcohol - 16.6% of undergraduates &amp; 12.1% of graduate students reported abandonment of safer sex techniques while under the influence of alcohol</td>
</tr>
<tr>
<td>Investigators/ Purpose</td>
<td>Sample</td>
<td>Methods</td>
<td>Relevant Results</td>
</tr>
<tr>
<td>------------------------</td>
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</tr>
<tr>
<td>Baggaley et al. (1997)</td>
<td>n=Lusaka 946 (1993) 294 (1994) London 100 (1994) 117 (1994)</td>
<td>- self-administered questionnaire  - included questions on knowledge of HIV, sexual behaviour, condom use  - no report of reliability &amp; validity  - analysis Epiinfo6</td>
<td>- 63% of male students &amp; 53% of females students had more than 1 sexual partner  - condom use was much higher with casual partners  -66% of the Lusaka sample &amp; 77% of London reported using condoms most of the time</td>
</tr>
<tr>
<td>Tyden et al. (1996)</td>
<td>n= 241 (1989) 262 (1994) female students convenience sample</td>
<td>-self- administered questionnaire  - demographic profile  - questions included on knowledge and attitudes on sexual behaviours  - no report of reliability &amp; validity</td>
<td>- students in 1994 sample in comparison to students in the 1989 sample reported more positive attitudes to using condoms and the reported use of condoms increased at both first intercourse and when changing partners from 40 - 60%</td>
</tr>
<tr>
<td>Raab et al. (1995)</td>
<td>n=2041 1st &amp; 3rd year students convenience sample</td>
<td>-anonymous self-administered questionnaire &amp; saliva test  -no reported reliability or validity</td>
<td>- 74% of respondents reported having sexual intercourse  - condom use more common for partners of sexual partners in the last year</td>
</tr>
<tr>
<td>Wendt et al. (1995)</td>
<td>n= 287 sexually active students 198 females &amp; 89 males convenience sample</td>
<td>-self-administered questionnaire modified from Detzer Perceived Barriers to Condom Use  -True/False questions on general knowledge about condom use &amp; STD's  -no report of reliability or validity  -Analysis Correlation Coefficient</td>
<td>- significant relationship between low perceived need for condom use &amp; being in a monogamous relationship females $t$(198) $=-6.17, p&lt;.001$  males $t$(87) $=-3.35, p&lt;.001$  &amp; being in a relationship for a longer period of time females$(r=.21, p&lt;.05)$ males $(r=.33, p&lt;.05)$</td>
</tr>
<tr>
<td>Investigators/ Purpose</td>
<td>Sample</td>
<td>Methods</td>
<td>Relevant Results</td>
</tr>
<tr>
<td>------------------------</td>
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</tr>
</tbody>
</table>
| Kusseling et al. (1995) | -n= 213 females 
-convenience sample recruited from a walk-in clinic | -self-administered survey asked questions on sexual history, general risk behaviours & a detailed history of sexual activities with their first sexual partner as well as contraceptive methods 
-longitudinal design with 2 month & 6 month follow-up 
-no reported reliability or validity | - 23% used a condom consistently 
- mean # of sexual partners was 6 in a lifetime |
| Myers et al. (1994) | - n= 486 
249 males & 237 females 
-convenience sample recruited at sexual health displays | - anonymous questionnaire, respondents asked questions on their condom use techniques, sexual practices & attitudes towards condom use 
- no report of reliability or validity 
- analysis mean, SD, % & Chi Square | - no significant differences between sexes in reported sexual behaviour 64% of females & 63% of males reported having unprotected sex in the last three months 
- females reported more appropriate condom use techniques and more positive attitudes towards condoms than males 
- males rated sexual enjoyment as a barrier to using a condom |
| Ramsum et al. (1993) | -n (1988)= 243 
107 males & 133 females 
-n (1992)=265 
110 males & 154 females 
-random sample | -self-administered questionnaire, questions on AIDS related knowledge, attitudes & sexual health behaviours 
-no report of reliability or validity 
-Analysis Wilcoxon rank sum test & Chi-square | -mean knowledge scores (1988) 37.6/42 & (1992) 38.5/42 
-no significant relationship was found between knowledge of AIDS & safer sexual behaviours with actual reported safer sexual behaviours |
<table>
<thead>
<tr>
<th>Investigators/ Purpose</th>
<th>Sample</th>
<th>Methods</th>
<th>Relevant Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Joffe et al. (1993)</td>
<td>- n= 1077 673 males &amp; 404 females - (1988 &amp; 1989 samples) - convenience sample</td>
<td>- section of questions in larger general health survey comprised of 74 items on a variety of health relevant topics - administered in 2 weeks of arrival at school in fall terms - no report of reliability or validity of survey - Analysis - two way ANOVA, Spearman Correlation Coefficient, Stepwise Multiple Forward Regression</td>
<td>- past condom use ($\beta= .26, p&lt;.001$), ability to enjoy sex using a condom ($\beta= .18, p&lt;.001$) perceived ability to talk to partner about condom use ($\beta= .17, p&lt;.001$) explained 16% of the variance of sexually active males' intention to use a condom - past condom use ($\beta= .40, p&lt;.001$) &amp; ability to enjoy sex using a condom ($\beta= .24, p&lt;.001$) explained 29.8% of the variance of sexually active females' intention to use a condom</td>
</tr>
<tr>
<td>DiIorio et al. (1993)</td>
<td>- n= 352 sexually active students 312 males &amp; 40 females - convenience sample</td>
<td>- self-administered questionnaire including questions from Safe Sex Behaviour Questionnaire (SSBQ) (24 item, 4 point scale), Modified DiClemente AIDS Information Survey (DAIS), Knowledge of Safer Sex Practices Questionnaire (KSSPQ), &amp; Future Time Perspective Inventory (FTPI) - reported content validity for DAIS, KSSPQ - reported reliability &amp; validity for FTPI</td>
<td>- knowledge of AIDS, perceived susceptibility misconceptions about AIDS, knowledge of safer sexual practices &amp; future time perspective did not explain a significant amount of variance in the use of safer sexual practices in the sample</td>
</tr>
<tr>
<td>Investigators/ Purpose</td>
<td>Sample</td>
<td>Methods</td>
<td>Relevant Results</td>
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<tr>
<td>Torrible (1992)</td>
<td>- n= 61 female students attending a University Health Service</td>
<td>- descriptive correlational design</td>
<td>- 18% of sample reported using a condom for every episode of sexual intercourse</td>
</tr>
<tr>
<td></td>
<td>- 18-24 years of age</td>
<td>- self-administered questionnaire including Sexual Communication with Primary Partner Questionnaire (SCPPQ), Perceived Susceptibility, College Self-Expression Scale (CSES) and questions on condom use</td>
<td>- reasons for not using condoms include (% of sample) 80.8% using another birth control, 67.3% having sex with regular partner, 42.3% thought sex was safe without condom &amp; 17.3% partner did not want to use a condom</td>
</tr>
<tr>
<td></td>
<td>- convenience sample</td>
<td>- reported validity &amp; reliability on CSES</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Analysis Pearson r, Spearman rank correlation test, student t-tests</td>
<td></td>
</tr>
<tr>
<td>Eagleson (1992)</td>
<td>- n= 30 (elicitation)</td>
<td>- descriptive correlational design</td>
<td>-40% of female students reported never using condoms</td>
</tr>
<tr>
<td></td>
<td>- n= 56 (principal)</td>
<td>- based on Fishbein &amp; Ajzen’s Theory of Planned Behaviour</td>
<td>-16.4% of females reported having more than 1 sexual partner in past 3 months</td>
</tr>
<tr>
<td></td>
<td>- non-probability</td>
<td>- self-administered questionnaire</td>
<td>- positive relationship between strength of intention to use condom in next 3 months &amp; reported condom use in previous 3 months (r=.65, p&lt;.0000)</td>
</tr>
<tr>
<td></td>
<td>convenience sample</td>
<td>1) elicitation questionnaire contained open-ended questions</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>2) principal study questionnaire designed from elicitation responses &amp; research findings</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>- pre-tested questionnaire with 5 students for content validity</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>- Analysis Pearson product-moment correlation coefficient, Spearman Correlation Coefficient, multiple correlation coefficient</td>
<td></td>
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</tbody>
</table>
### Table A-3
**Dietary Practices**

<table>
<thead>
<tr>
<th>Investigators/Purpose</th>
<th>Sample</th>
<th>Methods</th>
<th>Relevant Results</th>
</tr>
</thead>
</table>
| Pemberton et al. (1996) examined the prevalence & correlates of bulimia nervosa & bulimic behaviour of university students | n= 1152 (59% female & 41% male students)
- cross-sectional convenience sample | - Revised Bulimia Test (BULIT-R)
- reported the instrument to be a valid & reliable predictor of bulimia nervosa | - overall prevalence of bulimic behaviours 5.4 (6.6 for females & 3.6 for males)
- 17% of sample reported dieting at the time of the study
- 43% reported a history of dieting |
| Krahn et al. (1996) examined the prevalence of dieting severity & gastrointestinal symptoms in college women | randomized stratified sample of 301 of the first year 1367 sample
categorized into 6 groups non-dieters, casual dieters, intense dieters, at risk, severe dieters, bulimic based on DSM-III-R criteria | - self administered questionnaire
- included questions from previous studies
- analysis gamma statistics & chi-square analysis | - 23% (317) reported engaging in 'intense' dieting
- 21% (287) reported engaging in 'severe' dieting |
| Fredenberg et al. (1996) examined the incidence of eating disorders among selected female university students | -n= 163 females from 4 United States colleges
-voluntary sample | -self-administered questionnaire including the Eating Attitudes Test (EAT)- 40 objective statements 6 point forced scale
-no report of reliability or validity
-Analysis ANOVA, Tukey's studentized range test | - 8% of the sample had an EAT score of 30 which is considered symptomatic of an eating disorder |
<table>
<thead>
<tr>
<th>Investigators/ Purpose</th>
<th>Sample</th>
<th>Methods</th>
<th>Relevant Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brevard et al. (1996)</td>
<td>-n= 104 on campus 45 females &amp; 14 males off campus 39 females 16 males -18-41 years old -convenience sample</td>
<td>-2 page lifestyle questionnaire was devised after an original pilot-test on a variety of health behaviours, including a 3 day food record, height, weight, weekly energy expenditure, activity level &amp; blood cholesterol levels -no report of reliability or validity -Analysis ANOVA, student t-tests, stepwise multiple regression</td>
<td>-BMI for all 4 groups were within healthy ranges (mean 22 for females &amp; 24 for males) - in-takes of total fat were higher for all 4 groups than recommended levels (mean 34-36% of energy from fat)</td>
</tr>
<tr>
<td>Hampl et al. (1995)</td>
<td>n= 1062 436 males 626 females - multi-stratified probability sample</td>
<td>- secondary analysis of nationwide survey, focused on questions concerning 24 hour food recall &amp; 1 day food records - no report of reliability or validity</td>
<td>-75% of sample consumed &gt;30% of energy from fat, 85% of males, 75% of females reported having a dietary intake of more than 30% of total calories from fat</td>
</tr>
<tr>
<td>McGowan et al. (1994)</td>
<td>-n= 39 19 in control (lecture &amp; video) 20 in intervention (7 weekly sessions on nutrition &amp; behaviour modification) -recruited, voluntary sample</td>
<td>- questionnaire including Know Your Body Knowledge &amp; Attitude Questionnaire, height &amp; weight, blood pressure, total cholesterol &amp; triglyceride blood work -pre-test &amp; post test 8 weeks apart -no report of reliability or validity -Analysis Chi Square, Mann Whitney V-Test, Students t-tests</td>
<td>-intervention group improved more significantly than control in overall knowledge (mean control 17-20, mean intervention 19.6-26.9, p&lt;.001)</td>
</tr>
<tr>
<td>Investigators/ Purpose</td>
<td>Sample</td>
<td>Methods</td>
<td>Relevant Results</td>
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<tr>
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</tr>
<tr>
<td>Glikson et al. (1994)</td>
<td>-N= 5926 -response rate 52.9% - random sample</td>
<td>-questionnaire asking questions on drinking practices &amp; other health behaviours as well as knowledge &amp; attitude of health behaviours - data collected using Dillman technique - mail-out survey - no report of validity or reliability</td>
<td>- 42% of the sample had dieted to lose weight in the previous year -6% of the sample reported having engaged in eating disorder behaviours</td>
</tr>
<tr>
<td>Rush et al. (1994)</td>
<td>-n= 21 female nursing students attending a Canadian university - convenience sample</td>
<td>-descriptive correlational study - 3 stage study protocol i)practice data collection ii) review iii)actual data collection -background questionnaire asked respondents 3 day food &amp; physical activity &amp; related practices -pilot-tested for validity, 3 day food record reliability reported -Analysis mean &amp; standard deviation ANOVA</td>
<td>-BMI -2 were under, 2 were over recommended BMI</td>
</tr>
</tbody>
</table>
Table A-4
Exercise

<table>
<thead>
<tr>
<th>Investigators/Purpose</th>
<th>Sample</th>
<th>Methods</th>
<th>Relevant Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brevard et al. (1996)</td>
<td>-n= 104 on-campus 45 females 14 males off-campus 39 females 16 males -18-41 years old -convenience</td>
<td>- 2 page lifestyle questionnaire was devised after original pilot-test on a variety of health behaviours, including a 3 day food record, height, weight, weekly energy expenditure, activity level &amp; blood cholesterol levels - no report of reliability or validity -Analysis ANOVA, student t-tests, stepwise multiple regression</td>
<td>-BMI for all 4 groups were within healthful range (mean 22 for females &amp; 24 for males) -29% of students living on &amp; off campus reported having moderate to high levels of physical activity</td>
</tr>
<tr>
<td>Taggart et al. (1995)</td>
<td>-n= 113 female students 18-53 years old -convenience sample recruited from basic health course</td>
<td>- descriptive correlation study -questions based on the Osteoporosis Knowledge Belief Model Scale (OKBMS) &amp; Osteoporosis Knowledge Test (OKT) &amp; Rosenstock Health Belief Model - self-administered questionnaire asking questions on osteoporosis knowledge &amp; health beliefs &amp; physical activity -reported validity &amp; reliability -Analysis Pearson product-moment correlation coefficients</td>
<td>-a low, but significant relationship was found between knowledge &amp; understanding the benefits of exercise &amp; personal susceptibility to osteoporosis ($r=.25, p=.01$) &amp; knowledge of osteoporosis &amp; awareness of benefits of physical activity ($r=.25, p=.01$)</td>
</tr>
<tr>
<td>Investigators/ Purpose</td>
<td>Sample</td>
<td>Methods</td>
<td>Relevant Results</td>
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</tr>
<tr>
<td>Pinto et al. (1995)</td>
<td>- n = 217, 107 males &amp; 110 females - random sample anonymous</td>
<td>- part of larger questionnaire on health needs</td>
<td>- students in action stage were more likely to report participation in jogging/ running ($X^2=23.42$, $p&lt;.04$), weight lifting ($X^2=10.74$, $p&lt;.04$) cycling ($X^2=23.46$, $p&lt;.001$) -42% of males, 50% of females reported being inactive or not being exercising the recommended 3-4 times/week</td>
</tr>
<tr>
<td>examined the relationship between stages of changes &amp; college students physical activity</td>
<td></td>
<td>- self-administered questionnaire - based on Stages of Changes Theory - no report of validity or reliability - Analysis Chi square, SPSS</td>
<td></td>
</tr>
<tr>
<td>Felton et al. (1994)</td>
<td>- n = 225 average weight females - 115 overweight females - ages 17-26 - random sample of full-time undergraduate females living in residence</td>
<td>- correlational study - questionnaire was part of larger study of health practices of university students - self-administered questionnaire including Health Promotion Lifestyle Profile, personal control, health value, interpersonal support based on Pender’s HPM, height &amp; weight was also measured - reliability reported - Analysis stepwise multiple regression, Pearson's Correlation Coefficient</td>
<td>- 25% of the sample reported routine participation in some form of physical activity - personal control of health ($R^2 = .0581$, $p=.09$), race ($R^2 = .0596$, $p=.06$) regular participation in organizations &amp; groups ($R^2 = .0382$, $p=.027$), &amp; interpersonal support ($R^2 = .0221$, $p=.027$) explained 18% of the variance in physical activity of the sample</td>
</tr>
<tr>
<td>determined the ability of variables to predict physical activity on overweight females</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Investigators/ Purpose</td>
<td>Sample</td>
<td>Methods</td>
<td>Relevant Results</td>
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</tr>
<tr>
<td>Brevard et al. (1996)</td>
<td>- n=104</td>
<td>- 2 page questionnaire devised after pilot-test revisions, included a variety of questions on health behaviours, 3 day food record, height weight, weekly energy expenditure, activity level &amp; blood cholesterol levels - no report of reliability or validity - Analysis ANOVA student t-tests, stepwise multiple regression</td>
<td>- serum triglyceride levels were higher in students living on campus f(1106)=4.61, p=.03</td>
</tr>
<tr>
<td></td>
<td>on-campus 45 females 14 males off-campus 39 females 16 males -18-41 years of age -convenience sample</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wechsler et al (1995)</td>
<td>- n= 17592 140 campuses - 69% response rate - random sample</td>
<td>- 20 page questionnaire asking for detailed information on drinking behaviours &amp; other variables - no report of reliability or validity - Analysis 2 step modelling process</td>
<td>- odds of binge drinking were higher below the age of 24 than above it (OR 2.25, 95%CI= 2.06, 2.46) - students living in residence reported more drinking than those who lived off campus</td>
</tr>
<tr>
<td>Wendt et al. (1995)</td>
<td>- n = 287 198 females 89 males -sexually active students -convenience sample</td>
<td>-self-administered questionnaire including Perceived Barriers to Condom Use, condom use true/false questions on general knowledge about condom use &amp; STD's - no report of reliability or validity</td>
<td>-low perceived need accounted for 47.3% of the variance of barriers to use condoms for female students &amp; 28.3% of the variance for male students</td>
</tr>
<tr>
<td>Pinto et al. (1995)</td>
<td>- n= 217 107 males 110 females -random sample</td>
<td>-part of a larger study on health needs based on Stages of Change theory -self-administered questionnaire - no report of reliability or validity - Analysis Chi-square SPSS</td>
<td>-female students were more likely than male students to report participation in aerobics - male students were more likely than females to report participation in weight lifting</td>
</tr>
<tr>
<td>Investigators/ Purpose</td>
<td>Sample</td>
<td>Methods</td>
<td>Relevant Results</td>
</tr>
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</tr>
<tr>
<td>Gliksman et al. (1994) examined the incidence of alcohol &amp; drug use among university students &amp; other lifestyle behavioural choices</td>
<td>n= 5926 random sample</td>
<td>questionnaire asking questions on drinking practices &amp; other health behaviours as well as knowledge &amp; attitudes of health behaviours - mail-out survey Dillman technique - validation study compared to 1990 Ontario Health Survey but no report of validity or reliability</td>
<td>males more likely to consume alcohol per week (mean # of alcoholic drinks 18.3 vs. 9.2) &amp; consumed more than 15 drinks per week (mean 38.2% vs. 20.7%) - students living in residence reported drinking more than those students who lived off campus or with their parents</td>
</tr>
</tbody>
</table>
Appendix E

Explanation of Study for Potential Staff/Faculty Participants
(Initial Phone Call)

My name is Lianne Jeffs and I am a graduate student in Nursing Science at the University of Toronto in the Master of Science program. I am currently conducting a study under the supervision of Professor Dorothy Craig from the Faculty of Nursing, University of Toronto.

I am developing an instrument to be used in a study of health behaviours and the factors that influence these behaviours of university students. I would like to ask you to review the instrument and rate the items for content validity. I would also like you to respond and be prepared to discuss three open-ended questions about the content of the instrument.

If you agree to participate in the study I will forward the instrument to you with a few questions that I would like you to consider about the instrument. Subsequently, I will call you to arrange an appointment to meet with you to collect the instrument you have rated and to discuss your responses to the three questions. This should take approximately 30-40 minutes of your time.

Although you may have comments about any part of the instrument I would appreciate your responses to the specific components of the questionnaire related to your area of expertise.

I also plan to conduct some focus groups to get feedback from students on the content validity and understanding of the instrument.

While you will not directly benefit from this study, the information gained will assist in the development of a valid instrument. The instrument will subsequently be used in a larger study on campus. The results of the larger study may contribute to the development of health promotion programs and policies on campus.

All information is confidential and your verbal agreement to meet with me to review your responses will be considered your consent to participate in this study.

Thank-you for your time.

Sincerely,

Lianne Jeffs RN BScN
Appendix F

Cover Letter for Staff/Faculty Participants

In follow-up to our phone conversation and your verbal consent to participate in this study, I am forwarding you the study package.

To recap, my name is Lianne Jeffs and I am a graduate student in Nursing Science at the University of Toronto in the Master of Science program. I am currently conducting this study under the supervision of Professor Dorothy Craig from the Faculty of Nursing, University of Toronto. I am developing an instrument to be used in a study of health behaviours of university students and the factors that influence these behaviours. I am asking that you review the instrument and rate the items for content validity. I would also like you to be prepared to discuss three open-ended questions about the content of the instrument. I have enclosed the draft questionnaire and some questions for your consideration.

In approximately two weeks, I will call you to arrange an appointment to meet with you to collect the instrument you have rated and to discuss your responses to the three questions. This should take approximately 30-40 minutes of your time. I would appreciate your responses to the specific components of the instruments related to your area of expertise and any other areas you wish to address. I also plan to conduct some focus groups to get feedback from students on the content validity and understanding of the instrument.

You will not have to answer any questions that you do not wish to answer and you may withdraw from the study at any time. While you will not directly benefit from this study, the information you provide will contribute to the development of a valid instrument.

All information is confidential and your participation in the interview will be considered your consent to participate in this study.

If you have any questions please contact me at 979-5000 ext. 7607.

Thank-you for your time.

Sincerely,

Lianne Jeffs RN BScN
Appendix G

Staff/Faculty Question Sheet

From your experience working with university students, I would appreciate your opinions about the instrument. Please consider the following questions:

1) Are there any question(s) or area(s) in the University Student Health Survey Instrument that are missing?

2) Are there any question(s) or area(s) in the University Student Health Survey Instrument that should be eliminated?

3) Any suggestions for area(s) of improvement and/or modification of the questions included in the University Student Health Survey Instrument?
Free Pizza & Pop!!!

for your participation in developing a questionnaire on what influences your health as a university student.

Groups will be held at the following dates, times and locations:

(TBA)
For further information and to Register call 979-5000 ext. 7607
Appendix I

Explanation of Study for Student Focus Group Participants

My name is Lianne Jeffs and I am a graduate student in Nursing Science at the University of Toronto in the Master of Science program. I am currently conducting a study under the supervision of Professor Dorothy Craig from the Faculty of Nursing, University of Toronto.

I am developing a questionnaire to be used in a study about the health behaviours of university students and the factors that influence these behaviours.

At the group, you will be asked to rate the relevance of each question and make notes for areas of improvement. You will also be asked to provide feedback on the questions as to whether they address important components of university life and whether they capture information about these areas well. The ultimate purpose of the questionnaire is to determine the health status, health behaviours and factors that influence these behaviours of university students. The areas covered in the questionnaire include nutrition, safer sexual behaviours, alcohol use, and physical activity. You will not be asked to give your name, however some personal questions such as age, sex, marital status and type and year of your program will be collected in order to describe the population of students who participate in this study.

You may refuse to answer any questions, withdraw from the study, and/or refuse to participate in the study without consequence.

Participation in the group will probably take just over an hour of your time. Pizza and non-alcoholic beverages will be available to you for your participation in this study.

While you will not directly benefit from this study, the information you provide will assist in the development of a valid instrument. The instrument will subsequently be used in a larger study on campus. The results of the study may contribute to the development of health promotion programs and policies on campus.

All information will be confidential and your name will not be collected or recorded in any part of the study. Participation in the focus groups will be considered your consent to participate in this study. Only the investigator and thesis supervisor will have access to the questionnaire that you have completed about the relevance of each item/question.

Thank-you for considering this invitation to participate.

Sincerely,

Lianne Jeffs RN BScN
Appendix J

Explanation of Study for Student Group Representatives

My name is Lianne Jeffs and I am a graduate student in Nursing Science at the University of Toronto in the Master of Science program. I am currently conducting a study under the supervision of Professor Dorothy Craig from the Faculty of Nursing, University of Toronto.

I am developing a questionnaire to be used in a study about the health behaviours of university students and the factors that influence these behaviours. I am asking you, as a representative of a student group on campus to assist in recruiting 6-10 members from your group to participate in this study. If students in your group indicate an interest in this study, could either you or the student(s) contact me at 979-5000 ext. 7607 to register.

For this study, students who agree to participate will be asked to review the instrument and rate the items for content validity. Students are not expected to answer the items/questions in the questionnaire but only to rate the items/questions as to whether they address important components of university life and whether they capture information about these areas well. The ultimate purpose of the questionnaire is to determine the health status, health behaviours and factors that influence these behaviours of university students. The areas covered in the questionnaire include nutrition, safer sexual behaviours, alcohol use, and physical activity. Students will not be asked to give their name, however some personal questions such as age, sex, marital status and type and year of program will be collected in order to describe the population of students who participate in this study.

Students may refuse to answer any questions, withdraw from the study, and/or refuse to participate in the study without consequence. Participation in the group will probably take an hour. Pizza and non-alcoholic beverages will be available to students for their participation in this study.

While students will not directly benefit from this study, the information provided will assist in the development of a valid instrument. The instrument will subsequently be used in a larger study on campus. The results of the study may contribute to the development of health promotion programs and policies on campus.

All information will be confidential and students' names will not be collected or recorded in any part of the study. Participation in the focus groups will be considered students' consent to participate in this study. Only the investigator and thesis supervisor will have access to the questionnaire that the students will complete about the relevance of each item/question.

I am available to provide your student group with an overview of the study in a presentation format if requested. Should you have any questions about the study, please do not hesitate to contact me at 979-5000 ext. 7607.

Thank-you for considering this invitation to recruit participants for this study.

Sincerely,
Lianne Jeffs RN BScN
Appendix K

Focus Group Demographic Sheet

Question 1) What is your age _____ years?

Question 2) What is your gender?

Male _____

Female _____

Question 3) In what program are you enrolled in at this university?

_____________________________________________________

Question 4) Please check-off your program level?

First Year _____

Second Year _____

Third Year _____

Fourth Year or beyond _____

Question 5) Please check-off your marital status

Single _____

Married _____

Common-law _____

Widowed _____

Other (please specify)

_____________________________________________________

_____________________________________________________

Question 6) Please check-off where you are living this semester?

_____ with both parents

_____ with one of your parents

_____ in the home of another relative

_____ in the home that you own

_____ in a campus residence, fraternity house, or co-op

_____ off campus in an apartment

_____ off campus in a room

_____ other, specify

_____________________________________________________

_____________________________________________________
Appendix L

Focus Group Participants Question Sheet

From your experience as a university student, please be prepared to discuss the following questions:

1) Are there any question(s) or area(s) in the University Student Health Survey Instrument that are missing?

2) Are there any question(s) or area(s) in the University Student Health Survey Instrument that should be eliminated?

3) Any suggestions for area(s) of improvement and/or modification of the questions included in the University Student Health Survey Instrument?
Appendix M
USHSI Content Validity Index (CVI) Ratings
Staff/Faculty Key Informant Group

<table>
<thead>
<tr>
<th>USHSI Question</th>
<th># in group who rated question with a CVI of 3 or 4</th>
<th>CVI Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Question # 1: In general, compared to other persons your age, would you say your health is?</td>
<td>7/7</td>
<td>1.00</td>
</tr>
<tr>
<td>Question # 2: Do you have a chronic or persistent health problem that limits your academic, physical, or recreational activity in any way? If yes please describe</td>
<td>7/7</td>
<td>1.00</td>
</tr>
<tr>
<td>Question # 3: As a student, would you describe your life as?</td>
<td>7/7</td>
<td>1.00</td>
</tr>
<tr>
<td>Question # 4: What are the three main sources of stress in your life right now?</td>
<td>6/7</td>
<td>0.86</td>
</tr>
<tr>
<td>Question # 5: Where are you living this semester?</td>
<td>5/6</td>
<td>0.83</td>
</tr>
<tr>
<td>Question # 6: This semester are you working at a job for pay? If yes, how many hours do you work for pay?</td>
<td>5/5</td>
<td>1.00</td>
</tr>
<tr>
<td>Question # 7: Which of the following sentences best describes the importance of your earnings?</td>
<td>7/7</td>
<td>1.00</td>
</tr>
<tr>
<td>Question # 8: Marital Status</td>
<td>5/6</td>
<td>0.83</td>
</tr>
<tr>
<td>Question # 9: During the past 12 months, have you consumed any alcoholic beverages (wine, beer, or any drink containing liquor)?</td>
<td>7/7</td>
<td>1.00</td>
</tr>
<tr>
<td>Question # 10: On average, what is your weekly consumption of drinks?</td>
<td>7/7</td>
<td>1.00</td>
</tr>
<tr>
<td>Question # 11: How many alcoholic drinks do you consume at one time?</td>
<td>4/4</td>
<td>1.00</td>
</tr>
<tr>
<td>Question # 12: In the past 12 months, how many times have you consumed 5 or more drinks on one occasion?</td>
<td>6/6</td>
<td>1.00</td>
</tr>
<tr>
<td>Question #</td>
<td>Text</td>
<td>Frequency</td>
</tr>
<tr>
<td>------------</td>
<td>------------------------------------------</td>
<td>--------</td>
</tr>
<tr>
<td>13</td>
<td>During the last 12 months, have any of the following happened as a result of your drinking?</td>
<td>6/7</td>
</tr>
<tr>
<td>14</td>
<td>During the last 12 months, are any of the following reason(s) why you consumed alcoholic drinks?</td>
<td>6/6</td>
</tr>
<tr>
<td>15</td>
<td>Have you been sexually active in the past three months &amp; Do you intend to be sexually active in the next three months?</td>
<td>4/6</td>
</tr>
<tr>
<td>16</td>
<td>How many partners have you had sexual intercourse with in the past three months?</td>
<td>6/7</td>
</tr>
<tr>
<td>17</td>
<td>In the past three months, how often did you and your partner use a condom?</td>
<td>7/7</td>
</tr>
<tr>
<td>18</td>
<td>During your last episode of unprotected sexual intercourse, please check off any of the following reason(s) why you did not use a condom?</td>
<td>5/5</td>
</tr>
<tr>
<td>19</td>
<td>Sometimes people are unable to afford nutritious food. How often do you have difficulty finding the money to purchase good food?</td>
<td>7/7</td>
</tr>
<tr>
<td>20</td>
<td>Do you have access to cooking facilities and a refrigerator where you live?</td>
<td>6/7</td>
</tr>
<tr>
<td>21</td>
<td>In the average week, how often do you eat at a restaurant, cafeteria or fast food outlet?</td>
<td>4/4</td>
</tr>
<tr>
<td>22</td>
<td>During the school year, how often do you do each of the following-skip breakfast, diet to lose weight, diet to gain weight, engage in bingeing, purging and fasting?</td>
<td>6/6</td>
</tr>
<tr>
<td>23</td>
<td>How often do you exercise?</td>
<td>7/7</td>
</tr>
<tr>
<td>24</td>
<td>On average, how many minutes do you exercise each time?</td>
<td>7/7</td>
</tr>
<tr>
<td>25</td>
<td>If you do not exercise regularly, are any of the following reason(s) for you not exercising?</td>
<td>5/6</td>
</tr>
<tr>
<td>Question # 26: Please indicate if you have any concerns about any of the following issues in your daily life at present by checking one answer in each row</td>
<td>7/7</td>
<td>1.00</td>
</tr>
<tr>
<td>Question # 27: What is your age?</td>
<td>5/5</td>
<td>1.00</td>
</tr>
<tr>
<td>Question # 28: What is your gender?</td>
<td>4/4</td>
<td>1.00</td>
</tr>
<tr>
<td>Question # 29: What is your height?</td>
<td>3/4</td>
<td>0.75</td>
</tr>
<tr>
<td>Question # 30: What is your weight?</td>
<td>3/3</td>
<td>1.00</td>
</tr>
<tr>
<td>Question # 31: In what program level are you enrolled in at the university?</td>
<td>2/4</td>
<td>0.50</td>
</tr>
<tr>
<td>Question # 32: Program Level</td>
<td>3/4</td>
<td>0.75</td>
</tr>
</tbody>
</table>
### Appendix N

**USHSI Content Validity Index (CVI) Ratings**

**Student Focus Groups**

<table>
<thead>
<tr>
<th>USHSI Question</th>
<th># in group who rated question with a CVI of 3 or 4</th>
<th>CVI Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Question # 1:</strong> In general, compared to other persons your age, would you say your health is?</td>
<td>6/9 7/7 5/6</td>
<td>0.67 1.00 0.83</td>
</tr>
<tr>
<td><strong>Question # 2:</strong> Do you have a chronic or persistent health problem that limits your academic, physical, or recreational activity in any way? If yes please describe</td>
<td>9/9 6/7 4/6</td>
<td>1.00 0.86 0.67</td>
</tr>
<tr>
<td><strong>Question # 3:</strong> As a student, would you describe your life as?</td>
<td>9/9 7/7 6/6</td>
<td>1.00 1.00 1.00</td>
</tr>
<tr>
<td><strong>Question # 4:</strong> What are the three main sources of stress in your life right now?</td>
<td>8/9 7/7 6/6</td>
<td>0.89 1.00 1.00</td>
</tr>
<tr>
<td><strong>Question # 5:</strong> Where are you living this semester?</td>
<td>8/9 5/7 5/6</td>
<td>0.89 0.71 0.83</td>
</tr>
<tr>
<td><strong>Question # 6:</strong> This semester are you working at a job for pay? If yes, how many hours do you work for pay?</td>
<td>8/9 4/7 5/6</td>
<td>0.89 0.57 0.83</td>
</tr>
<tr>
<td><strong>Question # 7:</strong> Which of the following sentences best describes the importance of your earnings?</td>
<td>9/9 4/7 4/6</td>
<td>1.00 0.57 0.67</td>
</tr>
<tr>
<td><strong>Question # 8:</strong> Marital Status</td>
<td>6/9 4/7 3/6</td>
<td>0.67 0.57 0.50</td>
</tr>
<tr>
<td><strong>Question # 9:</strong> During the past 12 months, have you consumed any alcoholic beverages (wine, beer, or any drink containing liquor)?</td>
<td>7/9 4/7 3/6</td>
<td>0.78 0.57 0.50</td>
</tr>
<tr>
<td>Question #</td>
<td>Description</td>
<td>N1</td>
</tr>
<tr>
<td>------------</td>
<td>------------------------------------------------------------------------------</td>
<td>----</td>
</tr>
<tr>
<td>10</td>
<td>On average, what is your weekly consumption of drinks?</td>
<td>8/9</td>
</tr>
<tr>
<td>11</td>
<td>How many alcoholic drinks do you consume at one time?</td>
<td>7/9</td>
</tr>
<tr>
<td>12</td>
<td>In the past 12 months, how many times have you consumed 5 or more drinks on one occasion?</td>
<td>8/9</td>
</tr>
<tr>
<td>13</td>
<td>During the last 12 months, have any of the following happened as a result of your drinking?</td>
<td>8/9</td>
</tr>
<tr>
<td>14</td>
<td>During the last 12 months, are any of the following reason(s) why you consumed alcoholic drinks?</td>
<td>9/9</td>
</tr>
<tr>
<td>15</td>
<td>Have you been sexually active in the past three months &amp; Do you intend to be sexually active in the next three months?</td>
<td>5/8</td>
</tr>
<tr>
<td>16</td>
<td>How many partners have you had sexual intercourse with in the past three months?</td>
<td>7/8</td>
</tr>
<tr>
<td>17</td>
<td>In the past three months, how often did you and your partner use a condom?</td>
<td>9/9</td>
</tr>
<tr>
<td>18</td>
<td>During your last episode of unprotected sexual intercourse, please check off any of the following reason(s) why you did not use a condom?</td>
<td>9/9</td>
</tr>
<tr>
<td>19</td>
<td>Sometimes people are unable to afford nutritious food. How often do you have difficulty finding the money to purchase good food?</td>
<td>6/9</td>
</tr>
<tr>
<td>20</td>
<td>Do you have access to cooking facilities and a refrigerator where you live?</td>
<td>6/8</td>
</tr>
<tr>
<td>Question #</td>
<td>Text</td>
<td>7/8</td>
</tr>
<tr>
<td>------------</td>
<td>------</td>
<td>-----</td>
</tr>
<tr>
<td>#21</td>
<td>In the average week, how often do you eat at a restaurant, cafeteria or fast food outlet?</td>
<td></td>
</tr>
<tr>
<td>#22</td>
<td>During the school year, how often do you do each of the following-skip breakfast, diet to lose weight, diet to gain weight, engage in bingeing, purging and fasting?</td>
<td>9/9</td>
</tr>
<tr>
<td>#23</td>
<td>How often do you exercise?</td>
<td>9/9</td>
</tr>
<tr>
<td>#24</td>
<td>On average, how many minutes do you exercise each time?</td>
<td>6/8</td>
</tr>
<tr>
<td>#25</td>
<td>If you do not exercise regularly, are any of the following reason(s) for you not exercising?</td>
<td>7/9</td>
</tr>
<tr>
<td>#26</td>
<td>Please indicate if you have any concerns about any of the following issues in your daily life at present by checking one answer in each row</td>
<td>8/9</td>
</tr>
<tr>
<td>#27</td>
<td>What is your age?</td>
<td>6/9</td>
</tr>
<tr>
<td>#28</td>
<td>What is your gender?</td>
<td>7/9</td>
</tr>
<tr>
<td>#29</td>
<td>What is your height?</td>
<td>7/9</td>
</tr>
<tr>
<td>#30</td>
<td>What is your weight?</td>
<td>8/9</td>
</tr>
<tr>
<td>#31</td>
<td>In what program level are you enrolled in at the university?</td>
<td>6/9</td>
</tr>
<tr>
<td>Question # 32: Program Level</td>
<td>5/8</td>
<td>0.63</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>-----</td>
<td>------</td>
</tr>
<tr>
<td></td>
<td>3/7</td>
<td>0.43</td>
</tr>
<tr>
<td></td>
<td>2/6</td>
<td>0.33</td>
</tr>
</tbody>
</table>
Appendix O

Revised UNIVERSITY STUDENT HEALTH SURVEY INSTRUMENT

Please read each question carefully.

PERCEIVED HEALTH STATUS

Q# 1 In general, compared to other persons your age, would you say your health is

1 ___ Excellent
2 ___ Very Good
3 ___ Good
4 ___ Fair
5 ___ Poor

PERCEIVED HEALTH PROBLEMS

Q# 2 Do you have a chronic or persistent health problem (emotional, physical, psychological, etc.,) that limits your academic, physical, or recreational activity in any way?

Yes - please describe this health problem
____________________________________________________________________________________
____________________________________________________________________________________
____________________________________________________________________________________

No __________________________________________

PHYSICAL ENVIRONMENT & WORKING CONDITIONS

Q# 3 As a student, would you describe your life as

1 2 3 4
Very Fairly Not Very Not at all
Stressful Stressful Stressful Stressful

Q# 4 What are the three main sources of stress in your life right now

1. __________________________________________
2. __________________________________________
3. __________________________________________
Q# 5 Please describe where are you living this semester?

_________________________________________________________________

_________________________________________________________________

_________________________________________________________________

INCOME & SOCIAL STATUS

Q# 6 This semester are you working at a job for pay? Yes _____ No _____

If No - Please go to Question 8

If Yes - How many hours do you work per week? _____ (number of hours per week)

Q# 7 Which one of the following sentences best describes the importance of your earnings?

_____ You need the income to continue your studies.

_____ You could continue to study without the income, but under considerable hardship.

_____ You could continue to study without this income, but the income allows you to buy things that make your life easier or more enjoyable.

_____ Your reasons for working were not primarily financial (for job experience, help in family business, etc).

_____ None of the above - PLEASE GIVE YOUR MAIN REASON FOR WORKING: ____________________________________________

Q# 8 Marital Status

_____ Single

_____ Married

_____ Common-Law

_____ Widowed

_____ Other (please specify) _______________________________________________________________________
PERSONAL HEALTH PRACTICES

Alcohol Use

This next section will ask you to respond to questions about alcohol use. A drink refers to an 12 ounce bottle of beer, a 6 ounce glass of wine, and a 1 and a 1/2 shot of liquor, or prepared liquor or wine coolers.

Q# 9 During the past 12 months, have you consumed any alcoholic beverages (wine, beer, or any drink containing liquor)?
   Yes _____  No _____

Q# 10 On average, what is your weekly consumption of drinks?
   _____ (number of drinks per week)

Q# 11 How many alcoholic drinks do you consume at one time?
   _____ (number of drinks)

Q# 12 In the last three months, how many times do you consume 5 or more drinks on one occasion?
   _____ (times)

Q# 13 During the last twelve months, have any of the following happened as a result of your drinking?

<table>
<thead>
<tr>
<th>Never</th>
<th>Once or</th>
<th>3 - 5</th>
<th>More than</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Twice</td>
<td>Times</td>
<td>5 Times</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

Friends have complained about your drinking
1 2 3 4
You feel badly about your drinking
1 2 3 4
Drinking has interfered with school (absences, lower grades)
1 2 3 4
Drinking had interfered with your memory
1 2 3 4
You've been concerned about the amount or frequency of your drinking
1 2 3 4
You've had unprotected intercourse
1 2 3 4
You experienced aggressive behaviour
1 2 3 4
Q# 14 During the last twelve months, are any of the following reasons(s) why you consumed alcoholic drinks?

____ being in a place where alcohol is available (bar, party)
____ feeling pressured by peers to drink
____ non-alcoholic drinks were not available
____ difficulty refusing alcohol drinks when offered
____ convenient to purchase alcohol drinks
____ reduces tension
____ enhances pleasure
____ drinking is socially acceptable/cool to drink
____ other (please specify) __________________________________________________________
__________________________________________________________________________

Drug Use

Smoking
Q# 15 a) Do you smoke cigarettes at present?
____ Yes, daily
____ Yes, occasionally
____ Do not smoke at all

b) If you smoke cigarettes, how many cigarettes do you smoke each day?
____ cigarettes per day

Caffeine
Q# 16 a) Do you drink coffee and/or other caffeinated beverages?
____ Yes, daily
____ Yes, occasionally
____ Do not drink coffee and/or other caffeinated beverages at all

b) If you drink coffee and/or other caffeinated beverages, how many cups of caffeinated beverage do you drink each day?
____ cups of coffee and/or caffeinated beverage per day
Other Drug Use

Q# 17 In the last 12 months, how many times have you used any of the following drugs?

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pain relievers, aspirin, tylenol, advil etc.</td>
<td>Never</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Codeine, demerol or morphine</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Tranquillizers or sleeping pills</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Diet pills or stimulants</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Anabolic steroids (or other substances to enhance athletic performance)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Marijuana/cannabis/hash</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Cocaine or crack</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>LSD/acid</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Speed/amphetamines/uppers</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Heroin/dust/horse/junk</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Ecstasy/XTC/E</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Glue, solvents or gasoline</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Intravenous drugs</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

Safer Sexual Behaviours

This section will ask you to respond to questions regarding your sexual behaviours. Sexual behaviours refers to the use of a condom during oral, anal, and/or vaginal intercourse.

Q# 18 How many partners have you had sexual intercourse with in the past three months?

______ (number of sexual partners)
Q# 19 In the past 3 months, how often did you and your partner use a condom?

<table>
<thead>
<tr>
<th>Never</th>
<th>A Few Times</th>
<th>Some of the Time</th>
<th>Often</th>
<th>Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>(0%)</td>
<td>(25%)</td>
<td>(50%)</td>
<td>(75%)</td>
<td>(100%)</td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

Q# 20 During your last episode of unprotected sexual intercourse, please check any of the following reason(s) why you did not use a condom?

- _____ was with regular partner
- _____ thought we were safe
- _____ did not have a condom
- _____ did not want to use one
- _____ not having sex with anyone else
- _____ sex is exciting without condom
- _____ partner did not want to use one
- _____ did not think of using one
- _____ was using alcohol or drugs
- _____ long time since had sex
- _____ could not talk about it
- _____ find condoms painful
- _____ was embarrassed to buy
- _____ could not afford to buy condom
- _____ condom was not available
- _____ spoils the mood
- _____ reduces pleasure
- other (please specify)

Q# 21 Have you ever been involved in a situation in which sex was forced upon you by someone you know?

Yes _____  No _____
Dietary Practices

This next section will ask you to respond to questions about your eating behaviours.

Q# 22 Sometimes people are unable to afford nutritious food. Nutritious food refers to those foods from the four food groups (fruits & vegetables, bread & cereal, meat & meat alternatives and milk & milk products) that are low in fat & high in fibre. How often do you have difficulty finding the money to purchase good food?

____ Never
____ For very short periods, occasionally
____ Fairly often
____ Much of the time
____ This is a constant problem for me

Q# 23 In the average week, how often do you eat at a

a) restaurant
____ Never
____ Once or twice
____ 3-5 times
____ 6-10 times
____ More than 10 times

b) cafeteria
____ Never
____ Once or twice
____ 3-5 times
____ 6-10 times
____ More than 10 times

c) fast food outlet
____ Never
____ Once or twice
____ 3-5 times
____ 6-10 times
____ More than 10 times
Q# 24 During the school year, how often do you do each of the following?

Bingeing is defined as eating a large amount of food in a discrete period of time
Purging is defined as self-induced vomiting
Fasting is defined as deprivation of food for a period of time excluding religious practices

<table>
<thead>
<tr>
<th></th>
<th>Never</th>
<th>Once or Twice a Year</th>
<th>Several Times a Year</th>
<th>About Once a Month</th>
<th>About Once a Week</th>
<th>Several Times a Week</th>
<th>Every Day</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skip breakfast</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>Diet to lose weight</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>Diet to gain weight</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>Engage in bingeing</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>Engage in purging</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>Engage in fasting</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
</tbody>
</table>

Exercise

This section will ask you questions about your exercise. Please respond to the following:

Q# 25 How often do you exercise? (please include jogging, swimming, team sports, weight training, dancing, skiing, brisk walking, aerobics, bicycling, racquet sports etc.)

- Every day of the week
- 5 to 6 times per week
- 3 to 4 times per week
- 1 to 2 times per week
- about once a week
- 2 to 3 a month
- once a month
- Never

Q# 26 On average, how many minutes do you exercise each time?

- minutes
Q# 27 If you do not exercise regularly, are any of the following reason(s) for you not exercising?

- physical disability
- inconvenient to engage in physical activity/exercise
- not enough time to exercise
- too difficult to exercise
- cannot afford to exercise
- there is no place to exercise
- do not have anyone to exercise with
other (please specify)

General Health Practices

Q# 28a) In the average week, how many days do you sleep well and feel rested when you wake up?

- every night
- 5-6 times a week
- 3-4 times a week
- once or twice a week
- never

b) In a semester, how many times do you stay up all night or almost all night to get school work done?

- times

Q# 29 Please indicate if you have any concerns about any of the following issues in your daily life at present by checking one answer in each row.

<table>
<thead>
<tr>
<th>Not Concerned</th>
<th>Mildly Concerned</th>
<th>Moderately Concerned</th>
<th>Very Concerned</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

Nutrition

Your physical activity

Your mental health

Your smoking
<table>
<thead>
<tr>
<th>Topic</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alcohol/Drug use</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stress</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eating disorders</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Campus safety</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unfair treatment because of gender</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unfair treatment because of race</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unfair treatment because of age</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unfair treatment because of sexual orientation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sexual harassment in personal relationships</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Housing situation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Financial situation</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Sexually transmitted diseases</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contraception</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AIDS/HIV</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**BIOLOGY & GENETICS**

Q# 30  What is your age? _____ years

Q# 31  What is your gender?

______ Male
______ Female

Q# 32  With which ethnic group do you feel most closely associated?

__________________________________________________________________________

Q# 33  What is your weight? _____ kg or _____ pounds
SOCIAL SUPPORT NETWORKS

Q# 34 Are you involved in religious/spiritual organizations?
Yes _____  No _____

If you answered yes, please describe

________________________________________________________________________

Q# 35 During the scholastic year, do you have family responsibilities that have an impact on your studies?

Yes _____  No _____

If yes, please describe

________________________________________________________________________

Q# 36 During the school year, how often do you do each of the following?

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daily</td>
<td>Weekly</td>
<td>Monthly</td>
<td>2–4 Times a year</td>
<td>Never</td>
</tr>
<tr>
<td>visit with family</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>talk with family on the telephone</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>visit with friends</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>talk with friends on the telephone</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>participate in a group gathering</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

Q# 37 The following statements describe how people feel about people in their support network. Please indicate how often you have these feelings by circling the number that best corresponds with your answer.

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never</td>
<td>Some of the time</td>
<td>Most of the time</td>
<td>All of the time</td>
</tr>
<tr>
<td>I have close friends I can rely on</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>I have family members I can rely on</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>I have classmates I can rely on</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Other (please specify)</td>
<td>___________________________</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
HEALTH SERVICES

Q# 38  a) Do you know how to access on-campus health services?
       Yes _____        No _____

       b) Do you know how to access off-campus health services?
       Yes _____        No _____

Q# 39  a) Do you use on-campus health services?
       Yes _____        No _____
       If yes, what services do you use?
       ____________________________

       If no, why? ____________________________
       ____________________________

       b) Do you use off-campus health services?
       Yes _____        No _____
       If yes, what services have you used?
       ____________________________

       ____________________________