Fall 12-1-2014

College Students' Perceptions of Barriers to Seeking Health Care

Harika Medavarapu
Indiana State University

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A Thesis

Presented to

The College of Graduate and Professional Studies

Department of Applied Health Sciences

Indiana State University

Terre Haute, Indiana

In Partial Fulfillment

of the Requirements for the Degree

Masters of Science in Health Sciences

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by

Harika Medavarapu

December 2014

Key words: Barriers, college students, health care, health-based majors, non-health based majors, undergraduate students, financial constraints

Committee Members

Committee Chair: Maureen Johnson, Ph.D., MCHES

Associate Professor of Applied Health Sciences

Indiana State University

Committee Member: Mathew Hutchins, Ph.D.

Associate Professor of Applied Health Sciences

Indiana State University

Committee Member: Lisa Borrero, Ph.D.

Assistant Professor of Applied Health Sciences

Indiana State University

Abstract

Access to health care is important to obtain health equity and improve quality of life (Healthy People, 2012). Various factors such as religion, education, family income, geographic location, and travel constraints act as barriers to access health care (Celeya et al., 2010). On the other hand, the health behaviors of medical students vary from general population of same age (Clair, Wilson, & Clore, 2004). Consequently, the perceived barriers may also vary based on the majors of students. Therefore, the main purpose of this research was to identify the difference in perceived barriers between students with health-based majors and non-health based majors. Collecting these data would help to design interventions to facilitate people's access to health services (Sharkey, Chopra, Jackson, Winch, & Minkoviyz, 2011). The Health Belief Model (HBM) was used to explain the health behaviors of students. The study participants were 248 undergraduate students in an introductory personal health course, and participants were recruited using census method. An online survey was distributed to all students to obtain information on their perceived barriers to seek health care. The Barriers to Help Seeking Scale (BHSS) was used as a part of the survey to collect data on perceived barriers (Mansfield, Addis, & Courtenay, 2005). A cross-sectional study design was used. The data collection method was quantitative except for one open-ended question. Data was analyzed using descriptive statistics, a t-test, the Chi-squared test of association, and coding and summarizing of qualitative data. The results show that the mean scores for total score and five subscales' (Need for Control and Self-reliance,

Minimizing Problem and Resignation, Concrete Barriers and Distrust of Caregivers, Privacy, and Emotional Control) scores of the BHSS were significantly higher for non-health based majors compared to health-based majors. Previous studies in literature review supports the study findings indicating that non-health-based majors' students perceived more barriers to seek health care than students in health-based majors. Also, the HBM was used to discuss the findings and to recommend future steps to public health professionals, student health centers, university administrators and staff to help students to seek health care. Future research was recommended using broader population and more qualitative questions.

Acknowledgements

I would like to express my appreciation and gratitude to the following people:

- Dr. Maureen Johnson, my advisor and thesis chairperson, for her support and guidance throughout this research project. I could not have made it to this point without her direction and support.
- Dr. Lisa Borrero and Dr. Matthew Hutchins, my thesis committee members, for their valuable suggestions and guidance
- Dr. Eliezer Bermudez, chair of Applied Health Sciences Department, for his support and guidance
- The instructors and coordinator of AHS 111 for offering the survey to their students
- The students for their participation in the study
- Indiana State University for providing access to the Qualtrics survey software and other resources
- Members of Institutional Review Board and College of Graduate and Professional Studies who were involved with the study
- My parents and family for their support, love, and encouragement
- God, for making everything possible.

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Chapter 1

Introduction

Access to comprehensive, quality health care is essential for obtaining health equity and improving quality of life (Healthy People, 2012). Health equity was defined by the Centers for Disease Control and Prevention (CDC, 2013) as "the opportunity to attain full health potential for all people without disadvantages from their social position or other socially determined circumstance" (Social Determinants of Health section, para. 7). Also, timely access to health services influences general health status, disease and disability prevention, quality of life, detection and treatment of health conditions, preventable death, and life expectancy (Healthy People, 2012). Apart from emphasis on receiving quality care, there were also various sociodemographic factors that act as barriers in seeking health care among various populations.

In general, there are many factors which act as barriers to accessing health care. Such factors include religion, education, family income, geographic location, and travel constraints (Celeya et al., 2010). Other factors such as a lack of health insurance (Akinyemiju et al., 2012; Burg et al., 2010; & Healthy People, 2013) due to high cost of such coverage and lack of access to medical services such as regular check-ups and screenings (Healthy People, 2013) may also contribute to a delay in seeking health care.

Studying college students' access to health care helps in identifying their health needs and provides a chance to improve the prevention and treatment of health disorders among the population (Eisenberg, Golberstein, & Gollust, 2007). Apart from this, the existing literature on college students generally discusses the barriers to seeking help for psychological problems (Blanco et al., 2008; Brimstone, Thistlewaite, & Quirk, 2007; Dearing, Maddux, & Tangney, 2005; Eisenberg et al., 2007; Givens & Tjia, 2002). Therefore, there is a need for further studies on college students' access to health care and barriers that prevent students from seeking help.

On the other hand, knowledge on health behaviors of medical students might provide a base to explain and compare the difference in perceived barriers between students of health-based majors and non-health-based majors. Clair et al. (2004) reports that medical students show better health indicators such as diet, exercise routine and clinical factors than the general population of young adults. Therefore, the perceived barriers might vary between students with health-based and non-health-based majors. Additionally, the Health Belief Model (HBM) can be used to explain a health behavior based on perceived seriousness and perceived susceptibility to a potential health issue, perceived benefits and barriers of taking action, cues to action, motivation, and self-efficacy (Holland, Carthron, Duren-Winfield, & Lawrence, 2014).

Statement of the Problem

The prompt use of individual health services is essential to attain the best health outcomes (Healthy People, 2012). Inequalities in health care access negatively affect individuals and society; furthermore, limited access to health services hinder people's ability to reach their full potential, degrading their quality of life (Healthy People, 2012). Understanding the barriers

to health care access will help to design interventions to facilitate people's access to health services (Sharkey et al., 2011).

As previously stated, the available literature on college students primarily discusses the barriers to seeking help for psychological problems (Blanco et al., 2008; Brimstone et al., 2007; Dearing et al., 2005; Eisenberg et al., 2007; Givens & Tjia, 2002). Furthermore, few studies address barriers to help seeking for physical health issues, and these existing studies address only narrow segments of the population such as only undergraduate men (Mansfield et al., 2005). Therefore, the study compared the perceived barriers among the mixed-gender-undergraduate students from health-based majors and non-health-based majors. Additionally, the proposed research addressed perceived barriers of the mixed-gender-undergraduate population.

Purpose of the study

Studying the factors that prevent students to seek health care and differences in perception of barriers among health and non-health majors may be useful in designing new health programs and improving existing services to reach students by addressing the barriers appropriately (Eisenberg et al., 2007). Therefore, the primary purpose of the current study was to determine if there are differences between undergraduate health-based majors' type of perceived barriers to seeking health care and undergraduate non health-based majors' type of perceived barriers.

Research Questions

1. Was there a difference in type of perceived barriers to seeking health care between undergraduate students with health-based majors and undergraduate non health-based majors?

2. What were college students' perceived barriers for seeking health care?

Research Hypothesis

Null hypothesis: There was no statistically significant difference in mean scores of types of perceived barriers (need for control and self-reliance, minimizing problem and resignation, concrete barriers and distrust of caregivers, privacy, and emotional control) for seeking health care between students with health-based majors and students with non-health-based majors.

Alternative hypothesis: The mean scores of types of perceived barriers (need for control and self-reliance, minimizing problem and resignation, concrete barriers and distrust of caregivers, privacy, and emotional control) for seeking health care was different for students with health-based majors than for students with non-health-based majors.

Delimitations

1. The study included only students of Indiana State University.
2. The study focused only on perceptions of college students on health care barriers.
3. Only undergraduate students from a 100-level personal health course were recruited to participate in the study.
4. The students were approached and the surveys were collected only electronically (through emails).
5. The data collection was delimited to quantitative method except for one open-ended question.
6. Data was collected in the Fall 2014 semester only.

Limitations

1. Due to social desirability bias, participants may or may not have answered the survey questions honestly.
2. Responses were relied on participants' ability to accurately recall the reasons for not seeking health care (if applicable).
3. There was no control of the number of surveys completed and returned by participants.
4. The findings of the study may not be generalizable to the population of adults outside of the college and university setting.

Assumptions

1. The participants responded honestly to the questions provided in the survey.
2. Survey items were at a readability level which was comprehensible to study participants.
3. The data collection procedures were able to minimize researcher-bias and participant bias.

Operational Definitions

1. Access to health care: In a report on Access to Health Care in America from Institute of Medicine, access to health care was defined as ''the timely use of personal health services to achieve the best possible health outcomes.'' (Simpson, Bloom, Cohen, & Parsons, 1997, p. 1).

2. Barriers to health care: According to Andersen as cited in Boateng, Nicolaou, Dijkshoorn, Stronks, and Agyemang (2012), barriers are personal and societal sources that act as constraints or tend to hamper health care seeking efforts.
3. Concrete barriers and distrust of caregivers: This subscale of the Barriers to Help Seeking Scale [BHSS] includes barriers that reflect general reasons to not seek health care such as lack of finances, transportation problems, lack of insurance, or distrust of medical personnel (Mansfield et al., 2005).
4. Emotional control: This subscale of BHSS addresses concerns related to restriction of emotions (Mansfield et al., 2005).
5. Health-based majors: For the purpose of the study, the majors that are related to health sciences and that are offered by the College of Nursing, Health, and Human Services (CNHHS) are considered as health-based majors. For instance, health sciences, athletic training, and nursing are few health-based majors.
6. Minimizing problem and resignation: This subscale of the BHSS addresses barriers as a result of a desire not to react excessively to a health problem (Mansfield et al., 2005).
7. Non health-based majors: For the purpose of the study, the majors that are offered by the College of Arts and Sciences (CAS), College of Business (CB), College of Education (CE), and College of Technology (CT) are considered as non-health-based majors.
8. Need for control and self-reliance: This subscale of the BHSS addresses a set of barriers related to aspects of masculine gender-role norms that demand men to be strong and autonomic (Mansfield et al., 2005).

9. Privacy: This subscale of BHSS addresses barriers regarding vulnerability and privacy issues (Mansfield et al., 2005).
10. Types of barriers to health care: Types of barriers for this study are the five categories of barriers that listed according to the BHSS. They are need for control and self-reliance, minimizing problem and resignation, concrete barriers and distrust of caregivers, privacy, and emotional control.

Summary

Accessing comprehensive and quality health care is a significant factor in improving quality of life (Healthy People, 2012). Also, researching about the barriers to seek health care among college students helps in identifying their health needs and enable researchers, policymakers, and practitioners to design interventions that encourage the population to seek medical help (Eisenberg et al., 2007). Additionally, the currently available literature mostly addressed college students' barriers to access mental health and few studies that addressed physical health are limited to a narrow target population such as a specific gender. Therefore, this study proposed to attempt to fill the gap in the literature by studying perceived barriers to seek health care among undergraduate population of mixed gender. The purpose of the current study was to determine if there were differences between health majors and non-health majors in perceptions on barriers to health care. A secondary purpose was to investigate college students' perceptions of barriers to accessing health care. Finally, the knowledge on differences in perception of barriers among these groups may be useful to design health care programs to suit the targeted population of students because a factor that might be perceived as a barrier to seek health care by students in a non-health major may not be perceived as a barrier by students in health based majors.

Chapter 2

Review of Literature

Importance of Accessing Health Care

An individual's ability to access health care has a significant effect on all aspects of his or her health (Healthy People, 2013). The Institute of Medicine defined access to health care as ''the timely use of personal health services to achieve the best possible health outcomes'' in a report on Access to Health Care in America (Simpson et al., 1997, p. 1). Also, access to health care is essential to individuals because regular access to medical services helps to prevent disease and disability, detect and treat illness at early stages, increase quality of life, decrease premature deaths and to increase life expectancy (Burg et al., 2010; Healthy People, 2013).

Health care access consists of four components: coverage, services, timeliness, and workforce (Healthy People, 2012). The first component is health insurance coverage which ensures access to health care among general population. The second component is services that include primary care providers (PCP), evidence-based practices, and emergency medical services. The third component is timeliness, which describes how quickly the health services can be provided to a patient. The final component is workforce, which is the number of practicing PCPs (Healthy People, 2012). Additionally, Healthy People 2020 (2013) points out that access to medical insurance and having a primary care provider are the leading health indicators of access

to health services. Moreover, data from Healthy People 2020 reveals that one out of four Americans does not have a regular primary care provider and one out of five Americans do not have medical insurance (Healthy People, 2013).

Various studies identified the effects of some of the major health care access components identified by Healthy People 2020 such as coverage, services, timeliness, and workforce on various diseases such as cancer, HIV, and mental illness. For instance, a study on adult women in Michigan revealed that individual healthcare access plays an essential role in adequate cancer screening (Akinyemiju et al., 2012). Also, a study by Wang, McLafferty, Escamilla, and Luo (2008) states that in diseases such as cancer, stage of cancer at diagnosis determines health outcomes and risks of mortality emphasizing the need of prompt access to health care for early detection of cancer. Additionally, delayed HIV diagnosis was identified as one of the many important missing links in a care-prevention continuum (Krawczyk, Funkhouser, Kilby, & Vermund, 2006). Finally, a lack of access or delayed access may lead to more advanced stages of HIV disease which then calls for intensive medication, hospitalization, and increase in mortality that can be prevented with appropriate access to care (Kinsler, Wong, Sayles, Davis, & Cunningham, 2007). Therefore, timely and effective access to mental health services was identified as an essential clinical practice and social policy concern (Gonzalez, 2005). Apart from these components, various socio-demographic factors act as barriers to access health care for several populations.

Barriers to Health Care for the General Population

It is essential to understand the nature of various factors that influence health care seeking among the general population. Using this understanding, policies and programs can be planned

effectively by addressing the constraints and enhancing the enabling factors that promote seeking of health care (Sharkey et al., 2011). So, barriers to health care among general population from literature were discussed below using the five subscales of the Barriers to Help Seeking Scale (BHSS) as a framework. The BHSS was used as a framework here because the instrument was also developed to measure barriers to men's help seeking (Mansfield et al., 2005).

Need for control and self-reliance. This subscale of the BHSS addresses a set of barriers related to aspects of masculine gender-role norms that demand men to be strong and autonomic (Mansfield et al., 2005). Under this subscale, items such as perceiving help-seeking as a weakness and help-seeking as a threat to personal autonomy were addressed (Mansfield et al., 2005). For instance, a study by Black and Woods-Giscombe (2012) identified that African American women endorse norms consistent with strength and autonomy such as self-reliance and psychological hardiness to survive stress from factors that are out of their control. In this process of survival of stress, important critical health-promoting behaviors such as breast cancer screening may be delayed (Black & Woods-Giscombe, 2012).

Minimizing problem and resignation. This subscale of BHSS addresses barriers related to a desire not to react excessively to a health problem (Mansfield et al., 2005). Items included in this subscale address the perceptions of a health problem as not worthy of receiving medical attention and of waiting until the medical problem becomes serious before seeking help (Mansfield et al., 2005).

Concrete barriers and distrust of caregivers. This subscale of BHSS includes barriers that reflect general reasons for not seeking health care such as lack of finances, transportation problems, lack of insurance, or distrust of medical personnel (Mansfield et al., 2005). These

barriers are materialistic and external to an individual such as money, travel, or other individuals in contrast to the remaining four subscales that are based on the feelings of the individual.

Financial difficulties. An inability to bear health care expenses and lack of health insurance cause delay in seeking treatment (Burg et al., 2010; Celeya et al., 2010). Additionally, a lack of health insurance or of a usual health care provider may reduce the likelihood of getting adequate mammography screening (Akinyemiju et al., 2012). Furthermore, high rates of late diagnosis of cancer may be more prevalent among population groups with low income as women in this group were less likely to seek age-appropriate mammography and other screenings (Wang et al., 2008). On the other hand, individuals with health insurance and regular health care providers may be less affected by a lack of health facilities in their county as their regular physician will be available to offer required services such as providing recommendations, sending reminders, and scheduling tests (Akinyemiju et al., 2012).

Travel and spatial access constraints. The distance an individual is required to travel to a health care facility may contribute to a delay in seeking health treatment. Moreover, travel problems such as long distance to health care centers, travelling in winter, and delays caused at border patrol check points were one of the important barriers that influence early detection of disease conditions (Burg et al., 2010). Also, limited geographical access to primary care physicians was identified as a significant barrier for delay in diagnosis of a disease (Wang et al., 2008). For instance, among HIV-infected women living in rural areas, physical health and transportation problems such as travel time more than 30-90 minutes and travel costs were identified as major barriers for missing HIV care appointments (Sarnquist et al., 2011). Therefore, identifying and understanding barriers that are specific to each region will help to design programs that can improve number of women being screened regardless of individual

barriers such as race/ethnicity, socio-economic status or area of residence (Akinyemiju et al., 2012).

Negative attitudes. Another major concrete barrier to attaining quality care was a variety of psychosocial factors such as anxiety about treatment, fears of recurrence of disease, anxiety about financial problems, depression, and ability to care for family members (Burg et al., 2010). Additionally, a fear of screening such as fear of pain or medical procedures was related to less frequent screening among the population in a study by Consedine, Adjei, Ramirez, and McKiernan (2008). For example, individuals' fears of testing positive for HIV screening, others' reactions towards them if they are discovered to have HIV, not being able to afford the care, and a lack of support were identified as some of the barriers to HIV testing (Schwarcz et al., 2011).

Cultural and communication issues. For the concrete barrier of cultural and communication issues, populations with low educational levels and high linguistic and sociocultural barriers pose a greater chance of late-stage cancer (Wang et al., 2008). Language barriers such as limited English proficiency and cultural barriers such as being of a racial/ethnic minority population magnify the barriers experienced by poverty and lack of health insurance coverage (Burg et al., 2010). For example, African-American men revealed greater screening fear than White-American men suggesting that fear of screening and prostate cancer as a common theme among minority men (Consedine et al., 2008).

Other barriers. Additional concrete barriers that were noted to influence health care seeking were status of insurance coverage, age, and marital status (Celeya et al., 2010). Further, the study revealed that uninsured, elderly and unmarried people are at higher risk for late stage diagnosis of breast cancer (Celeya et al., 2010).

Privacy. The privacy subscale of the BHSS addresses barriers regarding vulnerability and privacy issues (Mansfield et al., 2005). For example, the feeling of embarrassment regarding talking about health problems and feeling uncomfortable with being touched by someone for testing or screening were included in this section (Mansfield et al., 2005). In their studies, Schwarcz et al. (2011) and Joseph et al. (2011) revealed factors such as fear of testing positive for HIV screening and fear of others reactions towards them if they are known to have HIV were barriers to help seeking. Alternatively, participants identified a supportive, nonjudgmental environment with adequate privacy and confidentiality as important factors for promoting HIV testing (Joseph et al., 2011).

Emotional control. This subscale of BHSS addresses concerns related to restriction of emotions (Mansfield et al., 2005). Items such as "do not like get emotional" or "talk about feelings to others" and "would not want to look stupid for not knowing how to figure the problem out" were included in this subscale (Mansfield et al., 2005, p. 100). For instance, emotional distancing and suppression was a reaction endorsed among African-American women to deal stressing factors that were out of their control (Black & Woods-Giscombe, 2012).

Specific Health Problems of College Students

College students represent an important population to study access to health care (Eisenberg et al., 2007). Identifying their unmet needs will improve efforts to prevent and treat health disorders during this critical age in life. For example, the highest percentage of full-time undergraduate students are around 18 to 24 years with 31.4, 28.9, and 15.6 percentages for 18 and 19, 20 and 21, and 22 and 24 age groups respectively (National Center for Educational Statistics, 2012). As previously stated, delaying or failing to seek treatment for mental health

issues may lead to relapse with increased severity of the disorders (Blanco et al., 2008). Therefore, several studies are reviewed to identify specific health problems among college students and reported below.

HIV. Due to negative health behaviors, youth and college students under the age of 25 may be at greater risk for HIV than individuals of other age groups (CDC, 2014). For example, a study by Adefuye, Abiona, Balogun, & Lukobo-Durrell (2009) revealed that college students are engaged in behaviors which increase their risk of HIV, such as having multiple sexual partners, low condom usage, and low perception of HIV risk.

Drug/ alcohol abuse. Another major health issue among college students is drug/ alcohol abuse. Regarding this issue, a study by Blanco et al. (2008) reports that alcohol use disorders, personality disorders, and mood and anxiety disorders are the most prevalent disorders among college students. Another study revealed that alcohol abuse, tobacco, cannabis, and use of inhalants were prevalent among male students while tranquilizer use is prevalent among female students (Passos, Brasil, Santos, & Aquino, 2006). Additionally, one study revealed that heavy episodic drinking among college students between 18 to 24 years increased from 41.7 percent to 44.7 percent (Hingson, Zha, & Weitzman, 2009).

Mental illness. An additional major health issue among college students is mental illness. For example, one study revealed around 25 to 35 percent of undergraduate medical students suffered with significant behavioral symptoms of depression (Stecker, 2004). Additionally, a commentary by Adams (2004), a review of literature on four papers in the Journal of Medical Education, reveals that medical students experience more stress than general population of same age who are not students. Adams (2004) also notes that the stress experienced by the medical

students is similar to the stress levels of students of non-health majors such as English and law. Furthermore the causes of stress among medical students were noted to be low social support, study skills, academic progress, and aptitude related to a medical career (Adams, 2004). Contrary to the above mentioned studies, a study by Singh, Hankins, & Weinman (2004) states that medical education reduces health-related anxiety among medical students to a greater extent than non-medical students.

Barriers of College Students in Accessing Health Care

Health barriers among college students were divided into three categories in a study by Givens and Tjia (2002). The categories were (1) patient-based factors (2) system-based factors and (3) provider-based factors and the factors were based on the National Depressive and Manic Depressive Association's three main domains for obstacles to treatment. Firstly, patient-based factors include barriers such as lack of time, stigma, and patient feelings such as "Seeking help is a sign of weakness", "No one will understand my problems", and "My problems are not important" (Givens & Tjia, 2002, p. 920). Secondly, system-based factors include lack of confidentiality, cost, fear of unwanted intervention, fear of documentation, difficult access to care, and lack of availability of services. Finally, provider-based factors include lack of cultural sensitivity, lack of sensitivity to sexual identity issues, and usage of medication before trying psychotherapy (Givens & Tjia, 2002).

Need for control and self-reliance. This subscale of the Barriers to Help Seeking Scale [BHSS] addresses a set of barriers related to aspects of masculine gender-role norms that demand men to be strong and autonomic (Mansfield et al., 2005). Barriers such as perceiving help-seeking for health problems as a weakness and threat to their autonomy falls under this

subsection. For example, a barrier noted by Givens and Tjia (2002) was the perception of help-seeking as a weakness.

Minimizing problem and resignation. This subscale of BHSS addresses barriers as a result of a desire not to react excessively to a health problem (Mansfield et al., 2005). For instance, few of the related barriers identified by Givens and Tjia (2002) were stigma to use mental health services because students might be labelled as incompetent to secure residency positions, students thinking that no one will understand their problems, that their problems are not important, and the perception that help-seeking is a weakness.

Concrete barriers and distrust of caregivers. This subscale of BHSS includes barriers that reflect general reasons to not seek health care such as lack of finances, transportation problems, lack of insurance, or distrust of medical personnel (Mansfield et al., 2005). Some of these concrete barriers are discussed below:

Financial difficulties. Financial barriers were one of the major concrete barriers. Cost was reported as a major financial barrier among college students to seek health care for both mental and physical health care (Brimstone et al., 2007; Dearing et al., 2005; Givens & Tjia, 2002). Also, cost was categorized as a system-based factor that influences health care access among students (Givens & Tjia, 2002). Additionally, a study by Eisenberg, Hunt, Speer, and Zivin (2011) revealed that low treatment usage rates were noticed among students who grew up in families with lower incomes.

Negative attitudes. Opposing attitudes towards health problems and seeking health services was another major concrete barrier. For instance, some of the barriers faced by college students in seeking treatment for substance abuse were stigma associated with substance abuse

and failure of friends and family to recognize early signs and symptoms of the condition (Blanco et al., 2008). Additionally, other barriers identified by Givens and Tjia (2002) were stigma regarding the use of mental health services as they fear they will be identified as less capable of securing residency positions. Furthermore, students may perceive that no one will understand their problems, that their problems are not important, that help-seeking is a weakness. They may also have a fear of unwanted intervention and documentation on academic records (Givens & Tjia, 2002).

The fear of documentation on academic records was also reinforced by another study that revealed the concern of students being seen by peers or professors while waiting for psychiatric services as well as the perception of psychiatric diagnosis affecting their academic progress (Stecker, 2004). Also, worry of medical students about future connections with the health professional was considered as a major barrier to accessing mental and physical health care because of their concern that their current health issues might negatively affect their career opportunities (Brimstone et al., 2007). Additionally, the same study revealed that psychology students' concerns of seeking help from non-university centers are increased as they move through the final years of their degree because they would be seeking external training with those centers and it may negatively impact their future career prospects (Brimstone et al., 2007).

Cultural and communication issues. Another set of concrete barriers among college students were cultural and communication issues. For instance, barriers such as the lack of cultural sensitivity, lack of sensitivity to sexual identity issues, and the prescription of unnecessary medication instead of therapy were noted among college students (Givens & Tjia, 2002). Apart from this, differences in usage of treatment for mental health were also noted among college students of various ethnic groups (Eisenberg et al., 2011). For an example,

findings of the study revealed that white students were more likely to use mental health treatment services than Asians, African Americans, and Hispanics. Also, the study revealed being international (non-US citizen or resident), religious, and heterosexual (compared with gay, lesbian or bisexual) was associated with low treatment usage among students (Eisenberg et al., 2011).

Other barriers. There are few barriers to seeking health care identified in literature that could not be classified into a major category. For example, low availability of services, difficulty in accessing care, and lack of time (Dearing et al., 2005) to contact a physician and seek treatment were the other factors that were noted as barriers to seek health care among college students (Givens & Tjia, 2002).

Privacy. This subscale of BHSS addresses barriers regarding vulnerability and privacy issues (Mansfield et al., 2005). For instance, lack of confidentiality of their private information was identified as a major barrier among college students to seek health care for both mental and physical health care (Brimstone et al., 2007; Dearing et al., 2005; Givens & Tjia, 2002). Additionally, a study by Williams and Chapman (2011) suggested that privacy and confidentiality levels were considered by students when choosing a mental health service center other than their school health center. This is because students were afraid they would be bullied and victimized if they were known to have a mental illness (Williams & Chapman, 2011).

Emotional control. This subscale of BHSS addresses concerns related to restriction of emotions (Mansfield et al., 2005). Factors such as students' "not liking to get emotional about their problems" and that they "don't want to look stupid for not knowing how to handle their problems" falls under this subsection (Mansfield et al., 2005, p. 100).

Health Behaviors of Medical Students

Knowledge of health behaviors of medical students might be helpful to compare perceived barriers between students of health-based majors and non-health-based majors. Studies reported significant differences between medical students and general population. For instance, medical students were reported to show better health indicators such as diet, exercise routine and clinical factors (body mass index, waist circumference, cholesterol levels, insulin resistance, and blood glucose levels) than the general population of young adults (Clair et al., 2004).

Additional studies also reported significant differences of perceived barriers among medical students by the factor of gender. For instance, males exhibited more health risk factors than females such as more drinking and less seat belt usage (Clair et al., 2004). On the other hand, female medical students were more likely to perform breast self-exam than compared to women from general population of same age (Konen & Fromm, 1992).

In addition to the above mentioned health behavior patterns among medical students, differences among medical and non-medical student were also noted. For example, medical students were more self-directed and were more likely to engage in health promoting behavior compared to law students (Coe, Miller, Wolff, Prendergast, & Pepper, 1982). Moreover, the study reported same pattern in practicing physicians and lawyers. Also, both medical students and practitioners showed lower percentage of cigarette smoking and higher usage of seat belts than the general adult population (Coe et al., 1982; Konen & Fromm, 1992). Furthermore, the study suggested that the healthier behavior must have evolved with training among medical students (Konen & Fromm, 1992).

Health Belief Model

According to the Health Belief Model (HBM), a health behavior can be explained based on perceived seriousness and perceived susceptibility to a potential health issue, perceived benefits and barriers of taking action, cues to action, motivation, and self-efficacy (Holland et al., 2014). The HBM was used as a framework in several studies such as to examine college students' perceived benefits, barriers, cues to action, and their extent of involvement in vigorous physical activity (King, Vidourek, English, & Merianos, 2014); to pilot-test a curriculum to increase awareness related to cardiovascular disease among African-American college students (Holland et al., 2014); and to examine stress management among college students (King, Singh, Bernard, Merianos, & Vidourek, 2012). These studies identified the factors that were considered as perceived barriers, perceived benefits, cues to action, and motivation factors respective to their studies (Holland et al., 2014; King et al., 2012; & King et al., 2014). For instance, the factors identified by King et al., (2014) in his study about students' extent of involvement in vigorous physical activity were: perceived benefits such as improvement in health, improvement in appearance, and maintaining healthy weight; perceived barriers such as school workload, job, and lack of motivation; and cues to action such as wanting to look physically fit, looking at self in mirror, having an exercise partner, and having a friend who exercises. Further, with the help of HBM as theoretical framework, these studies designed awareness programs, explained the findings, and discussed the conclusions (Holland et al., 2014; King et al., 2012; & King et al., 2014). In the study by King et al., (2014), the HBM was used to suggest that perceived benefits, barriers, and cues to action were important factors in predicting specific behaviors such as significantly higher number of perceived cues were observed in students who had parental and peer engagement and encouragement in vigorous physical activity. In the current study, the

HBM can be used to explain the health behavior of college students of not seeking health care and the model can be useful in recommending future actions to design interventions for students to seek health care (King et al., 2014).

Summary

Individual access to health care is essential for improving the quality of life (Healthy People, 2013). Also, having health insurance and a regular primary care physician are noted as leading health indicators (Healthy People, 2013). On the other hand, the factors that influence general population to not seek health care were financial difficulties, lack of health insurance, travel and special constraints, negative attitudes of patients on health care providers, and cultural and communication issues (Burg et al., 2010). Apart from this, specific health issues identified among college students include alcohol abuse, drug abuse, and mental illnesses such as depression and anxiety disorders (Blanco et al., 2008). Additionally, major barriers to seek health care among college students were cost, stigma, lack of confidentiality, various fears, and cultural issues such as ethnicity (Brimstone et al., 2007; Eisenberg et al., 2011; Givens & Tjia, 2002). Various studies noted that medical students were more self-responsible and exhibited healthier lifestyle behaviors compared to general population and non-medical students (Clair et al., 2004; Coe et al., 1982; Konen & Fromm, 1992). These changes in health behavior may have evolved with training among the medical students (Konen & Fromm, 1992). The HBM can be used as a framework to explain the health behavior of the college students in the study and recommend future actions to design interventions for students to seek health care (King et al., 2014).

Chapter 3

Methodology

Participants

The individuals that were targeted for participation in the research were undergraduate students enrolled in on-campus sections of an introductory personal health course at a midsized Midwestern University. Participants included both males and females above 18 years of age, any race, and any year of undergraduate degree (freshman, sophomore, junior or senior). The total enrollment for the on-campus sections of the introductory personal health course in the Fall 2014 semester was 480 students.

Recruitment of Study Participants

The study participants were recruited using a census method of students enrolled in the on-campus sections of a personal health course at a Midwestern university. With the census method, data are collected on the entire population (Statistics Canada, 2013). Therefore, the sample size was equal to the population size. All the students in all the sections in the introductory personal health course were recruited to participate in the study through an announcement posted in announcement section of the course blackboard site and an email was sent to class students with an informed consent letter (See Appendix A) as an attachment by the course instructors. The course coordinator and the course instructors of all sections of the

introductory personal health course were requested to provide extra credit and alternative assignment students. The students were asked to click the link to the online survey that was provided in the blackboard announcement and email, and then complete and submit the survey if they wished to participate. Only submitted surveys were considered for the final study analysis. The students were awarded extra credit for participation and an alternative assignment with the same credit based on availability of incentive option in their course section or by their faculty member regardless of unanswered questions or discontinuation of the survey. The participants could redeem the extra credit through submitting the printout of the thank you at the end of the survey to their course instructor. The name of the study was not recorded on the thank you screen to protect confidentiality. The informed consent letter explained the purpose and procedure of the research and requested students to voluntarily participate in the study, and explained the risks and benefits associated with participation however, there was no greater than minimal risk identified for this study. There were no direct benefits and indirect benefits included assisting in designing interventions to minimize the barriers that students experience to accessing health care. The informed consent also stated that student's personal and participation information would be confidential.

The records were stored on a password protected laptop with the principal investigator and only limited number of people (members of the thesis committee) has access to the collected information. The recorded data would be maintained for a minimum of three years after completion of the research. This research study required the use of human subjects; hence, the required forms from the Institutional Review Board (IRB) were completed and submitted. After the IRB approved the research proposal, the students were recruited and data collection was initiated.

Study Design

The design of the current study was cross-sectional, which was an observational study design. A cross-sectional study design could be used to assess practices, attitudes, knowledge, and beliefs related to a health issue in a population at a particular point of time (Silva, 1999). This study used an online survey to obtain data on perceived barriers to access health care among undergraduate students from an introductory personal health course in the Fall 2014 semester (Dearing et al., 2005; Glassman, Dodd, Sheu, Rienzo, & Wagenaar, 2010; Khraim, Scherer, Dorn, & Carey, 2009; Singh et al., 2004).

Instrumentation

Description of the instrument. The variables in the Barriers to Help Seeking Scale (BHSS) developed and measured by Mansfield et al. (2005) using a self-report questionnaire. The original version of the scale consisted of 54 items to measure barriers to help seeking. Later, the scale was reduced to 31 items based on five factors (need for control and self-reliance, minimizing problem and resignation, concrete barriers and distrust of caregivers, privacy, and emotional control) for the final published version (See Appendix B). Participants rated each item on a five-point Likert scale with ‘0’ being ‘not at all a reason’ to ‘4’ being ‘very important reason’. The scores for each subscale were obtained by summing each item in that section and the scores of all subscales were summed to obtain a total score. Higher total scores indicated more barriers to health seeking (Mansfield et al., 2005). The author of the current study also used the same scoring method for the survey (See Appendix B).

Table 1

The BHSS Subscales and Number of Items for Each Subscale.

Subscale	Abbreviation	No. of items
Need for Control and Self-Reliance	NCS	10
Minimizing Problem and Resignation	MPR	6
Concrete Barriers and Distrust of Caregivers	CBDC	6
Privacy	P	5
Emotional Control	EC	4

Development of the Instrument. Literature on gender-role strain and gender-role conflict was reviewed to design the BHSS (Mansfield et al., 2005). A list of potential barriers was generated and one to four items was created for each barrier. The barriers were based on gender-role norms, social-psychological processes and other concrete barriers to help-seeking. Gender role norms are expectations that men should be self-reliant, emotionally controlled, and strong. The social psychological principles that were involved in development of BHSS were the ego-centrality of a problem, the normativeness of a problem, reactance, and reciprocity. These principles were regulated by the need to maintain autonomy. Concrete barriers were factors such as the lack of time, money, or transportation. The original BHSS was only administered to undergraduate men in a paper survey format (Mansfield et al., 2005).

Reliability and Validity. The BHSS has good reliability and validity scores. The coefficient alphas ranged from .79 to .93 for the subscales indicating good to excellent internal consistency (Mansfield et al., 2005). The internal consistency for the complete scale was .95. The BHSS total score was correlated with the Gender Role Conflict Scale (GRCS) total score (r= .58, p< .01).

Each of the subscales of BHSS showed small to moderate correlation with each of the GRCS subscales (Mansfield et al., 2005).

Variables

The survey that is utilized in this study was designed to measure perceived barriers to seeking health care among college students (See survey in the Appendix B). The survey included both multiple-choice questions and Likert-scale questions. The variables in the survey were divided into two sections: (1) demographic information; and (2) perceived barriers for health and non-health students for accessing health care. Demographic variables consist of age, class year, college, major, ethnicity, and health insurance (See Section I of Appendix B). The nature of the variables 'age' and 'class year' was ordinal and the nature of the variables 'college', 'major', 'ethnicity', and 'health insurance' was categorical.

In the second section, the variable was the type of perceived barriers for not seeking health care, and the nature of these questions is ordinal (See Section II of Appendix B). The variables in this section were relevant to the research hypothesis. The independent variable for this study was –health-based major (yes/no) and the variable was measured in terms of college (that is offering their major of study). Dependent variables included types of barriers including need for control and self-reliance, minimizing problem and resignation, concrete barriers and distrust of caregivers, privacy, and emotional control.

Data Collection Methods

The survey was pilot-tested to gather feedback on the length of the questionnaire and clarity of the questions on two students (one male and one female) from the introductory personal health course. The instrument was pilot-tested after consultation with the Interim Chair

of the Institutional Review Board (IRB). The students were sent the online survey link to their college e-mail address and were asked to take the survey. The time taken to complete the survey was recorded. After completion of the survey, the students were asked questions about their thoughts concerning the length of the survey and clarity of questions. The suggestions from the students were considered and appropriate changes were made to the survey.

An announcement was sent to the students on the course's Blackboard course management site and an email with informed consent form (See Appendix A) as an attachment was sent by the course instructors. The informed consent letter informed participants that the survey was part of a graduate student thesis about the perceived barriers to seek health care among college students along with informed consent. Students were informed that they could discontinue the survey at any point without consequences however; their submitted answers could not be deleted because there was no way to identify any individual's answers. Students were informed that incomplete surveys would not be considered for the study. Students were also informed that the information they provided in the survey would be confidential and starting of the survey would indicate their consent. Any identifiable information such as IP address of the participant was not recorded.

Qualtrics survey system was used to generate the surveys. Upon clicking on the link to survey, students were provided instructions to complete the survey followed by the questionnaire items. The survey was a one-time self-reportable questionnaire and it would have taken approximately 5 to 10 minutes to complete it. The survey could have been completed anytime the students wish within the survey availability period. The submitted surveys from the participants were collected electronically.

The method of data collection was quantitative because all questions on the survey were either multiple-choice or Likert-scale items (except for one open-ended question at the end of the survey; See Appendix B). The second section of the survey was based on the original Barriers to Help Seeking Scale (BHSS) developed and used in a study by Mansfield et al. (2005). Permission was obtained from the author to use the BHSS in this study (See Appendix C).

Data Analysis

The data was analyzed using SPSS 20. Descriptive statistics (e.g., frequencies, percentages, means, and standard deviations) were generated to provide a summary of the sample. For each participant, the total score for each subscale was calculated and the mean subscale score was compared between health-based majors and non-health-based majors. A t-test was used to analyze the difference between health and non-health based majors for each subscale. Furthermore, the Chi-square test of association was used to compare perceptions of barriers between health and non-health majors. Furthermore, the responses of the open-ended question was coded and sorted into categories based on themes that were observed. The coded data was analyzed, summarized and reported in the study findings.

Summary

The participants of the study were undergraduate students from health and non-health majors at a midsized Midwestern University. The participants were recruited from an introductory personal health course. A census method was used to recruit participants. Students were recruited to participate in the study through a blackboard announcement and an email with informed consent form as an attachment from the course instructor along a web link to the survey. A cross-sectional study design was used for the study. The main survey (BHSS) for the

current study was used from the original survey developed and used in a study by Mansfield et al. (2005). The independent variable in the current study was college (that is offering their major of study). The dependent variables for the study were types of barriers to seek health care that were need for control and self-reliance, minimizing problem and resignation, concrete barriers and distrust of caregivers, privacy, and emotional control. Data was collected electronically using the Qualtrics survey software. The survey aimed to collect quantitative data and one qualitative data question (open-ended question). The quantitative data was analyzed using SPSS to analyze descriptive statistics, and Chi-squared statistics. The qualitative data was coded, categorized, analyzed, and summarized.

Chapter 4

Results

The main purpose of the study was to determine if there were differences in types of perceived barriers based on the Barriers to Help Seeking Scale (BHSS). The subscales of the BHSS included Need for Control and Self-reliance, Minimizing Problem and Resignation, Concrete Barriers and Distrust of Caregivers, Privacy, and Emotional Control to seeking health care between undergraduate health-based majors and undergraduate non health-based majors. For this purpose, an online survey including demographic information questions and an online version of the BHSS was used to obtain information from the study participants on their perceived barriers to seek health care.

All instructors of face-to-face sections of an introductory personal health course were invited to provide the survey to their students at beginning of the Fall 2014 semester (online sections of the course were not considered for the study). Instructors of eight sections agreed to provide the survey. These instructors announced the survey on their course Blackboard sites and sent an email to students' college email as requested by the principal investigator. Also, all instructors agreed to provide extra credit to students for their participation in the survey and an alternative assignment for students who did not want to participate in the survey. The survey was announced to a total of 320 students (approximately 40 students were present in each of the eight

sections) and 255 students responded by clicking the online survey link provided in the announcement. Three participants were under 18 years of age making them ineligible to participate in the survey; these students were directed to end of the survey so they would be unable to submit responses to survey items. Four eligible participants began taking the survey but did not complete it; hence, their surveys were not included in data analysis. Therefore, the total number of surveys included in the analysis was 248.

The demographic characteristics of the study population were reported in Table 2. The majority of the participants were of the age range of 18-19 years, females, White Americans, and in their freshman year (Table 2). As discussed in Chapter 3, health-based major (yes/no) was the independent variable for the study and the variable was measured in terms of college of study. Based on the college of participants, 114 students (46 %) were from health-based majors (College of Nursing, Health, and Human Services (CNHHS)) and 127 students (51.2 %) were from non-health-based majors (College of Arts and Sciences (CAS), College of Business (CB), College of Education (CE), and College of Technology (CT)) (See Table 2).

Table 2

Demographic Characteristics of Participants (N=248)

Characteristics	*n*	*%*
Age		
18-19 Years	181	73.0
20-21 Years	55	22.2
22-23 Years	3	1.2
24-25 Years	5	2.0
26 or older	4	1.6
Gender		
Male	41	16.5
Female	207	83.5
Race		

Characteristics	*n*	*%*
White American	156	62.9
Native American	0	0
African American	49	19.8
Hispanic	7	2.8
Asian American	6	2.4
International	14	5.6
Multi-racial	12	4.8
Other	3	1.2
Missing responses	1	0.4
Class Year		
Freshman	123	49.6
Sophomores	93	37.5
Juniors	27	10.9
Seniors	4	1.6
Missing responses	1	0.8
College		
CNHHS	114	46.0
CAS	68	27.4
CE	30	12.1
CT	6	2.4
CB	23	9.3
Not decided yet	7	2.8

Out of 248 participants, 246 participants responded to the question “Do you have health insurance” and all the responses were included in cross-tabulation analysis. The findings reveal that majority of participants from all colleges have health insurance and overall, 82.7 percent of total population have health insurance. The distribution of health insurance status of participants by college is summarized in Table 3.

Table 3

Health Insurance Status of Participants by College (N=246)

College	Health Insurance			
	Yes		No	
	n	*%*	*n*	*%*
CNHHS	96	84.2	16	14.

College	*n*	*%*	*n*	*%*
CAS	54	79.4	14	20.6
BCE	27	90.0	3	10.0
CT	3	50.0	3	50.0
SCB	19	82.6	4	17.4
Not decided	6	85.7	1	14.3
Total	205	82.7	41	16.5

For further analysis, the surveys with missing data (*N*=28) and the surveys with undecided college (*N*=7) were excluded from total data *(N*=248), leaving 102 surveys under health based majors and 111 surveys under non-health-based majors. Subscales scores were calculated by summing the scores on each item within each factor. Then, the total score was calculated by summing scores for the following subscales: Need for Control and Self-reliance (NCS), Minimizing Problem and Resignation (MPR), Concrete Barriers and Distrust of Caregivers (CBDC), Privacy (P), and Emotional Control (EC). Higher total scores indicate a participant perceived more barriers to seeking help with health care. Mean (*M*) scores and Standard Deviation (S.D.) values were separately computed for the five subscales and the total scores of the BHSS for health based majors and non-health based majors (See Table 4).

To test the hypothesis that the mean scores of types of perceived barriers (NCS, MPR, CBDC, P, and EC) for seeking health care were significantly different between students with health-based majors and students with non-health-based majors, an independent sample *t*-test was performed and 213 participants were included for this analysis. The reason for including only 213 participants was that the participants with missing data under any of the subscales could not be included in the calculation of subscale scores and total BHSS scores. Thus, group sizes varied for each category under subscale due to missing data for specific category (Table 4). Consequently, such surveys could not be included in the hypothesis test analyzing the data with the *t*-test.

To analyze the data with a t-test for independent samples, the assumption of homogeneity of variances had to be tested and satisfied via Levene's *F* test. The assumption of homogeneity of variances was satisfied for the total BHSS score and the NCS subscale. However, this assumption was not satisfied for the MPR, CBDC, P, and EC subscales, resulting in the use of the *t*-test results for unequal variances for these subscales. The independent samples *t*-test was associated with statistically significant effect for total scores, and all subscales (Table 4). The two tailed significance values were divided by two to obtain one tailed significance level values to test the hypothesis. Results of test were at the significance level (α=0.05). Thus, the health-based majors were associated with statistically lower mean scores for types of perceived barriers than the non-health based majors.

Table 4

Comparison of Means for the BHSS Subscales Scores Between Health-based and Non-health based Majors (N=213).

	Health-based Majors			Non-health-based Majors			*t*	*df*	*Sig.* (2-tailed)
	n	*M*	*S.D*	*n*	*M*	*S.D*			
Subscale									
NCS	107	17.18	7.27	118	19.92	8.34	-2.612*	223	.010*
MPR	109	14.61	5.28	124	16.35	5.97	-2.373*	230.987	.018*
CBDC	111	10.95	4.71	125	13.40	5.40	-3.725*	233.926	.000*
P	111	10.32	4.27	124	11.52	4.62	-2.056*	232.766	.041*
EC	113	8.25	3.69	122	9.45	3.93	-2.419*	232.953	.016*
Total scores	102	60.14	19.17	111	70.40	23.95	-3.433*	211	.001*

Note. *= $p \leq .05$.

To test the association between the variables of academic college (health-based major or non-health related major) and the likeliness of seeking help for a health problem, a Chi-square test was performed (Table 5). For this analysis, 245 participants were included; the reason for this was that all of the participants who responded to the question related to likeliness of help seeking for a health problem were included. The question was a 7-point Likert scale question at the beginning of section II in the survey (Appendix B). For the purpose of this analysis, the seven Likert scale responses categories were combined into three categories (1 & 2 into "not at all likely"; 3,4, & 5 into "somewhat likely"; and 6 & 7 into "extremely likely"). The responses were combined into fewer categories because the study population was small, and it would have resulted in fewer frequencies than adequate in each cell of the cross-tabulation table. The college of the student showed a significant association with likelihood of seeking help (p=.001). Due to their nonresponse to this survey item, three participants were eliminated from the analysis of data collected with this survey item. Although the association between academic college and help-seeking behavior was statistically significant (p=.001), the Cramer's V (Φ) value of .18 indicates only a small to moderate effect.

Table 5

Cross-tabulation of Major and Likeliness of Help Seeking for a Health Problem (N=245).

	Health		Non-health		Not decided				
	n	*%*	*n*	*%*	*n*	*%*	χ^2	*p*	Φ
Major									
Not at all likely	4	3.6	21	16.5	0	0	15.679*	.003*	.18
Somewhat likely	64	57.7	55	43.3	6	85.7			
Extremely likely	43	38.7	51	40.2	1	14.3			

Note. *= $p \leq .05$.

In addition to the multiple-choice questions provided in the BHSS, the researcher incorporated an open-ended question to obtain information on any other barriers that prevent participants from seeking help other than the barriers mentioned in the BHSS. Of the study participants (N=248), 123 participants (49.6 %) responded to the question, and 125 (50.4 %) skipped the question. Of the 123 respondents, 44 respondents specified their perceived barriers for seeking health care and 79 respondents responded to this question with “none”, “no”, or “not applicable”. The 44 provided responses were further analyzed based on the BHSS subscales. Of these responses, 34 (77.3 %) were associated with the Concrete Barriers and Distrust of Caregivers (CBDC) subscale, five (11.4 %) were associated with the Minimizing Problem and Resignation (MPR) subscale, and five (11.4 %) were associated with Privacy (P) subscale (Table 6).

Table 6

Summary of Open-ended Question Responses and Related BHSS Subscales (N=44)

Responses	*n*	*%*	Corresponding BHSS Subscale
Lack of money to pay for services.	8	18.2	Concrete Barriers
No health insurance or not knowing if my insurance will cover the services.	5	11.4	Concrete Barriers
Transportation difficulties.	4	9.1	Concrete Barriers
Hard to make an appointment around school and work schedules.	4	9.1	Concrete Barriers
Too shy or low self-confidence to admit my problems.	4	9.1	Concrete Barriers
Do not want my parents or others to know and judge me based on my health problems.	4	9.1	Privacy
Would seek advice from family members first.	3	6.8	Minimizing problem and resignation
I can fix it myself or will wait till serious.	2	4.5	Minimizing problem and resignation

Responses	*n*	*%*	Corresponding BHSS Subscale
Religion.	2	4.5	Concrete Barriers
Alcohol.	2	4.5	Concrete Barriers
Afraid of results.	1	2.3	Concrete Barriers
Language problem.	1	2.3	Concrete Barriers
Some health personnel are rude	1	2.3	Concrete Barriers
Do not want opposite sex health personnel touching me.	1	2.3	Privacy
Other barriers such as not having a routine doctor	1	2.3	Concrete Barriers
Not wanting to seek treatment due to suicidal tendencies.	1	2.3	Concrete Barriers
Total	44	100	

Summary

To collect data for the current study, the availability of an online survey (primarily composed of questions from the Barriers to Help Seeking Scale) was announced in eight face-to-face sections of an introductory personal health course. A total of 320 students were enrolled in these eight sections of the course. Of the 320 students, 255 students responded by clicking the survey link; however, due to age requirements and incomplete responses to the survey, data collected from only 248 participants were included in the statistical analysis for the current study.

In the current study, the majority of the participants in the sample was 18-19 years of age, females, White Americans, in their freshman year (Table 2), and had health insurance (Table 3). Based on the academic college of participants, the number of students in the health-based majors group was only slightly less than the number of students in the non-health based major group (Table 2). Results of the analysis with *t*-test for independent samples indicated that the difference in perceived barriers for seeking help between health-based majors and the non-health based

majors was statistically significant (Table 4). Furthermore, results of the analysis with the Chi-square test for independence indicated a a statistically significant association between type of major (health-based or non-health based) and the likelihood of seeking help for a health problem; however, Cramer's V indicated results of this analysis indicated only a weak significant association between the type of major of participants and the likelihood they would seek help for a health problem (Table 5). Finally, analysis of the results of an open-ended question indicated the most frequent type of barrier expressed by participants responding to this question was that of Concrete Barriers, which include financial difficulties, transportation, lack of time, and others (Table 6).

Chapter 5

Discussion

The major aim of the current study was to determine if there was a difference in the type of perceived barriers to seeking health care between undergraduate students with health-based majors and undergraduate students with non-health-based majors. The results indicated that the total mean scores and five subscales' scores (Need for Control and Self-reliance [NCS], Minimizing Problem and Resignation [MPR], Concrete Barriers and Distrust of Caregivers [CBDC], Privacy [p], and Emotional Control [EC]) of the Barriers for Seeking Health Care (BHSS) were significantly higher for non-health based majors than for health-based majors.

To the researcher's knowledge, the current study was the first study to compare barriers to seeking health care between undergraduate health-based majors and non-health based major. However, results of the current study were supported by the findings of Clair et al. (2004), which indicated medical students demonstrate better health indicators such as diet, exercise routine and clinical factors (body mass index, waist circumference, cholesterol levels, insulin resistance, and blood glucose levels) than general population. Results of the current study were also supported by the findings of several studied (Coe et al., 1982; Konen & Fromm, 1992), which reported differences in health behavior between medical students and non-medical students such as medical students being more self-directed and more likely to engage in health promoting

behaviors than non-medical students provides support for the current study findings. Additionally, Konen and Fromm (1992) explains that the healthier behavior must have evolved with training among medical students. The study findings of independent samples *t*-test and Chi-squared test were consistent with the findings of studies by Clair et al. (2004); Coe et al. (1982); and Konen and Fromm (1992) based on Health Belief Model (HBM).

For the aim of determining college students' perceived barriers for seeking health care, an open-ended question was asked in the survey to mention any additional barriers to seek health care apart from the barriers mentioned in the BHSS. The responses were categorized based on the BHSS subscales and majority of responses were concrete barriers, with few privacy barriers, and minimizing problem and resignation barriers. As reported by Blanco et al. (2008) that alcohol abuse was most prevalent among college students, alcohol was mentioned as a barrier for not seeking help in this survey. It was mentioned as a barrier because probably the respondent did not want others to know that the illness was due to alcohol abuse. Additionally, other barriers that were mentioned in the literature (Brimstone et al., 2007; Eisenberg et al., 2011; Givens & Tjia, 2002) were also observed in the responses such as financial difficulties, lack of insurance, transportation problems, lack of time to schedule health care appointments, not wanting parents to know about their health problems, wanting to wait until the problem is serious and others. Finally, the types of perceived barriers of BHSS that most of studies in literature review mentioned were minimizing problem and resignation, concrete barriers and distrust of caregivers, and privacy (Brimstone et al., 2007; Dearing et al., 2005; Eisenberg et al., 2011; Givens & Tjia, 2002). Interestingly, the responses to the open-ended question also reflected the same types of perceived barriers (See Table 6).

Conclusions

Findings of the current study suggest that non-health-based majors' students perceived more barriers to seek health care than students in health-based majors. One reason may be that students in health-based majors being self-directed and engaging in health promoting behaviors as a result of training on health issues.

Based on the participants' responses to the added open-ended question, the majority of barriers (including cost, transportation, or time to seek health care services) perceived by students seemed to belong to the category of Concrete Barriers and Distrust of Caregivers. The reason for this pattern may be that concrete resources such as money, transportation, or time are basic and external requirements to seek help for a health problem (Akinyemiju et al., 2012). Therefore, individuals might lack basic concrete resources to access health care at the student level and most students might not have experienced other barriers reported in the study.

Also, the conclusion that students with perceived barriers tend to avoid seeking help to their health problems can be supported by the HBM. According to the HBM, individuals with higher perceived seriousness and perceived susceptibility to a health issue would seek help for the health problem (Holland et al., 2014). Based on this model, medical students having more knowledge about various health issues would seek help to any health issue trying to minimize their perceived barriers and hence, health-based students might have lower perceived barriers to seek health care. In the current study, students with health-based majors having knowledge about various health issues as a result of training (Konen & Fromm, 1992) would have more perceived seriousness and perceived susceptibility about a health problem because increased knowledge might result in improved health behaviors (Holland et al., 2014). Therefore, health-based

majors' students' potential perceived benefits such as improved health (King et al., 2014) would help to seek health care immediately outweighing the perceived barriers such as cost, time, or transportation.

Recommendations

In order to minimize college students' perceived barriers to accessing health care, public health professionals and university personnel should consider the perceived barriers and design programs to minimize those barriers based on constructs from the HBM. Findings from the current study as well as those from future studies can inform professionals in the design of such programs.

Based on the findings of the current study, college students in non-health-based majors should be considered as a target population for these programs mitigating perceived barriers to seeking health care. However, another important target population for these health promotion programs would be students in introductory level courses such as personal health course because every undergraduate student would be required to take those courses and in this way, all undergraduate students could be reached.

In addition to addressing perceived barriers, students should also be educated about the severity and susceptibility of various health problems that are common among college students such as HIV, alcohol abuse, mental illness, and other health issues. Health programs may increase students' awareness of a disease such as its symptoms, modes of transmission, precautions, screening tests, and treatment options. Students should be motivated to take action by being provided various cues such as posters, seminars or free screenings related to most prevalent health issues among college students. Thus, university administrators, faculty, and staff

should encourage and support student health centers in educating and motivating students to seek health care when needed.

Finally, further research targeting a broader population than used in the current study is recommended to examine repeatability of the study results. The current study included a narrow population of 248 undergraduate students from a personal health course at a Midwestern university and 83.5 percent of the population was females (See Table 2). Therefore, future research could be conducted using a large population so that a relationship between the major of study and perceived barriers among students of individual genders, age groups, and ethnicities could be studied. Apart from this, future studies focusing on differences of perceived barriers to seeking health care between students of various cultures in seeking health care could be valuable. Additionally, studies could be conducted concerning barriers to health care related to specific illnesses and conditions such as HIV, alcohol/drug use, and mental illness.

Finally, future research could use more qualitative questions to obtain in-depth information about perceived barriers of college students. In present study, only one open-ended question was asked about any additional barriers that the students could identify that were not present in the survey. Although the responses were helpful to state the types of barriers, including more open-ended questions focused on explanation of their perceived barriers could be helpful in understanding in what way a barrier is affecting an individual. For example, few participants mentioned religion as a barrier. In that case, we could only state that religion was a barrier but we cannot explain how religion was affecting an individual to not seek health care. This type of in-depth information could be more helpful to design customized health programs that are specific to each population of college students.

Summary

The higher total mean scores indicated that health-based majors' students had lower barriers to seeking health care than those reported by students of non-health based majors. Reviewed literature suggested medical students have better health indicators and health behaviors compared to other students (Clair et al., 2004; Coe et al., 1982; Konen & Fromm, 1992). The study also reveals that concrete barriers were most prevalent barriers among the college students. The conclusion that students with perceived barriers tend to avoid seeking help to their health problems could be supported by the HBM. Recommendations suggest public health professionals and university personnel use the findings of the current study as a guide for designing health awareness programs for students and focus on specific health issues relevant to college students. Finally, future research was recommended for testing repeatability and also to study various genders, age groups, ethnicities, and specific health issues that prevalent among college students.

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Appendix A: Informed Consent Letter

Informed Consent Letter

You are being recruited to participate in a research study about college students' perceptions of barriers for seeking health care. This study is being conducted by Harika Medavarapu, a candidate for the degree of Master of Science in Health Sciences with a concentration in Public Health, and is supervised by Dr. Maureen Johnson, associate professor from the Department of Applied Health Sciences at Indiana State University. The study is being conducted as part of thesis.

You were selected as a possible participant in this study as you are a student of the introductory personal health course. The study is investigating the perceptions of undergraduate students from the College of Nursing, Health, and Human Services (CNHHS), College of Arts and Sciences (CAS), College of Business (CB), College of Education (CE), and College of Technology (CT) at the Indiana State University about barriers for seeking health care.

There are no known risks if you decide to participate in this research study and there are no costs to you for participating in the study. The students will be awarded an extra credit for participation and for the students who do not wish to participate, an alternative assignment with the same credit will be made available by the course instructor. While the information collected may not benefit you directly, it will assist in the design of interventions that minimize the barriers that students experience to access health care. The questionnaire will take about 5-10 minutes to complete.

This survey is anonymous and no personally identifiable information (Eg: your IP address) will not be collected. However, absolute anonymity cannot be guaranteed. No one will be able to identify you or your answers, and no one will know whether or not you participated in

the study. The Institutional Review Board may inspect these records. Should the data be published, no individual information will be disclosed.

Your participation in this study is voluntary. By clicking on the web link and completing the survey, you are voluntarily agreeing to participate. You are free to decline to answer any particular question you do not wish to answer for any reason. Only submitted surveys will be considered for the study.

If you have any questions about the study, please contact Harika Medavarapu at hmedavarapu@sycamores.indstate.edu or Dr.Maureen Johnson at Maureen.Johnson@indstate.edu.

If you have any questions about your rights as a research subject or if you feel you've been placed at risk, you may contact the Indiana State University Institutional Review Board (IRB) by mail at Indiana State University, Office of Sponsored Programs, Terre Haute, IN, 47809, by phone at (812) 237-8217, or by e-mail at irb@indstate.edu.

Appendix B: Survey

Survey:Perceptions of College Students on Barriers for Seeking Health Care.

Section I: Demographic Information

1. What is your age?
    1. Under 18 years
    2. 18-19 years old
    3. 20-21 years old
    4. 22-23 years old
    5. 24-25 years old
    6. 26 or older

2. What is your gender?
    1. Male
    2. Female

3. What class year are you currently in?
    1. Freshman
    2. Sophomore
    3. Junior
    4. Senior

4. What college is your major in?

1. College of Nursing, Health, and Human Services
2. College of Arts and Sciences
3. Bayh College of Education
4. College of Technology
5. Scott College of Business
6. Not decided yet

5. What is your major?----------

6. What is your race?
    1. White American
    2. Native American
    3. African American
    4. Hispanic
    5. Asian American
    6. International (all others countries except from the United States of America)
    7. Multi-racial
    8. Other

7. Do you have health insurance?
    1. Yes
    2. No

Section II: Barriers to Help Seeking Scale

There are a variety of reasons why people choose to seek help or not seek help from doctors, nurses, or other medical professionals. We're interested in the sorts of reasons why you might choose not to seek help for a particular problem.

Imagine that you begin to experience some pain in your body. The pain is not so overwhelming that you can't function. However, it continues for more than a few days and you notice it regularly. You consider seeking help from a medical doctor or other clinician at the student health center.

How likely would you be to seek help for this health problem? (Please circle a number to indicate your answer).

1	2	3	4	5	6	7
Not at all likely			Somewhat likely			Extremely likely

Below are some reasons why you might not seek help. **Please read each reason and decide how important it is in keeping you from seeking help.** If you think that a reason is very important in keeping you from seeking help, you should circle a 4. If you think that a reason is not at all important, you should circle a zero. You can also circle any number in between to indicate how important a reason is for not seeking help.

Not at all a reason				Very important reason
0	1	2	3	4

1.	I would think less of myself for needing help.	0	1	2	3	4
2.	The problem wouldn't seem worth getting help for.	0	1	2	3	4
3.	People typically expect something in return when they provide help.	0	1	2	3	4
4.	Privacy is important to me, and I don't want other people to know about my problems.	0	1	2	3	4

5. I don't like to get emotional about things.	0	1	2	3	4
6. I don't like other people telling me what to do.	0	1	2	3	4
7. The problem wouldn't be a big deal; it would go away in time.	0	1	2	3	4
8. I would have real difficulty finding transportation to a place where I can get help.	0	1	2	3	4
9. This problem is embarrassing.	0	1	2	3	4
10. I don't like to talk about feelings.	0	1	2	3	4
11. Nobody knows more about my problems than I do.	0	1	2	3	4

Not at all a reason				Very important reason
0	1	2	3	4

12. I wouldn't want to overreact to a problem that wasn't serious.	0	1	2	3	4
13. I wouldn't know what sort of help was available.	0	1	2	3	4
14. I don't want some stranger touching me in ways I'm not comfortable with.	0	1	2	3	4
15. I'd rather not show people what I'm feeling.	0	1	2	3	4
16. I'd feel better about myself knowing I didn't need help from others.	0	1	2	3	4
17. Problems like this are part of life; they're just something you have to deal with.	0	1	2	3	4
18. Financial difficulties would be an obstacle to getting help.	0	1	2	3	4
19. I don't like taking off my clothes in front of other people.	0	1	2	3	4
20. I wouldn't want to look stupid for not knowing how to figure this problem out.	0	1	2	3	4
21. I don't like feeling controlled by other people.	0	1	2	3	4
22. I'd prefer just to suck it up rather than dwell on my problems.	0	1	2	3	4

23. I don't trust doctors and other health professionals.	0	1	2	3	4
24. I wouldn't want someone of the same sex touching my body.	0	1	2	3	4
25. It would seem weak to ask for help.	0	1	2	3	4
26. I would prefer to wait until I'm sure the health problem is a serious one.	0	1	2	3	4
27. A lack of health insurance would keep me from seeking help.	0	1	2	3	4
28. I like to make my own decisions and not be too influenced by others.	0	1	2	3	4
29. I like to be in charge of everything in my life.	0	1	2	3	4
30. Asking for help is like surrendering authority over my life.	0	1	2	3	4
31. I do not want to appear weaker than my peers.	0	1	2	3	4

32. Any other barriers that would prevent from seeking help for this health problem

_____

Appendix C: Author Permission E-Mail

Harika Medavarapu
Thu 9/19/2013 5:07 PM

mark as unread

To: amansfieldmarcaccio@lifespan.org;

1 attachment

Thesis brie~.docx

Action Items | + Get more apps

Dr.Mansfield,

I am a graduate student pursuing my master's degree in Public Health major at Indiana State University and currently, I am working on my thesis as part of the degree requirements.

The study focuses on perceived barriers of college students for seeking health care (I have attached a brief description of the study in attachments) and I found the Barriers to Help Seeking Scale (BHSS) used in the article "Measurement of Men's Help Seeking: Development and Evaluation of the Barriers to Help Seeking Scale" to be helpful in surveying college students for my study.

I request your permission to use the BHSS for my thesis, also I would be grateful if you can please provide the original or complete BHSS used in your study

With your kind permission, I would like to use the BHSS to collect the data about the perceived barriers from the target population. Please let me know if I need any additional information regarding the study or use of the BHSS.

Thank you! in advance.

PS: I tried to reach you at amansfield@clarku.edu as mentioned on the journal article but the delivery of the message failed. So, I searched on internet and found the current email id. Please excuse me if I am not supposed to do so.

Regards,

Harika Medavarapu
Indiana State University
Master's Graduate Student (Public Health)
Department of Applied Health Sciences
hmedavarapu@sycamores.indstate.edu

Abigail K. Mansfield Marcaccio <abigail.mansfield@gmail.com>
Fri 9/20/2013 10:58 AM

mark as unread

To: Harika Medavarapu;

- You replied on 9/20/2013 4:19 PM.

1 attachment

Hello, and thanks for your inquiry about the BHSS. I'm pleased to hear of your interest in using it.

I'm sending along a copy of the published version of the BHSS (the file labeled BHSS physical version) and an unpublished version that targets depression.

Warmly,
Abigail

--
Abigail K. Mansfield Marcaccio, PhD
Visiting Assistant Professor
Department of Psychology
Clark University

Appendix D: IRB Forms

Indiana State University Institutional Review Board

FORM A1 **Application for Review of Research Involving Human Subjects**

Federal regulations and Indiana State University's IRB policy require that all research involving humans as subjects be reviewed and approved by the University's Institutional Review Board (IRB) prior to the commencement of recruitment and the data collection. Any person (ISU faculty member, student, staff member, or other person) wanting to engage in human subject research at or through ISU must receive written approval from the IRB before conducting the research. Approval of this project by the IRB only signifies that the procedures adequately protect the rights and welfare of the subjects.

1. Title of Project: College Students' Perceptions of Barriers to Seeking Health Care

2. Principal Investigator: Harika Medavarapu

Status: ☐ Faculty ☒ Student* ☐ Administrator/Staff ☐ Other-specify:

*Students engaging in research are required to have a faculty sponsor or executive, administrative, or professional staff sponsor. List sponsor in section 3.

Campus or Mailing address: PO or Street: 15211 Park Row, Apt 323 City: Houston State: TX Zip: 77084

Phone: 8122017007 Institutional Email (required): hmedavarapu@sycamores.indstate.edu

Department or Unit: Applied Health Sciences

Has PI completed IRB training? ☒ Yes ☐ No

(IRB approval cannot be granted until training is successfully completed by all PI's, co-PI's, and sponsors.)

Which track was or will be completed? ☐ Biomedical ☒ Social & Behavioral

3. Co-Investigator or Sponsor:

(List additional co-investigators, including above information, on a separate sheet.)

Status: ☐ Faculty/Staff Sponsor ☐ Faculty ☐ Student ☐ Administrator/Staff ☐ Other-specify:

Campus or Mailing address: PO or Street City State Zip

Phone: Institutional Email (required):

Department or Unit:

Has PI completed IRB training? ☐ Yes ☐ No

(IRB approval cannot be granted until training is successfully completed by all PI's, co-PI's, and sponsors.)

Which track was or will be completed? ☐ Biomedical ☐ Social & Behavioral

4. Level of review sought: ☒ Exempt (submit Form B in addition to this form)
☐ Expedited (submit form C in addition to this form)
☐ Full

Indiana State University Institutional Review Board

FORM B **Exempt Review Research Categories (45 CFR 46.101b)**

Principal Investigator: **Harika Medavarapu**
Title of Project:**COLLEGE STUDENTS' PERCEPTIONS OF BARRIERS FOR SEEKING HEALTH CARE**

Research activities in which ONLY the involvement of human subjects will be in one or more of the categories specified below are eligible for exemption certification. If the research study involves a vulnerable population, such as children, prisoners, pregnant women, refer to 46 CFR subparts B, C, and D for protections afforded these groups.

Check the appropriate categories that apply to your research project:

☐ 1. Research conducted in established or commonly accepted educational settings, involving normal educational practices, such as (i) research on regular and special education instructional strategies, or (ii) research on the effectiveness of or the comparison among instructional techniques, curricula, or classroom management methods.

☒ 2. Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior, unless: (i) information obtained is recorded in such a manner that human subjects can be identified, directly or through identifiers linked to the subjects; and (ii) any disclosure of human subjects' responses outside the research could reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, or reputation. *Note: According to 45 CFR 46.401, if the subjects are children, this exemption applies only to research involving educational tests or observations of public behavior when the investigator(s) does not participate in the activities being observed.*

☐ 3. Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures, or observation of public behavior that is not exempt under #2 (above) of this section if: (i) the human subjects are elected or appointed public officials or candidates for public office; or (ii) federal statute(s) require(s) without exception that the confidentiality of the personally identifiable information will be maintained throughout the research and thereafter.

☐ 4. Research involving the collection or study of existing data, documents, records, pathological specimens, or diagnostic specimens, if these sources are publicly available or if the information is recorded by the investigator in such as manner that subjects cannot be identified, directly or through identifiers linked to the subjects.

☐ 5. Research and demonstration projects which are conducted by or subject to the approval of department or agency heads, and which are designed to study, evaluate, or otherwise examine: (i) public benefit or service programs; (ii) procedures for obtaining benefits or services under those programs; (iii) possible changes in or alternatives to those programs or procedures; or (iv) possible changes in methods or levels of payment for benefits or services under those programs.

☐ 6. Taste and food quality evaluation and consumer acceptance studies, (i) if wholesome foods without additives are consumed or (ii) if a food is consumed that contains a food ingredient at or below the level and for a use found to be safe, or agricultural chemical or environmental contaminant at or below the level found to be safe, by the Food and Drug Administration or approved by the

Form S -- For PIs recruiting students on their own campus (ISU PI recruiting ISU students; Rose PI recruiting Rose students; VU PI recruiting VU students). (Please Review ISU IRB Policy Section P).

Will you be recruiting students in your own classes?	☒ No ⟹ You are finished with this form. ☐ Yes ⟹ Please complete Questions 1 – 6 below.	
	1. Are you having your students' data collected by an independent third party? ☐ No ☐ Yes ⟹	Is the third party a graduate teaching assistant or any other assigned instructor assigned to the course? (Anyone who might be able to influence the student's grades in the course?) ☐ No ☐ Yes
	2. Will you know the identity of your students who participated in your research project prior to the submission of final grades to the registrar? ☐ No ☐ Yes	
	3. Are you offering course credit for participating in your research project? ☐ No ☐ Yes ⟹	Is there an opportunity to receive equal credit for completing an assignment of equal work (30 minute survey/30 minute reading)? ☐ No ☐ Yes
	4. Will data be collected in the classroom? ⟹ ☐ No ☐ Yes	Will you be present? ☐ No ☐ Yes
	5. Is the research project focused on normal educational practice (an examination of pedagogy or software use, for example)? ⟹ ☐ No ☐ Yes	Are you informing the students at the beginning of class, prior to the end of the drop/add period, that they will be involved in a research project? ☐ No ☐ Yes
	6. Does your informed consent document provide for a student to opt out of or to prohibit your use of their information/data for research purposes? ☐ No ☐ Yes	

A2 RESEARCH DESCRIPTION

Provide responses to the following items in the textboxes provided, save document with your answers, and upload the completed Form A2 in IRBNet. If an item does not apply to your research project, simply indicate "Not applicable." The completed Form A2 should not exceed 9 pages. Use a font size of 11 or larger. A proposal, thesis, or dissertation will not be accepted in lieu of responses.

PROJECT DESCRIPTION

1. Provide a brief description using layperson's terms of the proposed research. Include the purpose and research questions or hypothesis.

The major focus of the research is to identify the differences between barriers for seeking health care between students from health based majors and students from non-health based majors. The research hypothesis is that students with health based majors will have lower score for perceived barriers than students with non-health based majors.

METHODOLOGY

2. PARTICIPANTS – Describe the characteristics (e.g., age, gender, ethnicity, health status) of the subject population whom you are targeting and the approximate number of participants. Provide exclusion and inclusion criteria. Will there be any special populations (see 45 CFR 46, subparts B, C, and D), such as children, individuals who are mentally incapacitated, prisoners, or others whose ability to give voluntary informed consent may be in question included? – If yes, explain the rationale for their inclusion.

The study participants include both male and female undergraduate students of age above or equal to 18 years and of any ethnicity from an introductory personal health course. The approximate number of participants is 100.

3. RECRUITMENT—Describe how you will identify and recruit prospective subjects. Attach a draft or final copy of any planned advertisements, flyers, and letters to potential subjects.

All students in the introductory personal health course will be recruited to participate in the study through an announcement along with informed consent letter by the course instructors.

4. LOCATION OF STUDY—Identify specific sites or agencies to be used. For research conducted at a facility other than one owned and operated by Indiana State University, additional information is required.

Indiana State University

Notes:

(a) If the research project will not be conducted at a facility owned by and operated by Indiana State University, a letter from the appropriate administrator of each facility should be submitted on the facilities letterhead stationary and should contain the following: agreement for the study to be conducted; identification of someone at the site who will provide information about appropriateness for its population; assurance of adequate capabilities to perform the research as approved by the IRB; and, if applicable, assurance that facility personnel involved in data collection have appropriate expertise and will follow IRB approved procedures. If the approval letters are not available at the time of IRB review, IRB approval will be contingent upon receipt of the letters.

(b) Federally funded research—If the research project receives federal funds from an agency such as the National Institutes of Health (NIH) and the study will be conducted at a site other than one owned and operated by Indiana State University, each study site must have a Federal Wide Assurance (FWA) with the Office for Human Research Protections (OHRP). FWAs are a requirement of OHRP or NIH and not ISU's IRB or ISU's Office of Sponsored Programs. ISU has negotiated an FWA. Contact OSP for the information to enter on the funding agency's application form regarding FWA documentation. If the study is a collaborative project and another organization in addition to ISU is engaged in human subjects research (as defined by DHHS), then the