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An Exploratory Study of the Relationship among Perceived Personal and Social Competence, Health Risk Behaviors, and Academic Achievement of Selected Undergraduate Students

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AN EXPLORATORY STUDY OF THE RELATIONSHIP AMONG PERCEIVED
PERSONAL AND SOCIAL COMPETENCE, HEALTH RISK BEHAVIORS, AND
ACADEMIC ACHIEVEMENT OF SELECTED UNDERGRADUATE STUDENTS

by

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A Dissertation Submitted in Partial Fulfillment
of the Requirements for the
Degree of Doctor of Philosophy

Department of Health Education and Recreation
Southern Illinois University Carbondale
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DISSERTATION APPROVAL

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A Dissertation Submitted in Partial

Fulfillment of the Requirements

for the Degree of

Doctor of Philosophy

in the field of Health Education

Approved by:

Dr. Joyce V. Fetro, Chair

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Graduate School
Southern Illinois University Carbondale
October 20, 2009

AN ABSTRACT OF THE DISSERTATION OF

Darson L. Rhodes, for the Doctor of Philosophy degree in Health Education, presented on October 20, 2009 at Southern Illinois University Carbondale.

TITLE: AN EXPLORATORY STUDY OF THE RELATIONSHIP AMONG PERCEIVED PERSONAL AND SOCIAL COMPETENCE, HEALTH RISK BEHAVIORS, AND ACADEMIC ACHIEVEMENT OF SELECTED UNDERGRADUATE STUDENTS

MAJOR PROFESSOR: Dr. Joyce V. Fetro

A sample of 656 undergraduate students from multiple sections of an introductory nutrition course, a personal health course, and a physical fitness course at a large Midwestern University completed one of four surveys. Using matrix sampling, each participant completed a survey measuring one of four personal and social competence constructs; coping skills, interpersonal skills, intrapersonal skills, or judgment skills; 11 health risk behaviors, and college grade point average (GPA). Descriptive statistics, correlations, and multiple regression analyses were calculated to determine relationships among these variables. Thirteen statistically significant correlations were found among personal and social competence constructs and health risk behaviors. Health risk behaviors statistically significantly correlated with one or more constructs of personal and social competence included: frequency of marijuana use, number of days cigarettes were smoked, number of days alcohol was consumed, incidences of binge drinking, incidences of driving and drinking alcohol, alcohol or drug use prior to last incidence of sexual intercourse, non-use of condoms during sexual intercourse, feelings of sadness or hopelessness for two weeks or more that resulted in ceasing some usual activities, and number of physically inactive days. Statistically significant correlations were found most often among perceived judgment skills and health risk behaviors and perceived

intrapersonal skills and health risk behaviors. Variance in academic success due to

perceived personal and social competence and health risk behaviors was limited. Only a

small percentage of variance in self-reported, college GPA could be attributed to

perceived coping skills and judgment skills, while no variance could be attributed to

perceived intrapersonal skills or interpersonal personal skills. Also, few health risk

behaviors accounted for any variance in self-reported, college GPA. Results suggest

strategies to improve undergraduates' personal and social skills may reduce engagement

in some health risk behaviors.

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CHAPTER 1

INTRODUCTION

Background of the Problem

College students throughout the country are engaging in a variety of health risk behaviors. Binge drinking, unprotected sexual intercourse, suicidal thoughts (American College Health Association, 2008), and illicit drug use (Johnston, O'Malley, Bachman, & Schulenberg, 2008) are just a sample of some the behaviors in which students are partaking. These behaviors result in a variety of tangible and intangible costs not only to themselves, but also to others.

Perkins (2002) highlighted an extensive list of costs linked with one particular health risk behavior - alcohol misuse. These costs were divided into three categories: damage to self, damage to other people, and institutional costs. Damage to self costs included: academic impairment, blackouts, personal injuries and death, short and longer term physical illnesses, unintended and unprotected sexual activity, suicide, sexual coercion/rape victimization, impaired driving, legal repercussions, and impaired athletic performance. Damage to other people costs included: property damage and vandalism, fights and interpersonal violence, sexual violence, hate-related incidents, and noise disturbances. Finally, institutional costs included: property damage, student attrition, loss of perceived academic rigor, poor university-community relations, added time demands and emotional strain on staff at higher education institutions, and legal costs (Perkins, 2002).

A more specific tangible cost was estimated by a national survey conducted in the late 1980's among students enrolled at some of this country's largest higher education institutions. It projected an average of $102 per student per year is spent on student health centers. At that time, this figure suggested that total expenditures on student health care could exceed $1 billion annually (Patrick, 1988). While these expenditures are not exclusively a result of students' health risk behaviors, one can assume these costs are impacted by personal behaviors, one key determinant of health (U.S. Department of Health and Human Services [US-DHHS], 2000). Current total annual expenditures could be expected to be even higher. For the benefit of students, higher education institutions, and the population at large, it is imperative that universities learn more about factors that may prevent students from engaging in health risk behaviors.

Statement of the Problem

Building personal and social skills in youth as a means to address health risk behaviors is supported by several elements relevant to health education, including the National Health Education Standards (NHES) (Joint Committee on National Education Standards, 2007), the Centers for Disease Control and Prevention's *Characteristics of an Effective Health Education Curricula* (Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion [CDC-NCCDPHP] (2008a), resiliency research (Benard, 2004), and Pittman and Cahill's (1992a) youth development framework. Similar elements to guide health education at the post secondary level, however, do not exist. The assumption may be that youth entering colleges and universities have the personal and social skills necessary for high levels of

health literacy. Data from surveys, such as the *2008 American College Health Association-National College Health Assessment* (American College Health Association [ACHA], 2008) and the *2007 Monitoring the Future* (Johnston et al., 2008) survey, however, indicated otherwise. Further, research focusing on personal and social competence in the college aged population is limited. Therefore, the ability of universities to best meet the needs of their students is inhibited.

Need for the Study

While colleges and universities do offer a variety of health related programs and services to address the needs of their students, a substantial number of students enter these institutions with already established health risk behaviors (CDC, 2008). Further, students living independently are confronted with an increased number of situations where they must communicate needs, make decisions, set personal and professional goals, and manage stress. These situations, if not addressed effectively, coupled with increased responsibilities associated with living independently not only could lead to health problems, but also could affect academic achievement and retention.

Unfortunately, guidelines, such as those to assist K-12 schools in offering the most effective health education programs, do not exist at the college level. Further, while a substantial body of research exists indicating positive outcomes associated with personal and social competence in youth (Benard, 2004), scarce research exists on the broad concept of personal and social competence in college-age youth and its relationship to health risk behaviors and academic success. Most research in this population pertains to isolated skills and its relationship to a specific risk behavior. Lack of additional

research potentially prevents post-secondary institutions from being able to offer the most effective health education programs and services to their students.

To provide the most appropriate health education and support programs, higher education institutions need to know more about the level of personal and social competence of their students. Further, the relationship of these skills to the health risk behaviors of students and academic achievement also needs to be explored. Such information will allow these institutions to plan interventions and educational approaches accordingly, thereby assisting in reduction of health risk behaviors of college students and minimizing the tangible and intangible costs related to these behaviors.

Purpose of the Study

The purpose of this study was to determine the relationship among perceived personal and social competence, selected health risk behaviors, and academic achievement of selected undergraduate students.

Research Questions

The following research questions were determined for this study:

1. What are the self-reported perceptions of personal and social competence (intrapersonal skills, interpersonal skills, coping skills, and judgment skills) among selected undergraduate students?

2. What are the self-reported health risk behaviors among selected undergraduate students?

3. Do statistically significant correlations exist among perceptions of personal and social competence and health risk behaviors?

4. How much variance in self-reported, college grade point average can be accounted for by perceived personal and social competence and selected health risk behaviors?

Significance of the Study

If a positive correlation between low personal and social competence and high risk behaviors is found in this study, multiple implications exist for health education. First, the manner in which personal health education classes typically are taught at the post-secondary level may need to be reconsidered. A skills based approach to health education, including interactive learning strategies similar to those indicated by the National Health Education Standards (Joint Committee on National Education Standards, 2007) and the CDC-NCCDPHP's *Elements of an Effective Health Education Curricula* (2008a) (i.e. "best practice") for grades K-12 should be implemented. This type of instruction may necessitate smaller class sizes and appropriate professional development of instructors. The quality of these courses potentially could be assessed based upon a pre/post assessment of students' perceived personal and social competence. Further, professional preparation of undergraduate school health education majors should be reviewed to ensure inclusion of an instructional strategies course based on "best practice." Similar preparation needs to be made at the graduate level for health education doctoral students as these students often are responsible for teaching personal health courses at colleges and universities.

In addition to implications for health education, at the conclusion of this research, the university under study will have a better understanding of perceived personal and social competence (interpersonal skills, intrapersonal skills, coping skills, and judgment skills) of its undergraduate students. Also, the relationship of how these constructs relate to selected health risk behaviors and academic achievement will be known. This information may be useful to the university's wellness center in planning health education interventions, and other university personnel, such as those in student affairs, to better prepare for and accommodate students based on their skill levels and health risk behaviors.

Research Design

Correlational research investigates how variations in one factor relate to variations in one or more other factors based upon correlation coefficients (Isaac & Michael, 1995). A descriptive, correlational design was used in this exploratory, cross-sectional study. Matrix sampling was used to determine perceived personal and social competence of participants. Each participant completed one of four surveys. Each survey measured one of the following personal and social competence skill sets: intrapersonal skills, interpersonal skills, coping skills, and judgment skills. Additionally, all surveys included items about selected health risk behaviors, the 13-item version of the *Marlowe-Crowne Social Desirability Scale* (Reynolds, 1982), and demographics. This research described perceptions of personal and social competence among selected undergraduate students as well as their reported health risk behaviors. Relationships among perceived personal and

social competence, health risk behaviors, and college grade point average, as a measure of academic achievement, were examined.

Study Sample

A convenience sample of undergraduate students enrolled in an introductory, general education nutrition course, personal health course, or physical fitness course at a large, Midwestern university during Spring 2009 was used. All students in attendance the day of survey administration who voluntarily consented to participate completed one of four surveys. Students 22 years old and over were included in the study sample, but their data were excluded from analysis.

Instrumentation

Four surveys measuring perceived personal and social competence (i.e. intrapersonal skills, interpersonal skills, coping skills, and judgment skills) were used (Fetro, 2000). Each construct was divided into multiple subscales. One of four constructs was assessed in each survey. Health risk behavior and demographic items as well as the social desirability scale on each of the four surveys were identical. Health risk behavior items were selected from the 2009 *Youth Risk Behavior Survey* (CDC-NCCDPHP, 2008c). The 13-item short version of the *Marlowe-Crowne Social Desirability Scale* (Crowne & Marlowe, 1960) also was included.

Data Collection Procedures

Upon approval from the Human Subjects Committee and doctoral dissertation committee as well as permission of instructors, data were collected during a Spring 2009 regular class session. Surveys were distributed along with a cover letter to further explain the research study and a scantron form to be used to record student responses.

Data Analysis

Data collected from participants who reported being 18-21 were included in the analysis. Data were analyzed using SPSS 17.0. Appropriate statistics were computed to address the research questions and included: frequencies, percentages, measures of central tendency and dispersion, Spearman's rho correlation, point biserial correlation, and multiple regression.

Assumptions

In this study, the following assumptions were made:

1. Study participants responded to survey items based upon their current perceptions.

2. Survey items were interpreted by participants as the researcher intended for them to be interpreted.

3. The surveys were valid and accurately measured each of the intended constructs.

4. The surveys were reliable.

Limitations

Limitations are those characteristics of a study that set parameters on or limit the

application or interpretation of the study's results (Cline, n.d.). The following limitations

applied to this study:

1. A convenience sample was used which limited generalizability of results.

2. Only students who were present the day of survey administration and voluntarily

    consented participated in the study.

3. The length of the survey may have prevented some students from completing it.

4. Variables other than perceptions of personal and social competence that may

    influence students' participation in health risk behaviors were not explored and

    may have influenced results.

5. Given that the survey was administered in the second semester of an academic

    year, some students, particularly those with the lowest perceived personal and

    social competence, may already have dropped out of the university and affected

    the overall pool of responses.

6. As data collection occurred near the end of the semester, perceptions of personal

    and social competence may have been affected by instructional material covered

    within the courses sampled.

Delimitations

Delimitations are characteristics of a study that limit the scope of the inquiry as

determined by researcher (Cline, n.d.). The following delimitations were imposed by the

researcher:

1. Participants were delimited to those students enrolled in a general education introductory nutrition course, personal health course, or physical fitness course at a large, Midwestern university in the Spring 2009 semester.

2. Participants were delimited to those students who were ages 18-21.

3. The health risk behaviors of participants were delimited only to those included in the survey.

4. Only one fourth of the participants responded to items measuring each personal and social competence skill set: intrapersonal skills, interpersonal skills, coping skills, and judgment skills.

Definition of Terms

The following operational definitions were used in this study:

Coping skills: "ability to adapt, be flexible, assume responsibility" (Pittman & Cahill, 1992a, p. 20)

Health literacy: "the degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions" (US-DHHS, 2000, p. 11:20)

Interpersonal skills: "ability to work with others, develop friendships and relationships through communication, cooperation, empathy, and negotiation" (Pittman & Cahill, 1992a, p. 20)

Intrapersonal skills: "ability to understand emotions and practice self-discipline" (Pittman & Cahill, 1992a, p. 20)

Judgment skills: "ability to plan, evaluate, make decisions, and solve problems" (Pittman & Cahill, 1992a, p. 20)

Personal and social competence: "includes having a variety of intrapersonal skills, interpersonal skills, coping skills, and judgment skills" (Pittman & Cahill, 1992a, p. 20)

Resiliency: "dynamic process encompassing positive adaptation within the context of significant adversity" (Luthar, Cicchetti, & Becker, 2000, p. 543)

Youth development: "the ongoing process in which all young people are engaged and invested. Through youth development, young people attempt to meet their basic personal and social needs and to build competencies necessary for successful adolescent and adult life" (Pittman & Cahill, 1992b, p. 36).

Summary

College students partake in numerous health risk behaviors. These health risk behaviors result in a variety of tangible and intangible costs to individuals and to the higher education institutions. National guidelines and research exist that can assist K-12 schools in developing and/or implementing the most effective health education to students and include support for building personal and social competence. Comparable documents are not available to guide higher education institutions. Higher education institutions need to know more about the personal and social competence of their students and any links these skills may have with health risk behaviors and academic achievement so that this knowledge can be used to inform health education programs at this level. To address this need, a cross-sectional study with a correlational research design was used to

determine the relationship among perceived personal and social competence, health risk behaviors, and grade point average of selected undergraduate students.

Chapter one included the background and statement of the problem, need for and purpose of the study, research questions, and significance of the study. An overview of the research design and procedures also was provided. Chapter two will review literature relevant to the study.

CHAPTER TWO

LITERATURE REVIEW

Overview

The purpose of this study was to determine the relationship among perceived personal and social competence, selected health risk behaviors, and academic achievement of selected undergraduate students. This chapter will review literature relevant to this study. This literature is divided into the following sections: health risk behaviors, health literacy, resiliency, youth development, effective health education curriculum, and supporting evidence for effective health education. The health risk behavior section provides an overview of the risky behaviors in which college students are engaging and the impact on academic achievement these behaviors may have, while the health literacy section offers an overview of the national priorities of health educators. The resiliency section summarizes the research that lead to the youth development movement, which helped provide a foundation upon which benchmarks for effective health education could be established. These benchmarks support the inclusion of personal and social competence skill building for students.

Health Risk Behaviors

Despite preventive health services and treatment options offered by colleges and universities throughout the United States, many college students still engage in behaviors that place them at risk for serious health problems. Data from the Spring 2008 *American College Health Association-National College Health Assessment* (ACHA-NCHA)

(ACHA, 2008), which included a sample of 80,121 students from 106 self-selected post-secondary schools, indicated 70.1% of students reported being sexually active within the last school year, while only 53.5% of these students reported using a condom the last time they had vaginal sexual intercourse and 27.7% reported using a condom the last time they had anal sexual intercourse. Further, 82.6% of students reported using alcohol within the last 30 days. Many of these students reported experiencing a variety of alcohol related consequences. These consequences included: 35.4% did something they regretted, 30.9% forgot where they were and/or what they had done, 18.6% were physically injured, and 14.5% had unprotected sex. Also, 58.6% reported eating fewer than 3 servings of fruits and vegetables per day, and 54.6% reported having vigorously exercised for at least 20 minutes fewer than 3 of the last 7 days before taking the survey.

The emotional wellbeing of students is compromised as 43.0% reported feeling so depressed it was difficult to function within the last school year, and 9.0% of students seriously considered suicide in the previous school year (ACHA, 2008). Further, 12.4% of students reported being in an emotionally abusive relationship within the last school year, and 2.0% were in a physically abusive relationship within the last school year.

Monitoring the Future is a nationally representative survey that elicits data regarding drug use from individuals in eighth grade up to age 45 (Johnston et al., 2008). These data are separated into many subpopulations, one being college students. The 2007 results of the *Monitoring the Future* survey indicated 35.0% of college students used illicit drugs in the last year, while 19.3% of college students used illicit drugs within the last 30 days. Further, 19.9% of college students smoked cigarettes with the last 30 days, while 46.8% reported having been drunk within the last 30 days.

In addition to collecting data about drug use, the survey also elicited information about drug perceptions including availability, use by friends, exposure, and harmfulness. Of 19-22 year old respondents, 55.8%, 47.3%, and 88.4% respectively said it would be fairly easy or very easy to get amphetamines, cocaine, and marijuana. Additionally, these data indicated 14.5% of 19-22 year olds estimated most or all of their friends used illicit drugs of some kind, and 32.0% estimated most or all of their friends get drunk at least once a week. Further, 67.4% of 19-22 year olds estimated being around people within the last year who were using an illicit drug. Only 38.4% of 19-22 year olds, however, thought a person was at a great risk for harm if he/she took amphetamines once or twice, while 55.8% thought there was a great risk in trying cocaine once or twice. Regular marijuana use was perceived as posing a great risk of harm to only 50.4% of 19-22 year olds (Johnston et al., 2008).

While college students are engaging in health risk behaviors, many high school students also are partaking in similar behaviors. The most recent findings of the 2007 *Youth Risk Behavior Survey* (YRBS) (CDC, 2008) reported the following data about high school seniors:

- 18.3% drove a vehicle within the last 30 days after they had been drinking alcohol.

- 15.5% carried a weapon (e.g., gun, knife or club) within the last 30 days.

- 28.0% were in a physical fight within the last year.

- 13.5% seriously considered attempting suicide within the last year.

- 26.5% smoked cigarettes within the last 30 days.

- 36.5% had 5 or more drinks of alcohol in a row within the last 30 days.

- 25.1% smoked marijuana within the last 30 days.

- 4.4% used cocaine within the last 30 days.

- 52.6% had sexual intercourse within the last three months.

- 22.4% have had sexual intercourse with 4 or more persons in their life.

- 33.1% drank at least one non-diet soda everyday for the last 7 days.

- 81.4% did not eat fruits or vegetables five or more times per day each day for the last 7 days.

- 10.9% did not eat for 24 or more hours to lose weight or keep from gaining weight within the last 30 days.

- 20.1% played video/computer games or used a computer for something other than school work 3 or more hours per day on an average school day.

Many of these high school seniors will enter colleges and universities across the country as 69% of them did in 2005 (U.S. Department of Education, National Center for Education Statistics, 2007). As these high school seniors transition into post-secondary institutions, engagement in health risk behaviors likely may continue or increase. Specifically, in White and Swartzwelder's (2009) research with more than 4,500 incoming students from three universities, results indicated many students brought risky drinking behaviors with them to college. Participants in their research self-reported their alcohol consumption behaviors over the two-week period prior to the survey during the summer before their freshmen year in college. More than 50% of respondents had drunk alcohol in the two-weeks before the survey, while nearly 30% of all respondents had engaged in binge drinking. Further, of those respondents who reported drinking in the

previous two weeks, more than 11% also reported blacking out at least once after

drinking and more than 10% drove after drinking.

Implications of these behaviors for college and high school students' physical

health may be readily apparent, but the impact such actions have on their academic

achievement must also be considered. College students indicated, in the Spring 2008

ACHA-NCHA, their academic performance was negatively impacted by a variety of

health related factors. A total of 16.1% of students reported depression/anxiety

disorder/seasonal affective disorder having a negative impact; 15.9% indicated

relationship difficulty negatively impacted their academic performance; 25.6% reported

sleep difficulties having a negative impact; and 33.9% indicated stress negatively affected

their academic performance within the last school year (ACHA, 2008).

Additional research with adolescents also indicated a link between risk behaviors

and academic achievement. Martins and Alexandre (2009) conducted an analysis of data

from the 2002-2005 surveys of the *National Survey on Drug Use and Health* (Substance

Abuse and Mental Health Services Administration, 2007) and the 2001 and 2003 *YRBS*

(CDC, 2008). Results indicated that adolescents who reported using ecstasy, marijuana,

and/or alcohol/tobacco also reported low or moderate academic achievement based upon

letter grades received in classes.

Silver and Bauman (2006) noted in their research with more than 1000 inner-city

adolescents, ages 14-17, an association between sexual experience and academic

achievement. Of those adolescents who had engaged in oral, vaginal, or anal intercourse,

they were also more likely to have dropped out of high school, repeated a grade in school,

and reported lower grades than their inexperienced counterparts. Also, the sexually

inexperienced group had higher educational aspirations than the sexually experienced group.

Further, in DeBerard, Spielmans, and Julka's (2004) research, alcohol consumption, smoking, and coping skills were negatively correlated with academic achievement in a college student sample. However, none of these variables were correlated with retention. The authors recommended further research should be done to allow for better prediction of retention.

Health Literacy

Healthy People 2010 (HP2010) (US-DHHS, 2000), a national initiative aiming to improve the health status of United States residents by the year 2010, serves as a road map for those individuals and organizations seeking to improve the health status of Americans. As such, it can be utilized by health educators as a guide in planning, implementing, and evaluating health education programs. There are two overarching goals of *HP2010*, "to help individuals of all ages increase life expectancy and improve their quality of life" (US-DHHS, 2000, p. 8) and "to eliminate health disparities among different segments of the population" (US-DHHS, 2000, p. 11). To support these goals, 28 focus areas have been identified. Each focus area has a long-term goal and multiple objectives. A total of 467 objectives are delineated to evaluate success of this national initiative. Specifically, one of the 28 focus areas is health communication. The goal for this focus area is, "Use communication strategically to improve health" (US-DHHS, 2000, p. 11:12). One objective for this goal is to "improve the health literacy of persons with inadequate or marginal literacy skills" (US-DHHS, 2000, p. 11:15).

Health literacy is, "the degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions" (US-DHHS, 2000, p. 11:20). Current findings suggest a causal relationship between one's health literacy and the health outcomes for that individual (Institute of Medicine of the National Academies, 2004). A health literate person has four essential characteristics. These characteristics include being a critical thinker and problem solver; a responsible, productive citizen; a self-directed learner; and an effective communicator (Joint Committee on National Health Education Standards, 1995). Pittman and Cahill's (1992a) definition of personal and social competence, "variety of intrapersonal skills, interpersonal skills, coping skills, and judgment skills," (p. 20) reflects these same characteristics. Specifically, interpersonal skills include one's ability to communicate verbally and nonverbally. Effective communication can improve not only personal health but also family and community health as it is the cornerstone for improving interpersonal interactions and minimizing conflict (Joint Committee on National Health Education Standards, 2007). Further, judgment skills include the ability to make sound decisions and thereby, influence one's ability to be an effective problem solver (Pittman and Cahill, 1992a). These skills would be necessary to process health information and services and subsequently make healthful decisions, a critical characteristic of a health literate person (US-DHHS, 2000). Additionally, to be characterized as responsible, productive citizens, a characteristic of a health literate person, youth must acquire personal and social competence as it is one of five necessary competencies needed according to Pittman and Cahill (1992a).

The 2003 U.S. National Assessment of Adult Literacy (NAAL), a survey of more than 19,000 U.S. adults contained items specifically intended to measure health literacy in four categories: below basic, basic, intermediate, and proficient. Of participants, aged 19-24, approximately 10% had a skill level below basic, 21% had a basic skill level, 58% had an intermediate skill level, and 11% had a proficient skill level (Kuttner, Greenberg, Jin, & Paulsen, 2006). Further, a report by the Institute of Medicine of the National Academies (2004), estimated that approximately 90 million American adults struggle to understand and act upon health information.

Literacy, in general, is a major component of health literacy. Researchers who conducted a systematic review of literature found that people with lower levels of literacy were 1.5 to 3 times more likely to experience adverse health outcomes than other people who have higher literacy levels (DeWalt, Berkman, Sheridan, Lohr & Pignone, 2004). Other research studies documented the link between low health literacy and negative health outcomes. These negative outcomes included increased number of hospitalizations, (Baker, Parker, Williams, & Clark, 1998), decreased glycemic control and increased retinopathy in diabetic patients (Schillinger et al., 2002), decreased quality of life and symptom control in asthmatic patients (Mancuso & Rincon, 2006), and worsened depressive symptoms in alcohol and drug dependent people (Lincoln et al., 2006). Data from the NAAL study indicated that for adults age 65 and older, low health literacy was associated with decreased likelihood of using most preventive health measures. For adults age 16-39, low health literacy was associated with a decreased likelihood of obtaining a Pap smear and a vision check-up (White, Chen & Atchison, 2008).

In addition to negative health outcomes associated with low health literacy, there also are substantial economic impacts. In one study, a package of hospital discharge services intended to increase patients understanding of their after-hospital care instructions resulted in 30% fewer emergency hospital visits within the 30 days following discharge compared to those patients who did not receive the additional discharge services. Additionally, an average savings of $412 per person in medical costs was reported for those patients receiving the additional discharge services (Brian et al., 2009). The health and economic outcomes of low health literacy are clear support for the Institute of Medicine of the National Academies' (2004) statement, "Health literacy is of concern to everyone involved in health promotion and protection, disease prevention and early screening, health care and maintenance, and policy making" (p. 31).

The Institute of Medicine of the National Academies' (2004) framework for health literacy delineates three potential intervention points to improve health literacy; culture and society, health system, and education system. Within this framework "education system" is defined to include the K-12 system, adult education, and higher education. This framework emphasizes the K-12 system and adult education as potential intervention points of health literacy modification within the education system. This emphasis is based on the assumption that individuals with college-level education or higher have adequate literacy skills. Results of the *National Survey of America's College Students* (NSACS), however, do not support this assumption (American Institutes for Research, 2006).

Similar to the 2003 NAAL survey, the NSACS surveyed the prose, document, and quantitative literacy skills of participants. Skill levels were divided into the same four

categories as in the NAAL survey: below basic, basic, intermediate, and proficient. Prose literacy skills referred to the ability to read and understand information in newspapers, brochures, and instructional materials. Document literacy skills referred to the ability to comprehend job applications, payroll forms, transportation schedules, maps, tables, and food or prescription drug labels. Quantitative literacy skills referred to the ability to perform computations. Participants included 1,827 students in their final year at 80 randomly selected 2-year and 4-year public and private colleges and universities throughout the United States. Results indicated more than 75% of 2-year college students and more than 50% of 4-year college students had overall literacy skills of less than proficient. Further, nearly 20% of students earning 4-year degrees – and approximately 30% of students earning 2-year degrees – only had basic quantitative literacy skills (American Institutes for Research, 2006). Achievement of health literacy supports the goals of HP2010. Higher education settings serve as potential intervention points to address deficiencies in health literacy (Institute of Medicine of the National Academies, 2004).

Resiliency

Resilience was defined by Luthar, Cicchetti, and Becker (2000) as a "dynamic process encompassing positive adaptation within the context of significant adversity" (p. 543). One of the largest and most comprehensive research studies in resilience research was undertaken by Werner and Smith (1983, 1992). In the study, a cohort of nearly 700 children born on the Island of Kauai in 1955 was tracked. The developmental impact of various biological and psychological risk factors, stressful life events, and protective

factors had on these children up through adulthood was monitored. Protective factors that allowed some children despite adverse conditions to persevere into stable, successful adults were observed. Werner and Smith (1992) indicated the protective factors experienced by youth seemed to have a greater impact on the outcomes of these children's lives than did the risk factors they experienced. Specifically, Werner (1989) noted three types of protective factors: *dispositional attributes of the child* which included activity level and sociability, average intelligence or higher, competent communication skills, and an internal locus of control; *affectional with family members that provide emotional support*; and *external support systems* that reward individual competencies and determination, and provide a belief system.

Further research confirmed the power of protective factors. Garmezy (1991) highlighted some protective factors noted in his previous work with Nuechterlein (1972) including possession of social skills, sense of self power, cognitive skills, goal-directed, high aspirations, orderly homes, clear parent and child roles, and parental recognition of the child's autonomy. Further, the absence of a father not having impacted academic achievement also was a protective factor. Additional relevant results came from Wave I and II of the National Longitudinal Study of Adolescent Health during which more than 20,000 in-home interviews of adolescents in grades 7-12 and 18,000 parent interviews (Wave I) and 15,000 follow-up interviews with adolescents (Wave II) were conducted. Findings indicated that adolescents who feel connected to their families were less likely to experience emotional distress or have thoughts about committing suicide and had lower levels of interpersonal violence and less frequently used cigarettes, alcohol, and marijuana than their peers who did not feel connected to their families. Also, students

who reported feeling connected to their school reported lower levels of emotional distress, lower levels of violent behavior, and delayed onset of first sexual intercourse than their "unconnected" peer counterparts (Blum & Rinehart, 1997; Resnick et al., 1997).

In Benard's (2004) book, she highlighted three types of protective factors that were identified consistently in resiliency research. The first protective factor is a feeling of care and support from the people in the youth's life. The second protective factor is being held accountable with high expectations. Finally, the third protective factor is the youth having a sense of contribution and participation within their social environment. For the most resilient youth, these three protective factors exist within the context of one or more of three environments: family, school, and community.

In addition to environmental protective factors, research indicated that individuals who demonstrated a high degree of resilience had particular personal strengths. Benard (1991) labeled these strengths as social competence, problem solving, autonomy, and sense of purpose. She later confirmed these strengths as cornerstones of resilience research and further described each personal strength (Benard, 2004).

Recent research provides further support for Benard's conclusions (Youngblade et al., 2007). A data analysis of 42,305 surveys completed by adolescents age 11-17 as part of the 2003 National Survey of Children's Health revealed that youth who were positively connected with their families experienced fewer academic problems. Further, increased levels of social competence and decreased negative behaviors were associated with school and community safety. Overall, adolescents who reported positive support from their families, schools, and communities experienced fewer negative behavioral outcomes

and demonstrated positive development outcomes including social competence, pro-health behaviors, and increased levels of self-esteem.

Additionally, although resilience research in the college population is limited, one particular study evaluated the effectiveness of a resilience intervention designed to decrease stress related symptoms in undergraduate students (Steinhardt & Dolbier, 2008). This study included a control group and an experimental group. The experimental group attended four, two-hour programs focused on personal responsibility, positive self-empowering thinking, seeking connections with family and friends, and problem-focused coping. The control group did not receive any intervention. Both the control group and the experimental group completed pre/post surveys assessing resilience, coping strategies, protective factors, and stress symptoms. At the conclusion of the resilience intervention, the experimental group had significantly higher resilience scores, problem-solving coping scores, self-esteem scores, self-leadership scores, and positive affect scores than the control group. Also, the experimental group had significantly lower avoidant coping scores and decreased depressive symptoms, negative affect, and perceived stress than the control group.

Social competence includes four components: responsiveness, communication, empathy and caring, and compassion, altruism and forgiveness (Benard, 2004). In a recent study, links between social competence and academic performance were explored. Findings determined positive interpersonal skills predicted higher reading achievement in kindergarten students (Judge, 2005). Benard (2004) indicated the *responsiveness* of a child refers to a quality that enables the child to attract favorable attention from adults. *Communication* is indicative of the youth's interpersonal communication skills and

includes specific communication skills such as assertiveness skills and conflict resolution. Further, this component includes ability to communicate effectively in the dominant cultural context while still being able to maintain one's own cultural identity. While *empathy* refers to the ability to feel and understand from another person's viewpoint, *compassion* and *altruism* are considered the result of empathy as one person unselfishly helps to meet the needs of another person. Recent work by Worthington and Scherer (2004) proposed *forgiveness* was an emotional coping strategy that may reduce stress related health risks.

Problem solving is divided into specific abilities including planning, flexibility, resourcefulness, and critical thinking (Benard, 2004). While *planning* for a specific event or outcome is a critical skill, youth also need to be able to be *flexible* with regard to their plans and seek out alternatives, when necessary. Consequently, being *resourceful* and knowing how and where to search for alternatives or help is essential. Finally, with regard to problem solving, *critical thinking* and insightfulness are of particular importance. These skills allow youth to analyze situations and reach certain self-preserving conclusions such as recognizing and exiting dangerous situations (Benard, 2004). In Frydenburg and Lewis' study (2009), data from more than 2000 adolescents were reviewed. For those adolescents who perceived themselves to have high problem-solving skills, they reported using positive coping skills more frequently than their peer counterparts.

Autonomy includes a variety of different attributes including: positive identity, internal locus of control and initiative, self-efficacy and mastery, adaptive distancing and resistance, self-awareness and mindfulness, and humor (Benard, 2004). According to

Wong (2008), adolescents who perceived their parents to encourage autonomy reported more favorable outcomes regarding academic performance, classroom disruptive behavior, and substance use. Benard's (2004) first attribute of autonomy is *positive identity*. It is necessary that youth develop a positive view of who they are and what they believe. Research including more than 900 eighth through eleventh grade students concluded that low levels of self-esteem were associated with increased suicidal tendencies, increased alcohol use in males, and increased engagement in risky sexual behaviors in females (Wild, Flisher, Bhana, & Lombard, 2004).

Other attributes also are necessary for youth to develop a sense of autonomy (Benard, 2004). One needs to develop an *internal locus of control*, belief s/he has a sense of power and control over her/his life. Youth also must recognize certain aspects of life may not have been under her/his control or her/his fault, such as being abused by a caregiver.

While internal locus of control refers to having a sense of control and personal power, *self-efficacy* is the belief that one's power/skill/action can result in particular outcomes (Benard, 2004). Closely aligned with self-efficacy is *mastery*, which refers not only to believing one can achieve something but feeling competent to do it. As internal locus of control and self-efficacy may be associated with "I can" or "I will" statements, adaptive distancing and resistance may be associated with "I'm not" or "I won't" statements. *Adaptive distancing* involves youth's ability to emotionally detach from dysfunctional situations. *Resistance* is a type of adaptive distancing and allows youth to believe s/he is not like the negative stereotypes s/he has heard. Further, youth need to be *self-aware* and *mindful*. Ability to recognize one's own thoughts, feelings, strengths,

needs, and moods as they occur and to subsequently reframe experiences allows one to see oneself in a new way and allow for difficult experiences to be addressed more positively. Finally, a sense of *humor* allows youth an opportunity to distance oneself from emotional pain. Humor serves as a portable coping mechanism to help youth adapt in adverse conditions.

The fourth personal strength of youth who demonstrate resilience is sense of purpose that includes: goal direction, special interest, optimism and hope, and sense of meaning (Benard, 2004). In a recent qualitative study, 16 South African youth who experienced extreme poverty and often lacked basic survival necessities such as food, resided in dismal living circumstances, and attended a university where they were taught in a language other than their native tongue were participants in an ethnographic study. Despite these adverse conditions all 16 participants were academically successful. The researcher determined that qualities in these youth such as being high achieving, having strong initiative and motivation, being goal orientated, and having a belief of high self agency contributed to their resilience and consequently, academic success (Dass-Brailsford, 2005). Cabrera and Padilla (2004) also noted personal motivation as a factor contributing to academic success in their research involving two Mexican heritage, Stanford University graduates.

Certainly, youth who aspire to achieve personal *goals* foster their overall sense of purpose by continuing to focus on future outcomes (Benard, 2004). A recurring theme for academically successful, female undergraduate students of color was "future orientations" in Morales' research (2008, p. 205). These young women were characterized as being intensely focused on post-graduation professional goals. Also,

those youth who find some sort of hobby or activity for engagement can use this *special interest* to foster their sense of purpose (Benard, 2004).

Further, a youth who maintains an *optimistic* attitude, by focusing on the positive, and has *hope* for her/himself also enhances sense of purpose by continuing to see the future as an opportunity (Benard, 2004). Research indicated a lack of hope was associated with increased health risk behaviors. Broccoli and Sanchez (2009) found a sense of implicit hopelessness was associated with less frequent condom use in male undergraduate students. Further, Bolland (2003) found hopelessness to be associated with multiple health risk behaviors including, violent/aggressive behaviors, substance use, risky sexual behavior, and increased accidental injuries in research with nearly 2500 inner-city adolescents. Additional research indicated hope was positively correlated with grade point average and graduation rates of undergraduate students (Synder et. al, 2002)

Finally, those youth who find *meaning in life* whether it is from religious beliefs, generalized faith, or a personal understanding about why they exist are able to better conceptualize their own sense of purpose (Benard, 2004). In a recent study of 85 African American parochial college students, religiosity was inversely associated with health risk behaviors including alcohol, tobacco, and other drug use. Also, an inverse association was found between religiosity and multiple major and minor behavior problems. Further, higher academic achievement was noted among students with higher religiosity (Abar, Carter, & Winsler, 2009). Through fostering qualities as those previously described, steps towards positive youth development may be made.

Youth Development

In 1996, the Department of Health and Human Services, Office of the Assistant Secretary for Planning and Evaluation through the National Institute of Child Health and Human Development sponsored "The Positive Youth Development Project" (PYD Project). The purpose of this project was to evaluate existing positive youth development programs and to summarize the state of youth development work. As part of this project, 77 programs were reviewed; results indicated positive youth development programs were defined to include those programs that sought to address one or more of the following criteria:

1. Promotes bonding

2. Fosters resilience

3. Promotes social competence

4. Promotes emotional competence

5. Promotes cognitive competence

6. Promotes behavioral competence

7. Promotes moral competence

8. Fosters self-determination

9. Fosters spirituality

10. Fosters self-efficacy

11. Fosters clear and positive identity

12. Fosters belief in the future

13. Provides recognition for positive behavior

14. Provides opportunities for pro-social involvement

15. Fosters pro-social norms. (Catalano, Berglund, Ryan, Lonczak, & Hawkins, 1998)

Characteristics of positive youth development programs as defined by this project are still reflected in youth development programs today. For example, the Miami Youth Development Project seeks to empower youth to take control of their lives, through provision of a wide variety of individual and group counseling options embedded within high schools. Results from a quasi-experimental research study with 92 participants indicated positive and statistically, significant gains in skills, knowledge, and attitudes regarding personal outlook and direction of life in the intervention group. (Ferrer-Wreder et al., 2002).

Additionally, multiple PYD project criteria correspond with constructs found in Pittman and Cahill's (1992a) youth development framework, and consequently, Fetro's (2000) personal and social competence scale. Definitions for those criteria most closely corresponding to Fetro's (2000) scale are noted in Table 1. Table 2 illustrates how these program characteristics described in the PYD Project (Catalano et al., 1998) correspond with the subscales in Fetro's (2000) personal and social competence scale.

Basing their work upon resilience and youth development research and specifically the 1989 report on preparing youth for the 21st century, *Turning Points* (Carnegie Council on Adolescent Development, 1989), Pittman and Cahill (1992a) created a youth development framework that includes two components. The two components stemmed directly from two themes these authors noted in *Turning Points*. The first theme indicated the necessity of youth to be competent in a variety of areas to be successful as adults. The second theme was that development of competencies needed

Table 1

Definitions of Selected PYD Project Criteria

Criteria	Definition
Fosters Resilience	Programs emphasized strategies for adaptive coping responses to change and stress, and promoted psychological flexibility and capacity
Promotes Social Competence	Programs that included training in communication, assertiveness, refusal and resistance, conflict-resolution, and interpersonal negotiation skills
Promotes Emotional Competence	Programs that developed skills for identifying feelings in self or others, skills for managing emotional reactions or impulses, or skills for building the youth's self-management strategies empathy, self-soothing or frustration tolerance
Promotes Cognitive Competence	Programs that sought to influence a child's cognitive abilities, processes, or outcomes, including academic performance, logical and analytic thinking, problem solving, decision making, planning, goal-setting, and self-talk skills
Promotes Moral Competence	Programs that sought to promote empathy, respect for cultural and societal rules and standards, a sense of right and wrong, or a sense of moral or social justice
Fosters Self-Determination	Programs that sought to increase youths' capacity for empowerment, autonomy, independent thinking, or self-advocacy, or their ability to live and grow by self-determined internal standards and values
Fosters Self-Efficacy	Programs that included strategies for personal goal-setting, coping and mastery skills, or techniques to change negative self-efficacy expectancies or self-defeating cognitions
Fosters Belief in Future	Programs that sought to influence a child's belief in his or her future potential, goals, options, choices, or long range hopes and plans and/or the youth's optimism about a healthy and productive adult life

Note: Source: Catalano et al., 1998

Table 2

PYD Project Criteria and Corresponding Personal and Social Competence Subscales

PYD Criteria / Personal & Social Competence Subscales	Fosters Resilience	Promotes Social Competence	Promotes Emotional Competence	Promotes Cognitive Competence	Promotes Moral Competence	Fosters Self-Determination	Fosters Self-Efficacy	Fosters Belief in the Future
	Adaptability Scale	Developing and Maintaining Relationships Scale	Empathy Scale	Sense of Hope Scale	Empathy Scale	Sense of Hope Scale	Adaptability Scale	Sense of Hope Scale
	Internal/External Stressors and Demands Scale	Communication Skills Scale	Understanding Emotions Scale	Sense of Purpose and Future Scale		Sense of Purpose and Future Scale	Internal/External Stressors and Demands Scale	Sense of Purpose and Future Scale
	Stress Response and Reaction Scale	Conflict Resolution Scale	Self-Discipline Scale	Self-Concept Scale		Self-Concept Scale	Stress Response and Reaction Scale	Self-Concept Scale
	Support Systems and Resources Scale			Self-Esteem Scale		Self-Esteem Scale	Support Systems and Resources Scale	Self-Esteem Scale
	Time Management Scale			Defining Problem or Issue Scale		Self-Efficacy Scale	Time Management Scale	Self-Efficacy Scale
	Stress Management Scale			Predicting Outcomes or Consequences Scale		Assessing Information and Resources Scale	Stress Management Scale	Self-Discipline Scale
				Identify Potential Alternative Solutions Scale			Self-Efficacy Scale	
				Goal Setting Scale			Goal Setting Scale	
				Assessing Information and Resources Scale				

Note: PYD criteria source: Catalano et al., 1998, Subscales source: Fetro & Hey, 2000

for youth to be successful adults was dependent on them first having a set of developmental needs met.

One component of the framework is developmental needs. The needs component includes seven distinct human needs fundamental for the youth's healthy development. These needs include: a sense of safety and structure, a sense of belonging/group membership, a sense of self-worth/contributing, a sense of independence/control over one's life, a sense of closeness/relationships, a sense of competence/mastery, and a sense of self-awareness. The second component is personal competencies. There are five competencies and each one describes a set of behaviors and skills needed by youth to become successful adults. These competencies include health/physical competence, personal/social competence, cognitive/creative competence, vocational competence, and citizenship competence. The behaviors and skills needed for each of these competencies as described by Pittman and Cahill (1992a) are listed below:

Health/physical competence: good current health status plus evidence of appropriate, knowledge, attitudes, and behaviors that will ensure future health

Personal/social competence: intrapersonal skills (ability to understand personal emotions, have self-discipline); interpersonal skills (ability to work with others, develop friendships and relationships through communication, cooperation, empathizing, negotiating); coping/system skills (ability to adapt, be flexible, assume responsibility); judgment skills (ability to plan, evaluate, make decisions, solve problems)

Cognitive/creative competence: broad base of knowledge, ability to appreciate and participate in areas of creative expression; good oral, written language skills;

problem-solving and analytical skills; ability to learn/interest in learning and achieving

Vocational competence: broad understanding/awareness of vocational (and avocational) options and of steps needed to act on choices; adequate preparation for chosen career; understanding of value and function of work (and leisure)

Citizenship competence: understanding the history and values of one's nation and community and the desire to be involved in efforts that contribute to the nation and community (p. 20)

While each of the needs and competencies are distinct constructs of Pittman and Cahill's (1992a) framework, they also are related. When one of the constructs is impacted, it is to be expected that the other aspects also will be impacted. Fetro's (2000) personal and social competence scale is based upon the personal/social competence domain of Pittman and Cahill's (1992a) framework.

Another youth development framework to consider was developed by the Search Institute. The Search Institute is a nonprofit organization that has been involved in researching needs of children and adolescents for healthy development for more than 50 years (Search Institute, 2008b). Specifically, the Search Institute has been involved in research regarding resiliency, youth development, and prevention. In 1990, after more than 30 years of research, the Search Institute created its framework of Developmental Assets. Since that time, the Developmental Assets framework has been one of the most widely used youth development approaches in the United States.

The Developmental Assets describe a series of 40 experiences and qualities needed by children and adolescents to avoid risk behaviors and thrive. More than 2.2

million youth in the United States have been surveyed to assess the number of assets they possess. Results from these data indicated the more assets youth have, the less likely they are to engage in a wide range of youth risk behaviors. Aggregate data from 2003 Search Institute's research, included a sample of 148,189, 6-12th grade students across the United States. Findings indicated that of those youth who reported having 0-10 assets (less than 25% of the total assets), approximately 45% also reported having used alcohol three or more times in the past month or having been drunk once in the past two weeks as compared to only 3% of those youth who reported having 31-40 assets. Approximately, 62% of those youth who reported having 0-10 assets also engaged in three or more acts of fighting, hitting, injuring a person, carrying or using a weapon, or threatening physical harm in the past year as compared to only 6% of their peers with 31-40 assets. Further, 44% of the 0-10 assets students reported having skipped school two or more days in the past month and/or had below a C average as compared to 4% of the 31-40 assets students (Search Institute, 2008a).

The Developmental Assets are divided into two groups, external and internal assets, and they are further divided within each group into four subgroups (see Table 3). The external assets are divided into the subgroups: support, empowerment, boundaries and expectations, and constructive use of time. The internal assets are divided into the subgroups: commitment to learning, positive values, social competencies, and positive identity. Within each subgroup, specific assets are delineated. Three separate sets of development assets exist that are specific to the following age spans; 3-5, 8-12, and 12-18. While groups and subgroups of assets within each set remain consistent, as well as the number of assets within each subgroup, some variation exists in the terminology and

Table 3

Search Institute's 40 Developmental Assets for Adolescents ages 12-18

External Assets	**Support**	Family support - Family life provides high levels of love and support
		Positive family communications - Young person and her or his parent(s) communicate positively, and young person is willing to seek advice or counsel from parents
		Other adult relationships - Young person receives support from three or more non-parent adults
		Caring neighborhood - Young person experiences caring neighbors
		Caring school climate - School provides a caring, encouraging environment
		Parent involvement in schooling - Parent(s) are actively involved in helping young person succeed in school.
	Empowerment	Community values youth- Young person perceives that adults in the community value youth.
		Youth as resources - Young people are given useful roles in the community.
		Service to others - Young person serves in the community one hour or more per week.
		Safety - Young person feels safe at home, school, and in the neighborhood.
	Boundaries & Expectations	Family boundaries - Family has clear rules and consequences and monitors the young person's whereabouts.
		School boundaries - School provides clear rules and consequences.
		Neighborhood boundaries - Neighbors take responsibility for monitoring young people's behavior.
		Adult role models - Parent(s) and other adults model positive, responsible behavior.
		Positive peer influence - Young person's best friends model responsible behavior.
		High expectations - Both parent(s) and teacher encourage the young person to do well.
	Constructive Use of Time	Creative activities - Young person spends three or more hours per week in lessons or practice in music, theater, or other arts.
		Youth programs - Young person spends three or more hours per week in sports, clubs, or organizations at school and/or in the community.
		Religious community - Young person spends one or more hours per week in activities in a religious institution.
		Time at home - Young person is out with friends "with nothing special to do" two or fewer nights per week.
Internal Assets	**Commitment to Learning**	Achievement motivation - Young person is motivated to do well in school.
		School engagement - Young person is actively engaged in learning
		Homework - Young person reports doing at least one hour of homework every school day.
		Bonding to school - Young person cares about her or his school.
		Reading for pleasure - Young person reads for pleasure three or more hours per week.
	Positive Values	Caring - Young person places high value on helping other people.
		Equality and social justice - Young person places high value on promoting equality and reducing hunger and poverty.
		Integrity - Young person acts on convictions and stands up for her or his beliefs.
		Honesty - Young person "tells the truth even when it is not easy."
		Responsibility - Young person accepts and takes personal responsibility.
		Restraint - Young person believes it is important not to be sexually active or to use alcohol or other drugs.
	Social Competencies	Planning and decision making - Young person knows how to plan ahead and make choices.
		Interpersonal competence - Young person has empathy, sensitivity, and friendship skills.
		Cultural competence - Young person has knowledge of and comfort with people of different cultural/racial/ethnic backgrounds.
		Resistance skills - Young person can resist negative peer pressure and dangerous situations.
		Peaceful conflict resolution - Young person seeks to resolve conflict nonviolently.
	Positive Identity	Personal power - Young person feels he or she has control over "things that happen to me."
		Self-esteem - Young person reports having a high self-esteem.
		Sense of purpose - Young person reports that "my life has a purpose."
		Positive view of personal future - Young person is optimistic about her or his personal future.

Note: Source: Search Institute, 2008b

definitions of the assets based upon designated age span (Search Institute, 2008b).

Specific consideration of the assets delineated for the age span 12-18 is made in this

literature review as this age span is closest to the age span of the study sample. Many of

the Search Institute's (2008b) internal assets correspond with Fetro's (2000) subscales.

Table 4 illustrates these connections.

In addition to research conducted by the Search Institute, independent research

also supports an inverse relationship between asset attainment and engagement in youth

risk behaviors. One study found that youth who experienced positive family

communication and were able to make responsible choices were significantly less likely

to have engaged in physical fighting over the past year and to have not carried a weapon

within the last 30 days as opposed to those youth who did not have these assets (Aspy et

al., 2004). Additionally, results from an assessment of nine youth assets and five sexual

behaviors indicated attainment of more assets was associated with decreased likelihood

of having participated in sexual intercourse. Further, of those youth who were sexually

active, attainment of more assets was associated with delayed first sexual intercourse

until at least 17 years of age and increased likelihood to have used birth control during

last sexual intercourse experience (Oman, Vesely, Aspy, McLeroy, & Luby, 2004).

Positive relationships were found between non-use of alcohol and presence of the

following assets: peer role models, positive family communication, good health practices,

and aspirations for the future. Youth who had at least one of these assets were

approximately 1.5 to 2.5 times less likely to have used alcohol than their counterparts

who did not have any of these assets (Oman et al., 2004). In another study, females who

reported being physically abused were less likely to engage in purging if they had the

Table 4

Search Institute's Assets and Corresponding Personal and Social Competence Subscales

Assets	Integrity	Responsibility	Planning and Decision Making	Interpersonal Competence	Resistance Skills	Peaceful Conflict Resolution	Personal Power	Self-Esteem	Positive View of Personal Future
Personal & Social Competence Subscales	Communication Skills Scale	Developing and Maintaining Relationships Scale	Defining Problem or Issue Scale	Developing and Maintaining Relationships Scale	Communication Skills Scale	Conflict Resolution Scale	Self-Concept Scale	Self-Esteem Scale	Sense of Hope Scale
			Predicting Outcomes or Consequences Scale	Communication Skills Scale			Self-Efficacy Scale		Sense of Purpose and Future Scale
			Identify Potential Alternative Solutions Scale	Conflict Resolution Scale			Self-Discipline Scale		
			Goal Setting Scale	Empathy Scale					
			Assessing Information and Resources Scale						

Note: Assets source: Search Institute 2008b, Subscales source: Fetro & Hey, 2000

assets of family support and caring school climate as opposed to their counterparts who did not have these assets (Perkins, Luster, & Jank, 2002).

Effective Health Education Curriculum

The Health Education Curriculum Analysis Tool (HECAT) is an assessment tool developed by CDC for examining school health education curricula (CDC-NCCDPHP, 2008b). HECAT results are intended to assist schools in selection or development of appropriate and effective health education curricula and improve delivery of health education. Its development was based upon on the National Health Education Standards. As a result of the HECAT's development, CDC's *Characteristics of an Effective Health Education Curriculum* (CDC-NCCDPHP, 2008a) were delineated.

The Centers for Disease Control and Prevention, Division of Adolescent and School Health, conducted a review of the most effective health education programs and curricula. That review coupled with expert input from health education professionals resulted in a compilation of characteristics of curricula known as the CDC's *Elements of an Effective Health Education Curriculum*. Fourteen characteristics were delineated and are listed below:

1. Focuses on clear health goals and related behavioral outcomes

2. Is research–based and theory-driven

3. Addresses individual values and group norms that support health–enhancing behaviors

4. Focuses on increasing personal perceptions of risk and harmfulness of engaging in specific health risk behaviors and reinforcing protective factors

5. Addresses social pressures and influences

6. Builds personal competence, social competence, and self-efficacy by addressing skills

7. Provides functional health knowledge that is basic, accurate, and directly contributes to health–promoting decisions and behaviors

8. Uses strategies designed to personalize information and engage students

9. Provides age–appropriate and developmentally–appropriate information, learning strategies, teaching methods, and materials

10. Incorporates learning strategies, teaching methods, and materials that are culturally inclusive

11. Provides adequate time for instruction and learning

12. Provides opportunities to reinforce skills and positive health behaviors

13. Provides opportunities to make positive connections with influential others

14. Includes teacher information and plans for professional development and training that enhance effectiveness of instruction and student learning (CDC-NCCDPHP, 2008a, ¶ a-n)

With regard to evaluation of personal and social competence of undergraduate students, it is important to note the sixth characteristic of effective health education curricula indicated by CDC-DASH includes building personal competence, social competence, and self-efficacy through skill enhancement. Specific skills noted by the CDC-DASH include "communication, refusal, assessing accuracy of information, decision–making, planning and goal–setting, self–control, and self–management, that enable students to build personal confidence and ability to deal with social pressures and avoid or reduce risk

behaviors" (CDC-NCCDPHP, 2008a, ¶ f). These skills align with those skills measured in Fetro's (2000) scales.

Following suit with national trends to establish national education standards in subject specific areas, the American Cancer Society brought together health education organizations and professionals from across the country to write a set of national standards for health in 1993. These standards, the National Health Education Standards (NHES), were first published in 1995 and are written expectations that offer a framework around which health education in grades K-12 can be built. By 2005, most states had either adopted or adapted the NHES. In an effort to stay aligned with the most recent research based evidence regarding effective practice in health education, a revised version of the NHES was published in 2007. This version continues to serve as the reference for health education in schools across the country (Joint Committee on National Education Standards, 2007).

Based upon the premise that the goal of health education is to help students adopt and maintain healthy behaviors, the NHES are comprised of eight standards intended to provide a framework for curriculum development. The eight NHES are listed below:

Standard 1: Students will comprehend concepts related to health promotion and disease prevention to enhance health.

Standard 2: Students will analyze the influence of family, peers, culture, media, technology, and other factors on health behaviors.

Standard 3: Students will demonstrate the ability to access valid information and products and services to enhance health.

effectively address the goal of student adoption and maintenance of healthy behaviors such as those identified by the CDC (Joint Committee on National Health Education Standards, 2007).

Supporting Evidence for Effective Health Education

Support for CDC's *Characteristics of an Effective Health Education Curriculum* (CDC-NCCDPHP, 2008a) is reflected in the research conducted by the Urban Institute. A review of 51 risk behavior prevention interventions was conducted to determine elements of successful programs. Of the 51 programs reviewed, each one had at least one published scientific study about the program's effectiveness. After an initial review, 21 programs were selected to be reviewed more extensively. These 21 programs were selected for further review based upon their large sample sizes, collection of baseline data, longevity of the follow-up period, and participant retention. Researchers identified six characteristics that were common in these programs (Eisen, Pallitto, Bradner, & Bolshun, 2000).

Of the 21 programs extensively reviewed, the first common element was all of the programs were theory-based (Eisen et al. 2000). In particular, use of social behavior theories were common and included but were not limited to social learning theory, social inoculation theory, cognitive-behavioral theory, social influence model, diffusion theory, social behavior theory, and social cognitive theory (Howard & McCabe, 1990; Jemmott, Jemmott, & Fong, 1998; Kamb, et al, 1998; Kirby, Barth, Leland, & Fetro, 1991; Shain, et al., 1999; Walter, Vaughan, & Wynder, 1989). Objectives of the programs included modifying participants' knowledge, attitude, and behaviors, so perceptions of the benefits

of health behaviors were greater than the costs. Further, the most effective of these programs included specific behavior change goals within them. Sixteen programs contained elements to educate about negative consequences of the risk behavior being targeted. Eleven programs contained elements focused on changing beliefs that supported risk behaviors to beliefs that were supportive of prevention behaviors (Eisen et al., 2000).

A third common element in these programs was inclusion of skill-building strategies. Student-to-student and instructor-to-student skill-building strategies were incorporated in interventions. Specifically, verbal and non-verbal communication skills, resistance skills, assertiveness skills, decision-making skills, problem-solving skills and analyzing influences were addressed (Botvin, Baker, Dusenbury, Botvin, & Diaz, 1995; Elder et al., 1993; Jemmott et al., 1998; Kirby, et al., 1991; St. Lawrence et al., 1995; Howard & McCabe, 1990; Walter et al., 1989)

Other elements of these effective programs were use of both a written curriculum and training for the program implementer via practice and adequate time for the programs. With regard to longevity of the programs, those programs with the greatest number of sessions and length of the total intervention were usually more effective than their counterparts. Finally, the last common element of these 21 highly effective programs was use of multiple components to implement the program (Eisen et al., 2000). Use of community, parents, peer education, and/or peer leaders was integrated into programs (Chou et al., 1998; Hawkins, Catalano, Kosterman, Abbott & Hill, 1999; Kelder, Perry, & Klepp, 1993).

Further evidence for elements of effective programs can be found from results of the PYD Project. As previously indicated, the PYD Project defined positive youth development programs to address one or more of the following elements: promotes bonding, fosters resilience, promotes social competence, promotes emotional competence, promotes cognitive competence, promotes behavioral competence, promotes moral competence, fosters self-determination, fosters spirituality, fosters self-efficacy, fosters clear and positive identity, fosters belief in the future, provides recognition for positive behavior, provides opportunities for pro-social involvement, and/or fosters pro-social norms. Of the 77 programs originally reviewed in this project, 25 were evaluated extensively. These 25 were selected based upon their strong evaluation design and positive behavioral outcomes (Catalano et al., 1998).

Results from the project indicated that 19 of these 25 programs resulted in positive behavioral outcomes including significant improvements in interpersonal skills, quality of peer and adult relationships, self-control, problem solving, cognitive competencies, self-efficacy, commitment to schooling, and academic achievement. Additionally, 24 programs demonstrated significant reductions in risk behaviors, including drug and alcohol use, school misbehavior, aggressive behavior, violence, truancy, high risk sexual behavior, and smoking (Catalano et al., 1998).

Common elements in these effective programs included strengthening social, emotional, behavioral, cognitive, and moral competencies of youth; building their self-efficacy; shaping messages from family and community about clear standards for youth behavior; increasing healthy bonding with adults, peers and younger children; expanding opportunities and recognition for youth; providing structure and consistency in program

delivery; and program duration was nine months or more. While all of these elements

were not present in all of the programs, it should be noted that self-efficacy, pro-social

norms, and one or more of the competencies were included in all 25 of them. More

specifically, all 25 effective programs promoted children's competencies on social,

cognitive, and behavioral dimensions, 22 programs promoted emotional competencies,

and 8 programs promoted moral competence (Catalano et al.,1998). Elements in this

research further support the previously discussed effective health education criteria

particularly the need to address personal and social competence. As such, considerations

of personal and social competence at the college level are necessary so that potential

health education interventions can address deficits in these skills.

Summary

This chapter offered an overview of literature relevant to this study. Specifically,

literature in the following sections: health risk behaviors, health literacy, resiliency, youth

development, effective health education curriculum, and supporting evidence for

effective health education was examined. Its relevance to the research topic was

discussed. Chapter three includes a detailed description of the research design and

procedures.

CHAPTER THREE

METHODS

Overview

The purpose of this study was to determine the relationship among perceived personal and social competence, selected health risk behaviors, and academic achievement of selected undergraduate students. This chapter describes methods and procedures used to address research questions in this study.

Research Questions

The following research questions were determined for this study:

1. What are the self-reported perceptions of personal and social competence (intrapersonal skills, interpersonal skills, coping skills, and judgment skills) among selected undergraduate students?

2. What are the self-reported health risk behaviors among selected undergraduate students?

3. Do statistically significant correlations exist among perceptions of personal and social competence and health risk behaviors?

4. How much variance in self-reported, college grade point average can be accounted for by perceived personal and social competence and selected health risk behaviors?

Research Design

Correlational research investigates how variations in one factor relate to variations in one or more other factors based upon correlation coefficients (Isaac & Michael, 1995). An exploratory, correlational study using matrix sampling via administration of one of four surveys to selected undergraduate students was designed. Each survey measured one of the following constructs of personal and social competence: intrapersonal skills, interpersonal skills, coping skills, and judgment skills. Additionally, all surveys included identical items to measure selected health risk behaviors, demographics, and a social desirability scale. Data analyses determined if a statistically significant relationship existed among these measures.

University Profile

The university under study is located in a small, Midwest city of just over 26,000 people. The city serves as the retail center for many surrounding counties as the region is predominately rural. The city is within close proximity of a national forest, state park, and several lakes. As such, the region is known for its abundance of outdoor recreational activities ("Meet," 2009). The atmosphere of the university reflects the local region with its scenic wooded pathways and campus lake.

The university has a variety of resources available to students including a state-of-the-art recreational facility as well as a student health center that contains a medical clinic, wellness center, dental office, pharmacy, mental health clinic, and sports medicine and physical therapy program. Additionally, the student center houses multiple dining locations, a bowling alley, craft shop, bookstore, and is the site of many concerts,

lectures, and films. Campus housing is offered as dormitories for all students and apartments for older students (Southern Illinois University Carbondale [SIUC], 2009b).

Enrollment at the university in Fall 2008 was 20,673 students. Of these students, 77.3% were undergraduates, and 69.24% were full-time undergraduates. The majority of the undergraduate population was male (54.7%). Approximately one quarter (n=4028; 25.2%) of undergraduates were minorities; 2,949 Black, 70 American Indian/Alaskan Native, 372 Asian Pacific Islander, and 637 Hispanic. An additional 256 undergraduates were international students. The mean ACT score for new freshmen was 21.6, which is slightly higher than the national mean of 21.1. Approximately one half of full-time freshmen (50.8%) who entered the university in Fall 2004 graduated within four years or continued their education at the university for a fifth year. The most commonly selected undergraduate programs of study were psychology, administration of justice, management, and industrial technology (SIUC, 2009a).

Study Sample

A convenience sample of undergraduate students enrolled in an introductory, general education nutrition course, a personal health course, or a physical fitness course at a large, Midwestern university during the Spring 2009 semester was selected. Each of these courses represented one of three 100-level "Human Health" core curriculum courses available to fulfill a graduation requirement of all students. While many of the students in these 100-level courses were freshmen, it was expected the students would be an otherwise diverse group. Dual enrollment among these courses was unlikely. A brief

synopsis of each course's content as described by the sample university's course catalog is provided below:

The introductory nutrition course "integrates nutrition and promotion of health through prevention of disease and will answer questions found daily in the media regarding nutrition. Topics emphasized include functions of basic nutrients, impact of culture, gender, ethnicity, social environments and lifestyle on nutrition and health" (SIUC, 2008, p. 60). Two sections of this course were offered in the Spring 2009 semester. One section had 256 students enrolled, and the other section had 138 students enrolled. Each section was taught by a university faculty who held a terminal degree (SIUC, 2009c).

The personal health course "is designed to examine contemporary health related issues for all dimensions of the individual - physical, mental, social, emotional and spiritual - through focus on health promotion and disease prevention. Emphasis is placed on maintaining or improving quality of life by developing personal and social skills (decision-making, communication, stress management, goal setting) across health education content areas, as well as identifying and accessing appropriate health related resources" (SIUC, 2008, p. 60). Twenty-three sections of this course were offered in the Spring 2009 semester. Each section had between 23 and 26 students enrolled and was taught by a graduate assistant seeking masters or doctorate degree in a related field of study (SIUC, 2009c).

The physical fitness course is designed "to foster a thorough understanding of scientific principles of physical fitness and to enhance the ability to utilize physical exercise toward achievement of healthful living" (SIUC, 2008, p. 60). Twelve sections

of this course were offered in the Spring 2009 semester. Each section had between 25

and 29 students enrolled and was taught by a graduate assistant seeking a masters degree

in a related field of study (SIUC, 2009c).

    All students in attendance the day the survey was administered, who voluntarily

consented, completed one of four surveys used in this study. Students in these classes

ages 22 years and over were included in the study sample, but their data were excluded

from analysis.

Instrumentation

    In 1988, the Centers for Disease Control and Prevention (CDC) reviewed the

leading causes of morbidity and mortality among youth and adults with intention of using

their findings to create the *Youth Risk Behavior Survey* (YRBS). This review indicated

that all behaviors contributing to the leading causes of morbidity and mortality could be

grouped into six categories: behaviors contributing to unintentional injuries and violence;

tobacco use; alcohol and other drug use; sexual behaviors contributing to unintended

pregnancies and sexually transmitted infections/diseases; unhealthy dietary behaviors;

and physical inactivity (The National Commission on the Role of the School and the

Community in Improving Adolescent Health, 1989). An expert panel was established to

create items to measure prevalence of each health risk area (CDC, 2004).

    Content validity of the YRBS was established through an expert review of the

questionnaire by representatives from all 50 states, Washington D.C., four U.S.

territories, 16 local education agencies, and research specialists from the National Center

for Health Statistics (CDC, 2004). This survey has been revised and reviewed multiple

times to reflect site and national priorities. There have been two test-retest reliability studies of the national YRBS survey. In both studies, the survey was administered to students on two occasions 14 days apart. The majority of the items had a kappa 61% or greater indicating a substantial or higher reliability for these items. Based upon these results, items that did not meet reliability standards were revised or deleted from the survey (CDC, 2004)**.**

Eleven selected items from the CDC's 2009 YRBS (CDC-NCCDPHP, 2008c) were used to assess health risk behaviors of participants in this study (see Table 5). At least one item representing five of the six CDC priority health risk behaviors: behaviors that contribute to unintentional injuries and violence, tobacco use, alcohol and other drug use, sexual behaviors that contribute to unintended pregnancy and sexually transmitted diseases/infections, and physical inactivity (CDC-NCCDPHP, 2009) was selected. The items selected were those that were similar to other surveys that assess college health risk behaviors, such as the 2008 *National College Health Assessment* (American College Health Association, 2008). The health risk behavior priority area, unhealthy dietary behaviors (CDC-NCCDPHP, 2009), was not represented on this survey due to the excessive number of items that would have been required to adequately measure this behavior and the lack of congruency between the YRBS items and other risk behavior surveys. All items were in a multiple response format identical to the format in the 2009 *YRBS* (CDC-NCCDPHP, 2008c).

In 1999, Fetro began work developing an instrument to measure personal and

Table 5

Selected Items from the YRBS

Question	Response Options
During the past 30 days, how many times did you ride in a car or other vehicle driven by someone who had been drinking?	A. 0 times B. 1 time C. 2 or 3 times D. 4 or 5 times E. 6 or more times
During the past 12 months, did you ever feel so sad or hopeless almost every day for two weeks or more in a row that you stopped doing some usual activities?	A. Yes B. No
During the past 12 months, did you ever seriously consider attempting suicide?	A. Yes B. No
During the past 30 days, on how many days did you smoke cigarettes?	A. 0 days B. 1 or 2 days C. 3 to 5 days D. 6 to 9 days E. 10 to 19 days F. 20 to 29 days G. All 30 days
During the past 30 days, on how many days did you have at least one drink of alcohol?	A. 0 days B. 1 or 2 days C. 3 to 5 days D. 6 to 9 days E. 10 to 19 days F. 20 to 29 days G. All 30 days
During the past 30 days, on how many days did you have 5 or more drinks of alcohol in a row, that is, within a couple of hours?	A. 0 days B. 1 day C. 2 days D. 3 to 5 days E. 6 to 9 days F. 10 to 19 days G. 20 or more days
During the past 30 days, how many times did you use marijuana?	A. 0 times B. 1 or 2 times C. 3 to 9 times D. 10 to 19 times E. 20 to 39 times F. 40 or more times

Note. Source: Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, 2008c

Table 5

Selected Items from the YRBS (continued)

Question	Response Options
During the past 3 months, with how many people did you have sexual intercourse?	A. I have never had sexual intercourse
	B. I have had sexual intercourse, but not during the past 3 months
	C. 1 person
	D. 2 people
	E. 3 people
	F. 4 people
	G. 5 people
	H. 6 or more people
Did you drink alcohol or use drugs before you had sexual intercourse the last time?	A. I have never had sexual intercourse
	B. Yes
	C. No
During the past 30 days, how often did you or your partner use a condom?	A. I have not had sexual intercourse during the past 30 days
	B. Never used a condom
	C. Rarely used a condom
	D. Sometimes used a condom
	E. Most of the time used a condom
	F. Always used a condom
During the past 7 days, on how many days were you physically active for a total of at least 60 minutes per day? (Add up all the time you spent in any kind of physical activity that increased your heart rate and made you breathe hard some of the time.)	A. 0 days
	B. 1 day
	C. 2 days
	D. 3 days
	E. 4 days
	F. 5 days
	G. 6 days
	H. 7 days

Note. Source: Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, 2008c

social competence of individuals as described by Pittman and Cahill's (1992a)

framework that included intrapersonal skills, interpersonal skills, coping skills, and

judgment skills. These skills are defined below:

Intrapersonal skills: "understands and is able to deal with emotions; practices

self-discipline" (p. 20)

Interpersonal skills: "works well with others, develops friendships and

relationships through communication, cooperation, empathizing, and negotiating"

(p. 20)

Coping/System skills: "has ability to adapt and be flexible; assume personal

responsibility for one's actions" (p. 20)

Judgment skills: "plans and evaluates situations; makes health-promoting

decisions, able to use problem-solving skills appropriately" (p. 20)

Based upon a comprehensive literature review of health education, psychology,

sociology, and other related fields, items describing personal and social competence

constructs were delineated. Content validity of these items was established through a

Delphi study of nine expert panel members. Four scales, each divided into multiple

subscales (see Table 6), measuring perceived intrapersonal skills, interpersonal skills,

coping skills, and judgment skills, were developed. These scales were used in this study

in four distinct surveys. Concise operational definitions were developed for each

subscale. For each delineated construct, a pool of appropriate items was identified.

Items measuring each construct utilized a five-point Likert-type scale with responses

ranging from "almost never" to "almost always" (Fetro, 2000). Internal consistency

Table 6

Definitions of Personal and Social Competence Subscales

Subscale	Definition
Coping Skill Assessment (68 Items)	
Adaptability Scale (6 items)	Measures perceived ability to adapt to everyday hassles and changing situations.
Stress Response and Reaction Scale (21 items)	Measures perceived ability to identify stress and correctly act to control stress.
Support Systems and Resources Scale (15 items)	Measures perceived ability to identify and use friends and others for support.
Time Management Scale (6 items)	Measures perceived ability to manage time consistent with personal priorities and values.
Stress Management Scale (20 items)	Measures perceived ability to control stress.
Interpersonal Skill Assessment (65 Items)	
Developing and Maintaining Relationships Scale (29 Items)	Measures the perceived ability to develop trust, honesty, and social support in relationships.
Communication Skills Scale (13 Items)	Measures the ability to communicate, including assertiveness and refusal skills.
Conflict Resolution Scale (13 Items)	Measures the perceived ability to be flexible, open to other's suggestions, and recognize importance of negotiation.
Empathy Scale (10 Items)	Measures perceived level of understanding others through sympathy, compassion, and sensitivity.
Intrapersonal Skill Assessment (115 Items)	
Sense of Hope, Purpose, and Future Scale (18 Items)	Measures perceived life's direction and the ability to have positive outlook and positive beliefs toward future outcomes.
Self-Concept Scale (7 Items)	Measures sum total of beliefs about personal attributes.
Self-Esteem Scale (22 Items)	Measures satisfaction with self.
Understanding Emotions Scale (17 Items)	Measures perceived level of awareness of feelings and emotions.
Self-Discipline Scale (8 Items)	Measures perceived level of control over one's behaviors.
Locus of Control Scale (13 Items)	Measures perceived level of personal control.
Personal Responsibility Scale (11 Items)	Measures perceived level of personal accountability for one's actions.
Autonomy and Independence Scale (13 Items)	Measures the perceived level of control or restrictions by parents or family.
Value System Scale (6 Items)	Measures perceived level of rules, standards, and norms to regulate behavior.

Note: Source: Fetro & Hey, 2000

Table 6

Definitions of Personal and Social Competence Subscales (continued)

Subscale	Definition
Judgment Skill Assessment (36 Items)	
Defining Problem or Issue Scale (6 Items)	Measures perceived ability to recognize a problem or issue.
Predicting Outcomes or Consequences Scale (4 Items)	Measures perceived ability to specify desired results.
Identify Potential Alternative Solutions Scale (7 Items)	Measures perceived ability to identify potential solutions for desired results.
Goal Setting Scale (11 Items)	Measures perceived ability to develop a plan following a systematic and logical approach
Assessing Information and Resources Scale (8 Items)	Measures perceived ability to access information to meet one's needs, and assess validity/reliability of resources.

Note: Source: Fetro & Hey, 2000

reliability of each scale was established with a sample of undergraduate students (n = 496) in a personal and social skills reliability pilot study. The Cronbach alpha for each scale was computed as follows: intrapersonal scale $\alpha = 0.955$, interpersonal scale $\alpha = 0.906$, coping scale $\alpha = 0.889$, judgment scale $\alpha = 0.912$.

Social desirability is "a manner of presenting oneself in a favorable light" (Crowne & Marlowe, 1960 as cited by Beere, Pica, & Maurer, 1996, p. 130). While a variety of instruments have been developed to measure social desirability as a response tendency in research using self-report items, the *Marlowe-Crowne Social Desirability Scale* (Crowne and Marlowe, 1960 as cited by Reynolds, 1982, p. 119) is one of the most widely used instruments (Reynolds, 1982). Reynolds (1982) sought to reduce the number of items in the Marlow-Crowne scale to allow for greater use in psychological and social research. Using a sample of 608 undergraduate students, Reynolds completed a factor analysis of the 33 original items in the Marlowe-Crowne scale. After developing an initial short form of the scale, subsequent short forms were developed through the addition of other homogeneous items. This procedure increased internal consistency reliability. Short forms of the scale were validated based upon the correlation between each form and the original Marlowe-Crowne scale. The 13-item short form had the second strongest correlation (r=.93) and second highest internal consistency reliability (r_{KR20}=.76) of the six short forms tested by Reynolds. The only scale with a stronger correlation (r=.95) and greater reliability (r_{KR20}=.76) also had seven additional items. The 13-item short form of the *Marlowe-Crowne Social Desirability Scale* was used in this study to determine if specific items in the personal and social competence scales elicited socially desirable responses.

Four separate surveys were used in this study (see Appendix A, B, C, and D). For each survey, part A contained items from one of the four personal and social competence scales. Part B was consistent in all surveys and included the 13 items in the short version of the *Marlowe-Crowne Social Desirability Scale* (Reynolds, 1982). Part C also was the same in all surveys and measured the following health risk behaviors: driving a vehicle with someone who has been drinking alcohol, feelings of sadness or hopelessness, considering attempting suicide, smoking cigarettes, drinking alcohol, binge drinking, current marijuana use, sexual intercourse within the last three months, alcohol or drug use before sexual intercourse, lack of condom use during sexual intercourse, and physical inactivity. Part D contained identical demographic items: gender, birthdate, year in school, ethnicity/race, high school grade point average, and current grade point average.

Data Collection Procedures

Upon approval from the Human Subjects Committee and the doctoral dissertation committee, the sample was elicited by visiting all Spring 2009 sections of an introductory nutrition class, all sections of a personal health course, and all sections of a physical fitness course at a large, Midwestern university, with permission of the instructors, during regular class times in the last month of the semester. Multiple trained researchers collected data. Each researcher received and reviewed a protocol of the data collection procedures (see Appendix E) with the primary researcher. These procedures, which included reading the cover letter (see Appendix F) to participants, were followed by all researchers.

Matrix sampling was used so that approximately one fourth of student sample completed each one of the four surveys. Matrix sampling is development of a complete set of items and then division of those items into subsets and administering each subject one of the subsets of the items. This method of sampling limits the amount of time needed to complete the given number of items (Childs & Jaciw, 2003). Surveys were printed on four different colors of paper with each color representing one of the four surveys. Prior to distribution of surveys, they were collated so that every fifth survey was identical. Surveys, with an attached cover letter, were distributed to the first person at the beginning of every row. Participants were instructed to take the survey on top of the stack and pass the surveys to the next person. Scantron forms and pencils were distributed to participants to be used for recording their responses. Participants used the cover letter to conceal their responses to the survey items, if desired. Upon completion of all surveys, participants were instructed to raise their hands. The researcher walked to the participant and s/he placed the completed survey into a manila envelope or box. After all surveys were collected, the envelope/box was sealed by the trained researcher and returned to the primary researcher for data analysis. All participants were thanked for completing the survey.

Data Analysis

Data collected from participants who reported being older than 22 years were excluded from the analysis. These participants were excluded as the researcher deemed them too far from ages traditionally considered adolescence. Most of the resiliency and youth development research upon which this research study was based was conducted

with adolescents.   Missing data in scale items were assigned the mean score of all other

scale items in that survey. Surveys missing more than 5% of data in the personal and

social competence scales were excluded from the analysis. Also, surveys that did not

have the final item or had more items completed on the scantron form than indicated on

the survey were excluded (n=49, 6.2%).   Data were divided into four distinct data sets.

Each data set included data collected in the full semester section of an introductory

nutrition course, partial semester section of an introductory nutrition course, the personal

health course, or the physical fitness course. The personal and social competence scales'

mean scores of each set of data were compared using Analysis of Variance. As no

statistical differences were found in these three sets of data, data were combined for

future analysis. Data were analyzed using SPSS 17.0.

Health risk behavior items provided nominal and ordinal data. Items were coded

so that least risky behaviors had the lowest scores and the most risky behaviors had the

highest scores. Descriptive statistics, including frequencies and percentages, were

computed on each variable. Frequencies, percentages, and measures of central tendency

and dispersion were computed for demographic variables, as appropriate.

For the social desirability scale, responses to each item were coded with one or

two, where 1 = True and 2 = False. Standard and reverse coding were used as necessary

so that responses coded with a two were the most socially desirable responses. Those

items coded with a one were the most socially undesirable. An individual total score was

calculated by summing each participant's responses. A Pearson's product moment

correlation coefficient was calculated to determine relationships among perceived

personal and social competence items and social desirability. Items with correlations

greater than r=.3 were eliminated from the survey and were not calculated in subsequent analyses (Ardelt, 2003).

For the personal and social competence scales, responses to each item were coded from one to five, where 1 = Almost Never, 2 = Seldom, 3 = Sometimes, 4 = Often, and 5 = Almost Always. Standard and reverse coding were used as necessary so that responses coded with a five were the most positive responses and those coded with a one were the most negative. For each scale and subscale, an individual total score was calculated by summing each participant's responses.

Descriptive statistics, including frequencies, percentages, and measures of central tendency and dispersion were calculated for the individual items, subscale scores, and total scores for each of the scales. A Cronbach alpha was computed on each personal and social competence scale to determine internal consistency reliability. A Spearman's rho correlation or point biserial correlation was calculated as appropriate to determine relationships among perceived personal and social competence and health risk behaviors. A Spearman Rho correlation is an appropriate correlation technique when one variable is ordinal and the other variable is continuous or ordinal (Muijs, 2004). A point biserial correlation is an appropriate correlation technique when one variable is dichotomous and the other variable is continuous (Issac & Michael, 1995).

Given that multiple comparisons were being made, adjustments were made to account for family wise error rate or "findings of false significance" (Feise, 2002, Background section, ¶ 1). According to Feise (2002), the term, "family" is a subjective term and may be defined by the researcher at his/her discretion. For this study, each research question per personal and social competence scale was considered an individual

family. Thus, the number of comparisons used to adjust the alpha level was based upon the number of comparisons per research question. The initial alpha level was set at 0.05. Family wise error rate was adjusted for using the Bonferroni adjustment that yielded an alpha level of 0.004.

Multiple regression was used to determine how much variance in grade point average was accounted for by perceived personal and social competence and health risk behaviors. Prior to multiple regression analysis, however, responses to non-dichotomous health risk behavior items were recoded into artificially dichotomized responses. This procedure allowed for fewer dummy variables to be created resulting in fewer comparisons. All risk behavior items, with the exception of the item related to physical activity, were dichotomized by dividing responses based upon engaging in or abstaining from the risk behavior. The physical activity risk behavior item was dichotomized based upon engaging in physical activity on most days of the week, as recommended by the surgeon general, or not. Table 7 illustrates how each item was dichotomized. Table 8 indicates the data analysis procedures used to address each research question.

Summary

This chapter described procedures that were used to address the study's research questions. Four surveys were used to collect data about demographics, selected health risk behaviors, and the four personal and social competency constructs; intrapersonal skills, interpersonal skills, coping skills, and judgment skills. Descriptive statistics

Table 7

Artificially Dichotomized Health Risk Behavior Items

Question	Response Options
During the past 30 days, how many times did you ride in a car or other vehicle driven by someone who had been drinking?	A. 0 times
	B. 1 time
	C. 2 or 3 times
	D. 4 or 5 times
	E. 6 or more times
During the past 30 days, on how many days did you smoke cigarettes?	A. 0 days
	B. 1 or 2 days
	C. 3 to 5 days
	D. 6 to 9 days
	E. 10 to 19 days
	F. 20 to 29 days
	G. All 30 days
During the past 30 days, on how many days did you have at least one drink of alcohol?	A. 0 days
	B. 1 or 2 days
	C. 3 to 5 days
	D. 6 to 9 days
	E. 10 to 19 days
	F. 20 to 29 days
	G. All 30 days
During the past 30 days, on how many days did you have 5 or more drinks of alcohol in a row, that is, within a couple of hours?	A. 0 days
	B. 1 day
	C. 2 days
	D. 3 to 5 days
	E. 6 to 9 days
	F. 10 to 19 days
	G. 20 or more days
During the past 30 days, how many times did you use marijuana?	A. 0 times
	B. 1 or 2 times
	C. 3 to 9 times
	D. 10 to 19 times
	E. 20 to 39 times
	F. 40 or more times
During the past 3 months, with how many people did you have sexual intercourse?	A. I have never had sexual intercourse
	B. I have had sexual intercourse, but not during the past 3 months
	C. 1 person
	D. 2 people
	E. 3 people
	F. 4 people
	G. 5 people
	H. 6 or more people

Note. Source: Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, 2008c

Table 7

Artificially Dichotomized Health Risk Behavior Items (continued)

Question	Response Options
Did you drink alcohol or use drugs before you had sexual intercourse the last time?	A. I have never had sexual intercourse.
	B. Yes
	C. No
During the past 30 days, how often did you or your partner use a condom?	A. I have not had sexual intercourse during the past 30 days.
	B. Never used a condom
	C. Rarely used a condom
	D. Sometimes used a condom
	E. Most of the time used a condom
	F. Always used a condom
During the past 7 days, on how many days were you physically active for a total of at least 60 minutes per day? (Add up all the time you spent in any kind of physical activity that increased your heart rate and made you breathe hard some of the time.)	A. 0 days
	B. 1 day
	C. 2 days
	D. 3 days
	E. 4 days
	F. 5 days
	G. 6 days
	H. 7 days

Note. Source: Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, 2008c

Table 8

Data Analysis per Research Question

Question	Statistical Tests
1. What are the self-reported perceptions of personal and social competence (intrapersonal skills, interpersonal skills, coping skills, and judgment skills) of selected undergraduate students?	Frequencies and percentages on intrapersonal, interpersonal, coping, and judgment skills items Frequencies, percentages, and measures of central tendency and dispersion on intrapersonal, interpersonal, coping, and judgment skills total scores
2. What are the self-reported health risk behaviors of selected undergraduate students?	Frequencies and percentages of health risk behavior items
3. Do statistically significant correlations exist among perceptions of personal and social competence and health risk behaviors?	Spearman Rho correlation, point biserial correlation
4. How much variance in college grade point average can be accounted for by perceived personal and social competence and selected health risk behaviors?	Multiple regression

including frequencies, percentages, and measures of central tendency and dispersion, and

also, Spearman's rho correlations, point biserial correlations, and multiple regression

were computed to analyze the data. Chapter four will present results of this study.

CHAPTER FOUR

RESULTS

Overview

The purpose of this study was to determine the relationship among perceived personal and social competence, selected health risk behaviors, and academic achievement of selected undergraduate students. This chapter presents results of the study.

Research Questions

The following research questions were determined for this study:

1. What are the self-reported perceptions of personal and social competence (intrapersonal skills, interpersonal skills, coping skills, and judgment skills) among selected undergraduate students?

2. What are the self-reported health risk behaviors among selected undergraduate students?

3. Do statistically significant correlations exist among perceptions of personal and social competence and health risk behaviors?

4. How much variance in self-reported, college grade point average can be accounted for by perceived personal and social competence and selected health risk behaviors?

Preliminary Results

Prior to final data analysis, some initial analyses were completed to prepare final data sets. Initially, data were analyzed to determine if there were statistically significant differences on the personal and social competence scales' scores based on the course in which surveys were administered. No statistically significant differences were found among groups in any of the four personal and social competence scales (see Appendix G). As such, data were combined for further analysis.

Additionally, correlations were computed between the social desirability scores and each item of the personal and social competence scales as described in Chapter III. A total of 12 items yielded correlations greater than .3 and were removed. Two items were removed from the coping scale, and the interpersonal and intrapersonal scales each had five items removed. No items were removed from the judgment scale. Each removed item is listed below with its corresponding scale and subscale.

Coping Scale Items

"I feel out of control when I am stressed." (stress response and reaction subscale)

"When I am under stress, I often yell or "snap" at others." (stress response and reaction subscale)

Interpersonal Scale Items

"I get upset easily if someone yells at me." (conflict resolution subscale)

"When others criticize me, I get angry." (conflict resolution subscale)

"I make negative judgments of others." (conflict resolution subscale)

"If I disagree with someone it is important that I win." (conflict resolution subscale)

"I have a hard time saying "no" to my friends." (communication skills subscale)

Intrapersonal Scale Items

"There are times when I do not like myself." (self-esteem subscale)

"I am sure of myself." (self-concept subscale)

"I am self-conscious of the way I look." (self-esteem subscale)

"I lose my temper." (understanding emotions subscale)

"I feel calm and peaceful." (self-esteem subscale)

Appendix H provides the r scores for these items. Cronbach alphas were computed for

each personal and social competence scale with and without the inclusion of these items

and are as follows: coping scale $\alpha = 0.899$ (68 items), $\alpha = 0.893$ (66 items); interpersonal

scale $\alpha = 0.914$ (65 items), $\alpha = 0.913$ (60 items); intrapersonal scale $\alpha = 0.964$ (115

items), $\alpha = 0.964$ (110 items); judgment scale $\alpha = 0.916$ (36 items). Frequencies,

percentages, and measures of central tendency and dispersion are reported for these items

in this chapter. Scores for these items were not used, however, when calculating

composite scores for each item's respective subscale and scale. Consequently, data from

these items do not influence the results of this study.

Sample Demographics

A total of 796 participants were sampled from two sections of an introductory

nutrition course, 23 sections of a personal health course, and 12 sections of a physical

fitness course. Data were collected near the end of the spring semester at a large

Midwestern university. Of the 796 participants, 656 (82.41%) were included in the final

data analysis, and 140 (17.59%) were excluded. Of the 140 participants excluded, 91

(11.43%) were excluded because they were age 22 or older, a delimitation set by the researcher. The remaining 49 (6.2%) were excluded because 5% or more of the personal and social competence scale data were missing or the last item number on the participant's scantron form did not correspond with the last item number on his/her survey.

Approximately one half of the sample (n=332, 50.6%) reported being female, and 297 (45.3%) participants reported being male. Twenty-seven (4.1%) participants did not indicate gender. Most of the sample reported still being teenagers, age 18 or 19, (n= 422, 64.3%) with 19 being the most frequently reported age (n=267, 40.7%). Ninety-seven (14.9%) participants did not indicate their age. In accordance with reported ages, the majority of participants were lower classmen (n=515, 78.5%), with freshman being the most frequently reported grade (n=376, 57.3%). Forty-eight (7.3%) participants did not indicate their grade level. More than half (n=381, 58.1%) were White, non-Hispanic; followed by 181 (27.6%) Black, non-Hispanic; and 32 (4.9%) Hispanic or Latino/a. The categories Asian or Pacific Islander, Biracial or Multiracial, and American Indian, Alaskan Native, or Native Hawaiian had limited representation in the study sample. As such, these categories were combined with the "other" category for reporting purposes and included 60 (9.1%) participants. Two individuals (0.3%) did not indicate their race/ethnicity. Most participants indicated being high academic achievers during high school as noted by their reported high school grade point averages (GPA). More than three quarters of participants (n=507, 77.3%) reported having an "A" or "B" GPA in high school. Table 9 (p. 83) illustrates more specific details about demographic variables

including distributions based upon the personal and social competence scales completed by participants.

Perceptions of Personal and Social Competence – Coping Skills

The *coping skills scale* measured items regarding one's ability to adapt to circumstances, be flexible and assume personal responsibility (Pittman and Cahill, 1992a). Subscales included adaptability, stress response and reaction, support systems and resources, time management, and stress management. A total of 157 participants completed this scale. Measures of skewness and kurtosis were computed. No corrections were necessary. Table 10 (p. 88) summarizes the frequencies, percentages, and measures of central tendency and dispersion for each coping scale item. Table 11 (p. 99) summarizes measures of central tendency and dispersion for the five coping subscales and the total coping composite scores. Of the four personal and social competence scales, the *coping skills scale* had the lowest total grand mean score (GM=3.25).

On the *adaptability* subscale, participants indicated a high perceived skill level compared to other subscale items with regard to finding ways to accomplish hard tasks. More than one half (n=95, 60.5%) indicated they "almost always" or "often" look for ways to accomplish hard tasks (M=3.71; SD=1.02). However, with regard to having things to do when having trouble concentrating, one fourth of participants (n=40, 25.5%) reported "almost never" or "seldom" having one or more things to do (M=3.15, SD=1.00).

Compared to other items on the *stress response and reaction subscale*, the item about "freezing" when stressed had the most favorable responses. Two thirds of

participants (n=105, 66.9%) indicated this occurrence "almost never" or "seldom" happened to them (M=2.05; SD=0.93). The item with the most negative responses related to wanting to get away from everyone when stressed. Nearly one third of participants (n=50, 31.8%), reported "almost always" or "often" feeling this way (M=3.19; SD=1.07). Overall, the *stress response and reaction subscale* was tied with one other subscale for having the lowest grand mean score (GM=3.17).

Participants responded most favorably to the item regarding feelings of closeness to family on the *support systems and resources subscale*. An overwhelming majority of respondents (n=118, 75.2%) indicated they "almost never" or "seldom" did not feel close to their family (M=1.87; SD=1.13). However, when participants addressed the item about it being easier to talk about their problems with people outside of their family, 24 (15.3%) indicated that was "almost never" the case and nearly the same number, 25 (15.9%), indicated that was "almost always" the case (M=3.07; SD=1.27).

On the *time management subscale*, participants responded most favorably to the item about staying organized. Nearly two thirds (n=98, 62.4%) indicated they "almost always" or "often" try to stay organized (M=3.71; SD =1.08). However, less favorable responses were reported regarding prioritizing tasks. Nearly one third of participants (n=47, 29.9%) indicated "almost always" or "often" having a hard time deciding what to do first when there were many things to do (M=2.96; SD=1.13). This subscale had the highest grand mean score (GM=3.92) of all of the coping subscales.

On the *stress management subscale*, participants reported eating was not typically used as a coping mechanism for stress, as 51 respondents (32.5%) indicated they "almost never" dealt with stress by eating, and 58 (36.9%) indicated they "seldom" did (M=2.09;

SD=1.00). Also, participants do not typically use deep muscle relaxation to manage

stress. Of respondents, 79 (50.3%) indicated they "almost never" used deep muscle

relaxation, and 41 (26.1%) indicated they "seldom" use it (M=1.86; SD=1.08). The

stress management subscale was tied with the *stress response and reaction subscale* for

the lowest grand mean, 3.17, of the coping subscales.

Perceptions of Personal and Social Competence – Intrapersonal Skills

The *intrapersonal skills scale* contained items that measured one's "ability to

understand emotions and practice self-discipline" (Pittman & Cahill, 1992a, p. 20).

Subscales included sense of hope, purpose, and future; self-concept; self-esteem;

understanding emotions; self-discipline; locus of control; personal responsibility;

autonomy and independence; and value system. A total of 148 participants completed

this scale. Measures of skewness and kurtosis were computed, and no corrections were

necessary. Table 12 (p. 100) summarizes the frequencies, percentages, and measures of

central tendency and dispersion for each intrapersonal scale item. Table 13 (p. 117)

summarizes measures of central tendency and dispersion for the nine intrapersonal

subscales and the total intrapersonal composite scores. Overall, the *intrapersonal skills

scale* were similar to one other scale for having the highest total score grand mean

(GM=3.85).

On the *sense of hope, purpose, and future subscale*, the item with the most

positive responses was related to expectations of success in life. The vast majority of

participants (n=123, 84.2%) responded they "almost always" or "often" expected to

succeed in life (M=4.32; SD=0.94). However, approximately one third of participants

(n=51, 34.5%) "almost always" or "often" wondered what they were doing with their life (M=3.00; SD=1.22).

More than 80% of respondents (n=121, 81.8%) indicated they "almost always" or "often" believed themselves to be a good person (M=4.24, SD=0.89) as reported on the *self-concept subscale*. While being successful at most things was the item with the most unfavorable responses on this subscale, two thirds of participants (n=96, 64.9%) still reported "almost always" or "often" being successful (M=3.72; SD=0.82). Given the relatively favorable responses to items on this subscale as compared to items in other subscales, this subscale had the highest grand mean (GM=4.00) of all intrapersonal subscales.

On the *self-esteem subscale*, the item addressing feelings of worthlessness had the most positive responses. A total of 117 (80.1%) participants indicated they "almost never" or "seldom" felt this way (M=1.75; SD=1.00). The item related to being self-conscious about personal appearance had the most unfavorable responses, as more than one third of participants (n=55, 37.4%) reported being self-conscious about their looks "almost always" or "often" (M=3.11; SD=1.21).

On the *understanding emotions subscale*, more than one half of participants (n=80, 57.6%) reported "almost never" being emotionally unstable, and an additional 32 (23.0%) participants reported "seldom" being this way (M=1.68; SD=0.93). However, more than half of participants (n=78, 52.7%), reported "almost always" or "often" being concerned about the way they do things (M=3.51; SD=1.19). Additionally, this subscale had the lowest grand mean (GM=3.63) of the intrapersonal subscales.

Participants indicated lack of self-control was not a problem for most of them on the *self-discipline subscale*. Two-thirds of participants (n=98, 66.2%) reported "almost never" or "seldom" not having self-control (M=2.01, SD=1.10). Conversely, 16.9% of participants (n=25) reported "almost always" or "often" putting off what needs to be done today (M=2.61, SD=1.09).

Two items on the *locus of control subscale* had particularly favorable responses as compared to other items. With regard to doing things one sets his/her mind to do, more than 80% of participants (n=123, 83.1%) indicated they "almost always" or "often" are able to do things they set their mind to do (M=4.19; SD=0.84). Also, the item regarding personal choices and health status had very positive responses compared to other items. Nearly 80% of participants (n=113, 77.4%) "almost always" or "often" agree the choices they make can change their health (M=4.16, SD=1.04). Conversely, nearly 20% of participants (n=29, 19.6%) believe good health is a matter of good fortune "almost always" or "often" (M=2.50, SD=1.18).

On the *personal responsibility subscale*, participants indicated they usually followed through with a commitment to give someone a ride. Approximately 80% of participants (n=118, 79.7%) reported they "almost always" or "often" follow through with this commitment (M=4.17; SD=0.95). Items addressing putting off important things and responsibility for health had the least favorable responses on this subscale. More than 15% of participants (n=25, 16.9%) reported "almost always" or "often" putting off important things until it is too late (M=3.62, 1.10). Similarly, more than 15% of participants (n=26, 17.7%) reported "almost always" or "often" failing to take responsibility for their health (M=3.62; SD=1.20).

The item with the most favorable responses on the *autonomy and independence subscale*, related to taking care of oneself. Nearly two thirds of participants (n=93, 62.8%) reported they "almost never" were unable to do so, and 32 (21.6%) participants reported they "seldom" were unable to do so (M=1.61, SD=0.97). However, more than one third of participants (n=56, 37.8%) indicated their families held them to firm family rules "almost always" or "often" (M=2.92; SD=1.23).

On the *value system subscale*, the item related to personal values had the most favorable responses. More than three quarters of participants (n=114, 77.0%) reported their values "almost always" or "often" guide their decisions (M=4.05; SD=0.92). Conversely, more than 20% of participants (n=33, 22.3%) reported not living up to personal standards "almost always" or "often" (M=2.61; SD=1.18).

Perceptions of Personal and Social Competence – Interpersonal Skills

The *interpersonal skills scale* consisted of items that measured one's "ability to work with others, develop friendships and relationships through communication, cooperation, empathy, and negotiation" (Pittman & Cahill, 1992a, p. 20). Subscales included developing and maintaining relationships, communication skills, conflict resolution, and empathy. A total of 166 participants completed this scale. Measures of skewness and kurtosis were computed, and no corrections were necessary. Table 14 (p. 118) summarizes the frequencies, percentages, and measures of central tendency and dispersion for each interpersonal scale item. Table 15 (p. 128) summarizes measures of central tendency and dispersion for the four interpersonal subscales and the total interpersonal composite scores.

The *developing and maintaining relationships subscale* had the greatest grand mean (GM=3.88) of the interpersonal subscales. The item with most positive responses related to knowing someone who can be counted on. More than three quarters of participants (n=136, 81.9%) indicated they "almost always" or "always" knew someone they could count on (M=4.33; SD=1.00). The item with the most unfavorable responses was "I have few people with whom I can talk to honestly." Nearly 40% of participants (n=65, 39.4%) indicated this situation was "almost always" or "often" the case (M=3.01; SD=1.41).

On the *communication skills subscale* participants responded most favorable to the item that addressed listening skills. Almost three quarters of participants (n=122, 73.5%) reported they were "almost never" or "seldom" a poor listener (M=1.93; SD=1.01). The item with the least favorable responses referred to worrying about saying the wrong things to people close to oneself. More than 10% of participants (n=22, 13.3%), and nearly 30% of participants (n=47, 28.3%) indicated this was "almost always" or "often" a worry of theirs, respectively (M=2.82; SD=1.16). The *communication skills subscale* had the lowest grand mean (GM=3.47) of the interpersonal subscales.

On the *conflict resolution subscale*, nearly three quarters of participants (n=120, 72.3%), reported being willing to consider all sides of an argument "almost always" or "often" (M=3.97; SD=0.96). However, more than 40% of participants (n=68, 41.0%) indicated getting upset easily if yelled at by someone "almost always" or "often." The mean score for this item was 3.16 with a standard deviation of 1.17.

The most positive responses on the *empathy subscale* were recorded for the item about being concerned when friends are sad. The majority of participants (n=128,

77.1%) expressed "almost always" or "often" being concerned when their friends were sad (M=4.17; SD=0.99). Also, with favorable responses was "I feel joyful when others are happy." Nearly three quarters of participants (n=123, 74.5%) reported "almost always" or "often" feeling joyful when others are happy (M=4.02: SD=0.93). The item with the least favorable responses related to not getting involved with other people's problems, with 9 (5.4%) participants "almost always" trying not to get involved and 37 (22.3%) "often" trying not to get involved (M=3.06; SD=0.88).

Perceptions of Personal and Social Competence – Judgment Skills

The *judgment skills scale* contained items that measured one's "ability to plan, evaluate, make decisions, and solve problems" (Pittman & Cahill, 1992a, p. 20). Subscales included defining a problem or issue, predicting outcomes or consequences, identifying potential alternative solutions, goal setting, and assessing information and resources. A total of 185 participants responded to this scale. Measures of skewness and kurtosis were computed, and no corrections were necessary. Table 16 (p. 129) summarizes the frequencies, percentages, and measures of central tendency and dispersion for each judgment scale item. Table 17 (p. 135) summarizes measures of central tendency and dispersion for the five judgment subscales and the total judgment composite scores. Overall, the *judgment skills scale* total score was tied with the *intrapersonal skills scale* total score as having had the highest overall grand mean (GM=3.85) of the four personal and social competence scales.

Two of the six items on the *defining problem or issue subscale* had particularly positive responses compared to other subscale items. One of these items was "I know

when I am having a bad day" with a mean score of 4.41 and a standard deviation of 0.94. The vast majority of participants (n=156, 84.8%) indicated this statement was "almost always" or "always" true. The other item was "I can identify problems in my life." Approximately 80% of participants (n=149, 80.5%) reported "almost always" or "often" being able to identify problems in their lives (M=4.11; SD=0.97). The item that regarded thinking of things that are related when trying to change something had the least positive responses. Fewer than half of participants (n=87, 47.0%) were able to do so "almost always" or "often" (M=3.42; SD=0.94).

On the *predicting outcomes or consequences subscale*. "I know my actions affect others" had the most favorable responses. More than 80% of participants (n=152, 82.2%) reported this statement to be "almost always" or "often" true (M=4.26; SD=0.89). However, the item with the most unfavorable responses related to reacting to situations without thinking about how it will impact others. Approximately 15% of participants (n=27, 14.7%) indicated they "almost always" or "often" react without thinking (M=2.30; SD=1.10).

There was less diversity in the overall responses on the *identify potential alternative solutions subscale* as compared to some other subscales. The item with the most favorable responses indicated approximately 70% of participants (n=129, 69.7%) "almost always" or "often" believe every problem has a solution (M=3.95; SD= 1.10). However, more than one quarter of participants (n=48, 26.1%) reported they "almost always" or "often" have trouble making up their mind (M=2.87; SD=1.06).

The *goal setting subscale* had the highest grand mean (GM=4.02) of the judgment skills subscales. The item with the most positive responses related to setting personal

goals. More than half of the participants (n=97, 52.4%) indicated they "almost never" failed to set personal goals, and an additional 52 participants (28.1%) "seldom" failed to set personal goals (M=1.74: SD=0.94). At the opposing end of the scale, the item with the least positive responses indicated 8.1% of participants (n=15) "almost never" or "seldom" think about past mistakes when planning ahead (M=3.65; SD=0.97).

The *assessing information and resources subscale*, also had less diversity in overall responses than other subscales, and it had the lowest grand mean (GM=3.67) of the judgment skills subscales. The item with the most favorable responses related to knowing where to look for information to solve problems. Less than 10% of participants (n=16, 8.6%) indicated they "almost always" or "often" were unsure about where to look for information (M=2.09; SD=0.99). However, fewer than 40% of participants (n=72, 38.9%) indicated they "almost always" or "often" ask for their family's opinion when making a decision (M= 3.23; SD=1.17).

<div align="center">Self-Reported Health Risk Behaviors</div>

Eleven health risk behavior items were included on each survey and measured the following behaviors: drinking and driving, feelings of sadness or hopelessness, suicide ideation, cigarette smoking, alcohol use, binge drinking, marijuana use, number of sexual partners, alcohol or drug use prior to sexual intercourse, condom use, physical activity. Of the 656 participants, nearly 70% of them indicated they were not current smokers as noted by 453 (69.1%) having responded they did not smoke cigarettes on any of the past 30 days. Further, only 30 participants (4.6%) indicated they were daily smokers. However, while the majority of participants were not current smokers, the majority of

participants had consumed alcohol within the past 30 days. More than three quarters of participants (n=505, 77.0%) reported they had at least one alcoholic drink on 1 or more days within the past 30 days, and nearly one fifth of participants (n=125, 19.1%) had at least 1 drink on 10 or more of the last 30 days. Also, 172 participants (26.2%) reported having driven a car or other vehicle when they had been drinking alcohol within the past 30 days. Further, the majority of participants (n=365, 55.6%) reported they engaged in binge drinking, as measured by 5 or more drinks within a couple of hours, at least 1 day within the past 30 days, while one third of participants (n=222, 33.8%) reported binge drinking on at least three occasions within this time. However, the majority of participants (n=416, 63.4%) reported they did not use marijuana in the past 30 days, but 17.1% of participants (n=112) reported using marijuana 10 or more times in the past 30 days.

The majority of participants (n=534, 81.4%) reported having had sexual intercourse in their lifetime, but approximately one third of participants (n=213, 32.5%) were not currently sexual active, as defined by a lack of sexual intercourse during the previous three months. However, nearly one fourth of participants (n=160, 24.4%) reported having had sexual intercourse with multiple partners in the past three months. Additionally, nearly 30% of participants (n=192) indicated they had used alcohol or drugs before their most recent sexual intercourse experience, and one out of every four participants (n=164, 25.0%) (including those who are not sexually active) "rarely" or "never" used a condom in the past 30 days.

Additional health risk behaviors of participants included approximately 10% of them (n=66, 10.1%) having felt so sad or helpless almost everyday for two weeks or

more in a row they ceased some of their usual activities, while approximately one fourth

of participants (n=162, 24.7%) had contemplated suicide within the previous 12 months.

Finally, the most frequent response to the item regarding 60 minutes of physical activity

per day over the past 7 days was 2 days as reported by 116 (17.7%) students. Less than

40% of participants (n=250, 38.1%) had engaged in 60 minutes or more of physical

activity on most of the previous 7 days. Table 18 (p. 136) provides more specific data

about reported health risk behaviors.

Correlations Among Perceived Personal and Social Competence Skills and Health Risk

Behaviors

A total of 32 Spearman's rho correlations were computed to determine

relationships among perceived personal and social competence and health risk behaviors

reported via non-dichotomous, ordinal response survey items, and 12 point biserial

correlations were calculated to determine relationships among perceived personal and

social competence and health risk behaviors reported via dichotomous, nominal response

survey items. Alpha level was 0.05 and was adjusted to 0.004 using the Bonferroni

adjustment. Tables 19 (p.141) and 20 (p. 142) include the results of these analyses.

Three statistically significant correlations were found among perceived coping

skills and health risk behaviors. Of greatest statistical significance for this component

was a negative correlation between perceived coping skills and feelings of sad or

hopelessness almost everyday for two weeks or more (r_{pb} =-.308(148); p=.000). Also

negatively correlated was perceived coping skills and the number of physically inactive

days (ρ=-.252(157); p=.001). The third and final significant correlation was found

between perceived coping skills and non-use of condoms during sexual intercourse (ρ=-.247(156); p=.002). No other statistically significant correlations were found among perceived coping skills and health risks behaviors.

Five statistically significant correlations were found among perceived intrapersonal skills and health risk behaviors. The most statistically significant correlation for all of the personal and social competence scales was a negative correlation found between perceived intrapersonal skills and frequency of cigarette smoking (ρ=-.382(147); p=.000). Also negatively correlated with perceived intrapersonal skills was frequency of marijuana use (ρ=-.299(148); p=.000). Further, a negative correlation was found between perceived intrapersonal skills and feelings of sadness or hopelessness for two weeks or more that resulted in ceasing some usual activities (r_{pb} =-.289(142); p=.000). The final two statistically significant correlations found with perceived intrapersonal skills were alcohol or drug use prior to last incidence of sexual intercourse (r_{pb} =-.238(144); p=.004) and incidences of driving and drinking alcohol (ρ=-.234(148); p=.004). No other statistically significant correlations were found among perceived intrapersonal skills and health risks behaviors.

No statistically significant correlations were found among perceived interpersonal skills and health risks behaviors. However, similar to the intrapersonal skills scale, five statistically significant correlations were found among perceived judgment skills and health risk behaviors. Statistically significant negative correlations were found among perceived judgment skills and number of days cigarettes were smoked (ρ=-.347(185); p=.000), frequency of marijuana use (ρ=-.299(184); p=.000), incidences of binge drinking (ρ=-.283(185); p=.000), number of days alcohol was consumed (ρ=-.270(185);

p=.000), and alcohol or drug use prior to last incidence of sexual intercourse (r_{pb} =-.270(181); p=.000).

Overall, of the 44 correlations calculated, 13 of them were found to be statistically significant. Statistically significant correlations were found most often among perceived judgment skills and health risk behaviors and perceived intrapersonal skills and health risk behaviors, followed by perceived coping skills and health risk behaviors. There were no statistically significant relationships found among perceived interpersonal skills and health risk behaviors.

GPA, Perceived Personal and Social Competence, and Health Risk Behaviors

Four multiple regression analyses using a forced entry method were conducted to determine how much variance in college grade point average (GPA) could be accounted for by perceived personal and social competence and reported health risk behaviors. Each analysis included data from one of the four surveys used in this study. GPA was the dependent variable in each regression analysis. The independent variables included eleven health risk behaviors and the total scores of one of the four personal and social competence scales. For example, the first multiple regression analysis included total perceived coping skills scores and eleven health risk behaviors as the independent variables and college GPA as the dependent variable.

For the coping skills survey, the adjusted coefficient of determination (R_{adj}^2) was 0.081. As such, 8.1% of the variance in GPA can be accounted for by perceived coping skills and reported health risk behaviors. The ANOVA analysis computed in conjunction with the regression indicated the full regression model was statistically significant (F(12,

111) = 1.90; p = 0.041). Of the 12 predictor variables, two were found to be statistically significant at α = .05. Perceived coping skills (t(111) = 2.722; p = .008) and binge drinking one or more times within the last 30 days (t(111) = 2.199; p = .030) were both statistically significant predictors of GPA. None of the other predictor variables were statistically significant (see Appendix I).

For the interpersonal skills survey, the R_{adj}^2 was 0.073 indicating 7.3% of the variance in GPA can be accounted for by perceived interpersonal skills and reported health risk behaviors. ANOVA analysis indicated the full regression model was statistically significant (F(12, 128) = 1.92; p = 0.038). After holding other predictors constant, two variables were found to be statistically significant predictors of GPA. Feelings of sadness or hopelessness that resulted in not continuing with some usual activities had a negative relationship with GPA (t(128) =- 2.488; p = .014). Additionally, not always using a condom prior to sexual intercourse was negatively related to GPA (t(128) = -2.231; p = .027). No other predictor variables were statistically significant (see Appendix J).

The third regression analysis was computed using the intrapersonal skills survey data. The analysis yielded an R_{adj}^2 score of -0.012. The ANOVA indicated this model was not statistically significant (F(12, 101) = 0.891; p = 0.559). Detailed results of this regression model are provided in Appendix K.

The final regression analysis included data from the judgment skills surveys. Results indicated an R_{adj}^2 score of 0.069 indicating that approximately 7% of the variance in GPA could be accounted for by this full regression model. The ANOVA analysis accompanying this regression model found it to be statistically significant (F(12, 148) =

1.991; p = 0.029). One of the predictor variables, perceived judgment skills, was a statistically significant predictor of GPA (t(148) = 2.011; p = .046). None of the other predictor variables were statistically significant (see Appendix L).

Summary

This chapter presented the results of this study. Participants reported perceived intrapersonal and judgment skills to be their strongest areas of personal and social competence. All of the response options for health risk behavior items were represented in the data. Thirteen statistically significant correlations were found among perceived personal and social competence and health risk behaviors. Three of the four multiple regression analysis indicated models with statistically significant results regarding predication of GPA. Chapter five will include an extensive discussion of these results as well as recommendations by the researcher.

Table 9

Demographic Variables of Study Sample: Frequencies and Percentages of Sample Subgroups (n = 656)

Demographic Variable	Frequency (n)	Percentage (%)
Gender		
Male		
Coping Skills Sample	79	12.0%
Intrapersonal Skills Sample	58	8.8%
Interpersonal Skills Sample	80	12.2%
Judgment Skills Sample	91	13.9%
Total	297	45.3%
Female		
Coping Skills Sample	73	11.1%
Intrapersonal Skills Sample	85	13.0%
Interpersonal Skills Sample	83	12.7%
Judgment Skills Sample	91	13.9%
Total	332	50.6%
Age		
18		
Coping Skills Sample	35	5.3%
Intrapersonal Skills Sample	38	5.8%
Interpersonal Skills Sample	39	5.9%
Judgment Skills Sample	43	6.6%
Total	155	23.6%
19		
Coping Skills Sample	67	10.2%
Intrapersonal Skills Sample	60	9.1%
Interpersonal Skills Sample	64	9.8%
Judgment Skills Sample	76	11.6%
Total	267	40.7%

Note: Percentages not totaling 100% indicate missing data

Table 9

Demographic Variables of Study Sample: Frequencies and Percentages of Sample Subgroups (n = 656)

Demographic Variable	Frequency (n)	Percentage (%)
Age (continued)		
20		
Coping Skills Sample	16	2.4%
Intrapersonal Skills Sample	19	2.9%
Interpersonal Skills Sample	22	3.4%
Judgment Skills Sample	30	4.6%
Total	87	13.3%
21		
Coping Skills Sample	17	2.6%
Intrapersonal Skills Sample	9	1.4%
Interpersonal Skills Sample	13	2.0%
Judgment Skills Sample	11	1.7%
Total	50	7.6%
Year in School		
Freshman		
Coping Skills Sample	86	13.1%
Intrapersonal Skills Sample	83	12.7%
Interpersonal Skills Sample	96	14.6%
Judgment Skills Sample	111	16.9%
Total	376	57.3%
Sophomore		
Coping Skills Sample	31	4.7%
Intrapersonal Skills Sample	32	4.9%
Interpersonal Skills Sample	35	5.3%
Judgment Skills Sample	41	6.3%
Total	139	21.2%

Note: Percentages not totaling 100% indicate missing data

Table 9

Demographic Variables of Study Sample: Frequencies and Percentages of Sample Subgroups (n = 656)

Demographic Variable	Frequency (n)	Percentage (%)
Year in School (continued)		
Junior		
Coping Skills Sample	16	2.4%
Intrapersonal Skills Sample	14	2.1%
Interpersonal Skills Sample	17	2.6%
Judgment Skills Sample	19	2.9%
Total	66	10.1%
Senior		
Coping Skills Sample	9	1.4%
Intrapersonal Skills Sample	6	0.9%
Interpersonal Skills Sample	6	0.9%
Judgment Skills Sample	6	0.9%
Total	27	4.1%
Other		
Coping Skills Sample	0	0.0%
Intrapersonal Skills Sample	0	0.0%
Interpersonal Skills Sample	2	0.3%
Judgment Skills Sample	0	0.0%
Total	2	0.3%
Race/Ethnicity		
White, non Hispanic		
Coping Skills Sample	84	12.8%
Intrapersonal Skills Sample	101	15.4%
Interpersonal Skills Sample	101	15.4%
Judgment Skills Sample	95	14.5%
Total	381	58.1%

Note: Percentages not totaling 100% indicate missing data

Table 9

Demographic Variables of Study Sample: Frequencies and Percentages of Sample Subgroups (n = 656)

Demographic Variable	Frequency (n)	Percentage (%)
Race/Ethnicity (continued)		
Black, non Hispanic		
Coping Skills Sample	43	6.6%
Intrapersonal Skills Sample	29	4.4%
Interpersonal Skills Sample	50	7.6%
Judgment Skills Sample	59	9.0%
Total	181	27.6%
Hispanic or Latino/a		
Coping Skills Sample	13	2.0%
Intrapersonal Skills Sample	4	0.6%
Interpersonal Skills Sample	1	0.2%
Judgment Skills Sample	14	2.1%
Total	32	4.9%
Other		
Coping Skills Sample	15	2.3%
Intrapersonal Skills Sample	14	2.1%
Interpersonal Skills Sample	14	2.1%
Judgment Skills Sample	17	2.6%
Total	60	9.1%
High School GPA		
GPA = A		
Coping Skills Sample	44	6.7%
Intrapersonal Skills Sample	41	6.3%
Interpersonal Skills Sample	50	7.6%
Judgment Skills Sample	53	8.1%
Total	188	28.7%

Note: Percentages not totaling 100% indicate missing data

Table 9

Demographic Variables of Study Sample: Frequencies and Percentages of Sample Subgroups (n = 656)

Demographic Variable	Frequency (n)	Percentage (%)
High School GPA (continued)		
GPA = B		
Coping Skills Sample	79	12.0%
Intrapersonal Skills Sample	74	11.3%
Interpersonal Skills Sample	85	13.0%
Judgment Skills Sample	81	12.3%
Total	319	48.6%
GPA = C		
Coping Skills Sample	30	4.6%
Intrapersonal Skills Sample	30	4.6%
Interpersonal Skills Sample	28	4.3%
Judgment Skills Sample	44	6.7%
Total	132	20.1%
GPA = D/F		
Coping Skills Sample	0	0.0%
Intrapersonal Skills Sample	2	0.3%
Interpersonal Skills Sample	2	0.3%
Judgment Skills Sample	4	0.6%
Total	8	1.2%
N/A		
Coping Skills Sample	4	0.6%
Intrapersonal Skills Sample	1	0.2%
Interpersonal Skills Sample	1	0.2%
Judgment Skills Sample	3	0.5%
Total	9	1.4%

Note: Percentages not totaling 100% indicate missing data

Table 10

Frequencies, Percentages, and Measures of Tendency and Dispersion for Perceived Coping Skills Items

Item	n	AN n(%)	SE n(%)	SO n(%)	O n(%)	AA n(%)	Mean	Std Dev	Variance
Subscale: Adaptability Scale									
When I find it hard to do something, I look for ways to accomplish it.	157	3(1.9)	17(10.8)	42(26.8)	56(35.7)	39(24.8)	3.71	1.02	1.04
When I have to do something that makes me anxious, I have ways to deal with it.	157	6(3.8)	18(11.5)	66(42.0)	57(36.3)	10(6.4)	3.30	0.89	0.80
When something is bothering me, I try to think about something positive.	157	6(3.8)	24(15.3)	58(36.9)	58(36.9)	11(7.0)	3.28	0.94	0.88
To change a bad habit, I identify all the things that lead to it.	157	10(6.4)	20(12.7)	70(44.6)	37(23.6)	20(12.7)	3.24	1.04	1.08
By changing the way I think about something, I change my reaction to it.	157	8(5.1)	30(19.1)	60(38.2)	44(28.0)	15(9.6)	3.18	1.01	1.03
When I have trouble concentrating, I have one or more things I do that help.	157	7(4.5)	33(21.0)	61(38.9)	41(26.1)	15(9.6)	3.15	1.00	1.02

* Items reverse coded when computing composite scores
Note: 1 = AN = Almost Never (Less than 5% of the time); 2 = SE = Seldom (About 25% of the time); 3 = SO = Sometimes (About 50% of the time); 4 = O = Often (About 75% of the time); 5 = AA = Almost Always (About 95% of the time)

Table 10

Frequencies, Percentages, and Measures of Tendency and Dispersion for Perceived Coping Skills Items (continued)

Item	n	AN n(%)	SE n(%)	SO n(%)	O n(%)	AA n(%)	Mean	Std Dev	Variance
Subscale: Stress Response and Reaction Scale									
I feel in control in difficult situations.	157	5(3.2)	18(11.5)	68(43.3)	45(28.7)	21(13.4)	3.38	0.96	0.93
When I am angry at someone, I think about what I will say and do before I react.	157	11(7.0)	20(12.7)	52(33.1)	48(30.6)	26(16.6)	3.37	1.12	1.25
When I am angry, I act without thinking.	157	28(17.8)	43(27.4)	55(35.0)	19(12.1)	12(7.6)	3.36	1.14	1.30
I stay calm in stressful situations.	157	9(5.7)	22(14.0)	62(39.5)	43(27.4)	21(13.4)	3.29	1.05	1.10
When I am feeling stressed, I can think of ways to relax.	157	12(7.6)	17(10.8)	62(39.5)	48(30.6)	18(11.5)	3.27	1.05	1.11
When I get stressed, I just want to get away from everyone.*	157	9(5.7)	26(16.6)	72(45.9)	26(16.6)	24(15.3)	3.19	1.07	1.14
I get angry when stressed.*	157	11(7.0)	32(20.4)	59(37.6)	38(24.2)	17(10.8)	3.11	1.07	1.15

* Items reverse coded when computing composite scores
Note: 1 = AN = Almost Never (Less than 5% of the time); 2 = SE = Seldom (About 25% of the time); 3 = SO = Sometimes (About 50% of the time); 4 = O = Often (About 75% of the time); 5 = AA = Almost Always (About 95% of the time)

Table 10

Frequencies, Percentages, and Measures of Tendency and Dispersion for Perceived Coping Skills Items (continued)

Item	n	AN n(%)	SE n(%)	SO n(%)	O n(%)	AA n(%)	Mean	Std Dev	Variance
Subscale: Stress Response and Reaction Scale (continued)									
I worry about what I am going to do.*	157	22(14.0)	45(28.7)	63(40.1)	14(8.9)	13(8.3)	3.08	1.14	1.29
I blame myself when things go wrong.*	156	20(12.8)	29(18.6)	63(40.4)	34(21.8)	10(6.4)	2.90	1.08	1.17
When I am stressed, I notice physical changes in my body.*	157	31(19.7)	32(20.4)	49(31.2)	20(12.7)	25(15.9)	2.85	1.32	1.75
I get very upset about a stressful situation.*	156	24(15.4)	40(25.6)	51(32.7)	29(18.6)	12(7.7)	2.78	1.15	1.32
I react to stressful situations with frustration.*	157	20(12.7)	44(28.0)	56(35.7)	29(18.5)	8(5.1)	2.75	1.06	1.12
I have trouble concentrating in stressful situations.*	157	22(14.0)	45(28.7)	63(40.1)	14(8.9)	13(8.3)	2.69	1.09	1.18

* Items reverse coded when computing composite scores
Note: 1 = AN = Almost Never (Less than 5% of the time); 2 = SE = Seldom (About 25% of the time); 3 = SO = Sometimes (About 50% of the time); 4 = O = Often (About 75% of the time); 5 = AA = Almost Always (About 95% of the time)

Table 10

Frequencies, Percentages, and Measures of Tendency and Dispersion for Perceived Coping Skills Items (continued)

Item	n	AN n(%)	SE n(%)	SO n(%)	O n(%)	AA n(%)	Mean	Std Dev	Variance
Subscale: Stress Response and Reaction Scale (continued)									
I feel alone during times of stress.*	157	27(17.2)	40(25.5)	56(35.7)	23(14.6)	11(7.0)	2.69	1.13	1.28
When I am under stress, I often yell or "snap" at others.*	157	35(22.3)	38(24.2)	50(31.8)	26(16.6)	8(5.1)	2.58	1.16	1.34
I feel out of control when I am stressed.*	157	43(27.4)	40(25.5)	42(26.8)	25(15.9)	7(4.5)	2.45	1.18	1.39
When I am stressed, I get sick.*	157	45(28.7)	40(25.5)	44(28.0)	16(10.2)	12(7.6)	2.43	1.22	1.49
I ignore problems and hope they go away.*	157	37(23.6)	56(35.7)	50(31.8)	12(7.6)	2(1.3)	2.27	0.95	0.91
I am unaware of my feelings during stressful situations.*	157	43(27.4)	55(35.0)	42(26.8)	13(8.3)	4(2.5)	2.24	1.03	1.05
I am not able to take things as they come.*	157	46(29.3)	55(35.0)	44(28.0)	8(5.1)	4(2.5)	2.17	0.99	0.99

* Items reverse coded when computing composite scores
Note: 1 = AN = Almost Never (Less than 5% of the time); 2 = SE = Seldom (About 25% of the time); 3 = SO = Sometimes (About 50% of the time); 4 = O = Often (About 75% of the time); 5 = AA = Almost Always (About 95% of the time)

Table 10

Frequencies, Percentages, and Measures of Tendency and Dispersion for Perceived Coping Skills Items (continued)

Item	n	AN n(%)	SE n(%)	SO n(%)	O n(%)	AA n(%)	Mean	Std Dev	Variance
Subscale: Stress Response and Reaction Scale (continued)									
When stressed, I "freeze" and do not know what to do.*	157	53(33.8)	52(33.1)	45(28.7)	5(3.2)	2(1.3)	2.05	0.93	0.87
Subscale: Support Systems and Resources Scale									
My family gives me the moral support I need.	157	4(2.5)	14(8.9)	36(22.9)	40(25.5)	63(40.1)	3.91	1.10	1.22
My parents are patient with me.	157	5(3.2)	18(11.5)	41(26.1)	42(26.8)	51(32.5)	3.74	1.13	1.27
I can rely on my family for emotional support.	157	8(5.1)	18(11.5)	34(21.7)	45(28.7)	52(33.1)	3.73	1.18	1.40
My friends support me during the difficult times.	157	4(2.5)	20(12.7)	40(25.5)	47(29.9)	46(29.3)	3.71	1.10	1.21
I can talk to family members about the things that bother me.	157	4(2.5)	16(10.2)	49(31.2)	42(26.8)	46(29.3)	3.70	1.08	1.16

* Items reverse coded when computing composite scores
Note: 1 = AN = Almost Never (Less than 5% of the time); 2 = SE = Seldom (About 25% of the time); 3 = SO = Sometimes (About 50% of the time); 4 = O = Often (About 75% of the time); 5 = AA = Almost Always (About 95% of the time)

Table 10

Frequencies, Percentages, and Measures of Tendency and Dispersion for Perceived Coping Skills Items (continued)

Item	n	AN n(%)	SE n(%)	SO n(%)	O n(%)	AA n(%)	Mean	Std Dev	Variance
Subscale: Support Systems and Resources Scale (continued)									
I can rely on my friends for emotional support.	157	8(5.1)	18(11.5)	34(21.7)	45(28.7)	52(33.1)	3.68	1.10	1.21
Family members help me solve problems.	157	4(2.5)	24(15.3)	53(33.8)	38(24.2)	38(24.2)	3.52	1.10	1.20
It is easier to talk about my problems with people outside the family.*	157	24(15.3)	24(15.3)	51(32.5)	33(21.0)	25(15.9)	3.07	1.27	1.62
My friends are aware when I need help.	157	13(8.3)	36(22.9)	56(35.7)	38(24.2)	14(8.9)	3.03	1.08	1.17
When someone is upset with me, I keep it to myself.*	157	14(8.9)	37(23.6)	65(41.4)	28(17.8)	13(8.3)	2.93	1.05	1.10
I have no one my age to talk to regarding problems.*	156	84(53.8)	31(19.9)	19(12.2)	15(9.6)	7(4.5)	2.69	1.09	1.18

* Items reverse coded when computing composite scores
Note: 1 = AN = Almost Never (Less than 5% of the time); 2 = SE = Seldom (About 25% of the time); 3 = SO = Sometimes (About 50% of the time); 4 = O = Often (About 75% of the time); 5 = AA = Almost Always (About 95% of the time)

Table 10

Frequencies, Percentages, and Measures of Tendency and Dispersion for Perceived Coping Skills Items (continued)

Item	n	AN n(%)	SE n(%)	SO n(%)	O n(%)	AA n(%)	Mean	Std Dev	Variance
Subscale: Support Systems and Resources Scale (continued)									
My family is unaware of when I'm upset or stressed.*	157	25(15.9)	48(30.6)	51(32.5)	26(16.6)	7(4.5)	2.63	1.08	1.16
My friends have trouble helping me solve problems.*	157	34(21.7)	45(28.7)	49(31.2)	25(15.9)	4(2.5)	2.49	1.08	1.16
I have difficulty talking about stressful situations with friends.*	157	42(26.8)	48(30.6)	41(26.1)	18(11.5)	8(5.1)	2.38	1.15	1.31
I do not feel close to my family.*	157	81(51.6)	37(23.6)	24(15.3)	8(5.1)	7(4.5)	1.87	1.13	1.27
Subscale: Time Management Scale									
I try to stay organized.	157	6(3.8)	16(10.2)	37(23.6)	57(36.3)	41(26.1)	3.71	1.08	1.17
I can change my priorities when I need to do so.	157	8(5.1)	16(10.2)	56(35.7)	52(33.1)	25(15.9)	3.45	1.04	1.08

* Items reverse coded when computing composite scores
Note: 1 = AN = Almost Never (Less than 5% of the time); 2 = SE = Seldom (About 25% of the time); 3 = SO = Sometimes (About 50% of the time); 4 = O = Often (About 75% of the time); 5 = AA = Almost Always (About 95% of the time)

Table 10

Frequencies, Percentages, and Measures of Tendency and Dispersion for Perceived Coping Skills Items (continued)

Item	n	AN n(%)	SE n(%)	SO n(%)	O n(%)	AA n(%)	Mean	Std Dev	Variance
Subscale: Time Management Scale (continued)									
I manage my time better than most people my age.	157	11(7.0)	31(19.7)	49(31.2)	36(22.9)	30(19.1)	3.27	1.19	1.41
When I have many things to do, I have a hard time deciding what to do first.*	157	15(9.6)	41(26.1)	54(34.4)	30(19.1)	17(10.8)	2.96	1.13	1.27
I have trouble scheduling my time.*	157	17(10.8)	57(36.3)	50(31.8)	26(16.6)	7(4.5)	2.68	1.02	1.04
I have a hard time planning ahead.*	157	36(22.9)	49(31.2)	44(28.0)	23(14.6)	5(3.2)	2.44	1.09	1.20
Subscale: Stress Management Scale									
By changing my way of thinking, I can change how I feel.	156	3(1.9)	9(5.8)	57(36.5)	53(34.0)	34(21.8)	3.68	0.94	0.89
To overcome feelings of failure, I tell myself I can do something about it.	157	3(1.9)	17(10.8)	49(31.2)	52(33.1)	36(22.9)	3.64	1.01	1.03

* Items reverse coded when computing composite scores
Note: 1 = AN = Almost Never (Less than 5% of the time); 2 = SE = Seldom (About 25% of the time); 3 = SO = Sometimes (About 50% of the time); 4 = O = Often (About 75% of the time); 5 = AA = Almost Always (About 95% of the time)

Table 10

Frequencies, Percentages, and Measures of Tendency and Dispersion for Perceived Coping Skills Items (continued)

Item	n	AN n(%)	SE n(%)	SO n(%)	O n(%)	AA n(%)	Mean	Std Dev	Variance
Subscale: Stress Management Scale (continued)									
I know what puts stress and strain on me.	156	5(3.2)	12(7.7)	51(32.7)	55(35.3)	33(21.2)	3.63	1.00	1.01
I make an extra effort to get things done on time.	157	3(1.9)	19(12.1)	54(34.4)	38(24.2)	43(27.4)	3.63	1.07	1.15
I deal with stress by listening to music.	157	5(3.2)	22(14.0)	51(32.5)	53(33.8)	26(16.6)	3.47	1.03	1.06
When I am late, I tell myself to keep calm.	157	10(6.4)	18(11.5)	57(36.3)	47(29.9)	25(15.9)	3.38	1.08	1.17
If I have done something that didn't work out well, I tell myself I can do something about it.	156	8(5.1)	23(14.7)	56(35.7)	48(30.6)	21(13.4)	3.33	1.05	1.10
I do exercises that make me breathe hard or sweat at least three times a week.	157	22(14.0)	33(21.0)	40(25.5)	24(15.3)	38(24.2)	3.15	1.37	1.88

* Items reverse coded when computing composite scores
Note: 1 = AN = Almost Never (Less than 5% of the time); 2 = SE = Seldom (About 25% of the time); 3 = SO = Sometimes (About 50% of the time); 4 = O = Often (About 75% of the time); 5 = AA = Almost Always (About 95% of the time)

Table 10

Frequencies, Percentages, and Measures of Tendency and Dispersion for Perceived Coping Skills Items (continued)

Item	n	AN n(%)	SE n(%)	SO n(%)	O n(%)	AA n(%)	Mean	Std Dev	Variance
Subscale: Stress Management Scale (continued)									
I eat well-balanced meals.	157	15(9.6)	25(15.9	65(41.4)	35(22.3)	17(10.8)	3.09	1.09	1.20
I do not get enough sleep.*	157	13(8.3)	38(24.2)	52(33.1)	35(22.3)	19(12.1)	3.06	1.13	1.29
When stressed, I try to control my breathing.	157	24(15.3)	37(23.6)	49(31.2)	36(22.9)	11(7.0)	2.83	1.16	1.34
I meditate or relax at least 15 minutes a day.	157	46(29.3)	29(18.5)	26(16.6)	30(19.1)	26(16.6)	2.75	1.47	2.16
I use deep breathing when stressed.	157	35(22.3)	29(18.5)	52(33.1)	30(19.1)	11(7.0)	2.70	1.21	1.48
I do some type of strengthening exercise at least three times a week.	157	37(23.6)	40(25.5)	38(24.2)	19(12.1)	23(14.6)	2.69	1.35	1.82
I do stretching exercises at least three times a week.	157	34(21.7)	43(27.4)	41(26.1)	17(10.8)	22(14.0)	2.68	1.31	1.72

* Items reverse coded when computing composite scores
Note: 1 = AN = Almost Never (Less than 5% of the time); 2 = SE = Seldom (About 25% of the time); 3 = SO = Sometimes (About 50% of the time); 4 = O = Often (About 75% of the time); 5 = AA = Almost Always (About 95% of the time)

Table 10

Frequencies, Percentages, and Measures of Tendency and Dispersion for Perceived Coping Skills Items (continued)

Item	n	AN n(%)	SE n(%)	SO n(%)	O n(%)	AA n(%)	Mean	Std Dev	Variance
Subscale: Stress Management Scale (continued)									
I do not worry ahead of time about problems that may occur.	156	7(4.5)	26(16.7)	53(34.0)	41(26.3)	29(18.6)	2.62	1.10	1.22
When I have a number of things to do, I am unable to plan how to get things done.*	157	40(25.5)	46(29.3)	47(29.9)	18(11.5)	6(3.8)	2.39	1.10	1.21
I lack the skills to deal with stress and anxiety.*	156	47(30.1)	58(37.2)	40(25.6)	9(5.8)	2(1.3)	2.11	0.95	0.90
I deal with stress by eating.*	157	51(32.5)	58(36.9)	34(21.7)	11(7.0)	3(1.9)	2.09	1.00	0.99
I use deep muscle relaxation to manage stress.	157	79(50.3)	41(26.1)	22(14.0)	10(6.4)	5(3.2)	1.86	1.08	1.17

* Items reverse coded when computing composite scores

Note: 1 = AN = Almost Never (Less than 5% of the time); 2 = SE = Seldom (About 25% of the time); 3 = SO = Sometimes (About 50% of the time); 4 = O = Often (About 75% of the time); 5 = AA = Almost Always (About 95% of the time)

Table 11

Measures of Tendency and Dispersion for Subscales of Perceived Coping Skills Instrument

Subscale	n	Possible Scores	Mean	Grand Mean	Std. Deviation	Variance	Range	Min	Max
Time Management	157	6-30	20.36	3.92	4.36	18.98	24.00	6.00	30.00
Support Systems and Resources	157	15-75	53.75	3.58	8.61	74.15	37.00	36.00	73.00
Adaptability	157	6-30	19.85	3.31	3.85	14.83	23.00	7.00	30.00
Stress Management	157	20-100	63.48	3.17	9.09	82.63	51.00	37.00	88.00
Stress Response and Reaction	157	19-95	63.47	3.17	9.82	96.45	56.00	35.00	91.00
Total Coping Skills Score	157	66-330	220.90	3.25	25.78	664.52	152.00	139.00	291.00

Table 12

Frequencies, Percentages, and Measures of Tendency and Dispersion for Perceived Intrapersonal Skills Items

Item	n	AN n(%)	SE n(%)	SO n(%)	O n(%)	AA n(%)	Mean	Std Dev	Variance
Subscale: Sense of Hope, Purpose, and Future Scale									
I expect to succeed in life.	146	3(2.1)	5(3.4)	15(10.3)	43(29.5)	80(54.8)	4.32	0.94	0.88
In the future, I expect to be a part of a happy family.	148	0(0.0)	4(2.7)	21(14.2)	48(32.4)	75(50.7)	4.31	0.82	0.67
I expect to achieve many good things in life.	147	4(2.7)	3(2.0)	29(19.7)	38(25.9)	73(49.7)	4.18	1.00	1.00
My life has direction.	148	1(0.7)	10(6.8)	27(18.2)	40(27.0)	70(47.3)	4.14	0.99	0.98
My future is promising.	148	6(4.1)	1(0.7)	33(22.3)	48(32.4)	60(40.5)	4.05	1.01	1.03
I look forward to a future with hope.	148	3(2.0)	6(4.1)	28(18.9)	55(37.2)	56(37.8)	4.04	0.96	0.92
I can fulfill my ambition.	147	1(0.7)	3(2.0)	34(23.1)	61(41.5)	48(32.7)	4.03	0.84	0.70
I can achieve what I set out to do.	148	4(2.7)	5(3.4)	28(18.9)	57(38.5)	54(36.5)	4.03	0.97	0.94

* Items reverse coded when computing composite scores
Note: 1 = AN = Almost Never (Less than 5% of the time); 2 = SE = Seldom (About 25% of the time); 3 = SO = Sometimes (About 50% of the time); 4 = O = Often (About 75% of the time); 5 = AA = Almost Always (About 95% of the time)

Table 12

Frequencies, Percentages, and Measures of Tendency and Dispersion for Perceived Intrapersonal Skills Items

Item	n	AN n(%)	SE n(%)	SO n(%)	O n(%)	AA n(%)	Mean	Std Dev	Variance
Subscale: Sense of Hope, Purpose, and Future Scale (continued)									
When things are going badly, I know they will not stay that way forever.	147	4(2.7)	10(6.8)	33(22.4)	54(36.7)	46(31.3)	3.87	1.02	1.05
In the future, things will be better.	148	2(1.4)	8(5.4)	46(31.1)	52(35.1)	40(27.0)	3.81	0.94	0.89
I expect to be happier in the future.	148	5(3.4)	13(8.8)	32(21.6)	58(39.2)	40(27.0)	3.78	1.05	1.10
I wonder about what I am doing with my life.*	148	21(14.2)	28(18.9)	48(32.4)	32(21.6)	19(12.8)	3.00	1.22	1.50
I am not optimistic about the future.*	147	45(30.6)	33(22.4)	39(26.5)	18(12.2)	12(8.2)	2.45	1.27	1.61
I do not know what I want in life.*	148	57(38.5)	30(20.3)	39(26.4)	14(9.5)	8(5.4)	2.23	1.21	1.47

* Items reverse coded when computing composite scores
Note: 1 = AN = Almost Never (Less than 5% of the time); 2 = SE = Seldom (About 25% of the time); 3 = SO = Sometimes (About 50% of the time); 4 = O = Often (About 75% of the time); 5 = AA = Almost Always (About 95% of the time)

Table 12

Frequencies, Percentages, and Measures of Tendency and Dispersion for Perceived Intrapersonal Skills Items

Item	n	AN n(%)	SE n(%)	SO n(%)	O n(%)	AA n(%)	Mean	Std Dev	Variance
Subscale: Sense of Hope, Purpose, and Future Scale (continued)									
I anticipate more bad times than good.*	147	49(33.3)	42(28.6)	36(24.5)	15(10.2)	5(3.4)	2.22	1.11	1.25
I am discouraged about the future.*	148	47(31.8)	49(33.1)	36(24.3)	9(6.1)	7(4.7)	2.19	1.10	1.20
I have a hard time seeing the bright side of a situation.*	148	47(31.8)	45(30.4)	46(31.1)	10(6.8)	0(0.0)	2.13	0.94	0.89
The things I want to accomplish are out of reach.*	148	56(37.8)	47(31.8)	32(21.6)	10(6.8)	3(2.0)	2.03	1.03	1.05
Subscale: Self-Concept Scale									
I am a good person.	148	2(1.4)	4(2.7)	21(14.2)	51(34.5)	70(47.3)	4.24	0.89	0.79
I have a sense of humor.	148	1(0.7)	5(3.4)	30(20.3)	44(29.7)	68(45.9)	4.17	0.91	0.84

* Items reverse coded when computing composite scores
Note: 1 = AN = Almost Never (Less than 5% of the time); 2 = SE = Seldom (About 25% of the time); 3 = SO = Sometimes (About 50% of the time); 4 = O = Often (About 75% of the time); 5 = AA = Almost Always (About 95% of the time)

Table 12

Frequencies, Percentages, and Measures of Tendency and Dispersion for Perceived Intrapersonal Skills Items (continued)

Item	n	AN n(%)	SE n(%)	SO n(%)	O n(%)	AA n(%)	Mean	Std Dev	Variance
Subscale: Self-Concept Scale (continued)									
I am hard working.	148	3(2.0)	8(5.4)	20(13.5)	60(40.5)	57(38.5)	4.08	0.96	0.92
I do well in school.	148	4(2.7)	6(4.1)	33(22.3)	60(40.5)	45(30.4)	3.92	0.97	0.93
I am sure of myself.	147	3(2.0)	8(5.4)	42(28.6)	62(42.2)	32(21.8)	3.76	0.92	0.85
I am successful at most things.	148	1(0.7)	9(6.1)	42(28.4)	74(50.0)	22(14.9)	3.72	0.82	0.66
I lack creativity.*	148	58(39.2)	33(22.3)	41(27.7)	11(7.4)	5(3.4)	2.14	1.12	1.26
Subscale: Self-Esteem Scale									
I am proud of my accomplishments.	148	2(1.4)	4(2.7)	26(17.6)	58(39.2)	58(39.2)	4.12	0.89	0.79
Most people like me the way I am.	147	0(0.0)	6(4.1)	29(19.7)	67(45.6)	45(30.6)	4.03	0.82	0.67

* Items reverse coded when computing composite scores
Note: 1 = AN = Almost Never (Less than 5% of the time); 2 = SE = Seldom (About 25% of the time); 3 = SO = Sometimes (About 50% of the time); 4 = O = Often (About 75% of the time); 5 = AA = Almost Always (About 95% of the time)

Table 12

Frequencies, Percentages, and Measures of Tendency and Dispersion for Perceived Intrapersonal Skills Items (continued)

Item	n	AN n(%)	SE n(%)	SO n(%)	O n(%)	AA n(%)	Mean	Std Dev	Variance
Subscale: Self-Esteem Scale (continued)									
On the whole, I am satisfied with myself.	147	1(0.7)	7(4.8)	31(21.1)	56(38.1)	52(35.4)	4.03	0.91	0.82
I believe I am as important as anyone else.	148	2(1.4)	6(4.1)	32(21.6)	57(38.5)	51(34.5)	4.00	0.92	0.85
I am confident in what I can do.	148	3(2.0)	1(0.7)	36(24.3)	63(42.6)	45(30.4)	3.99	0.87	0.76
I have many strengths.	148	1(0.7)	5(3.4)	35(23.6)	63(42.6)	44(29.7)	3.97	0.86	0.73
I feel good about the way I act.	147	2(1.4)	10(6.8)	31(21.1)	57(38.8)	47(32.0)	3.93	0.96	0.93
I am proud of myself.	148	3(2.0)	8(5.4)	34(23.0)	67(45.3)	36(24.3)	3.84	0.92	0.85
I am satisfied with myself.	148	1(0.7)	14(9.5)	41(27.7)	51(34.5)	41(27.7)	3.79	0.98	0.96
I feel calm and peaceful.	147	1(0.7)	17(11.6)	41(27.9)	45(30.6)	43(29.3)	3.76	1.02	1.05

* Items reverse coded when computing composite scores
Note: 1 = AN = Almost Never (Less than 5% of the time); 2 = SE = Seldom (About 25% of the time); 3 = SO = Sometimes (About 50% of the time); 4 = O = Often (About 75% of the time); 5 = AA = Almost Always (About 95% of the time)

Table 12

Frequencies, Percentages, and Measures of Tendency and Dispersion for Perceived Intrapersonal Skills Items (continued)

Item	n	AN n(%)	SE n(%)	SO n(%)	O n(%)	AA n(%)	Mean	Std Dev	Variance
Subscale: Self-Esteem Scale (continued)									
I am happy with the way I am.	148	4(2.7)	20(13.5)	31(20.9)	45(30.4)	48(32.4)	3.76	1.13	1.27
I am successful at most things I do.	148	1(0.7)	9(6.1)	42(28.4)	74(50.0)	22(14.9)	3.72	0.82	0.66
I am self-conscious of the way I look.*	147	17(11.6)	28(19.0)	47(32.0)	33(22.4)	22(15.0)	3.11	1.21	1.48
I wish I had more respect for myself.*	148	35(23.6)	39(26.4)	41(27.7)	15(10.1)	18(12.2)	2.61	1.29	1.66
I have few good qualities.*	147	42(28.6)	33(22.4)	33(22.4)	26(17.7)	13(8.8)	2.56	1.31	1.71
I find it difficult to come up with good ideas.*	148	31(20.9)	53(35.8)	41(27.7)	17(11.5)	6(4.1)	2.42	1.07	1.14

* Items reverse coded when computing composite scores
Note: 1 = AN = Almost Never (Less than 5% of the time); 2 = SE = Seldom (About 25% of the time); 3 = SO = Sometimes (About 50% of the time); 4 = O = Often (About 75% of the time); 5 = AA = Almost Always (About 95% of the time

Table 12

Frequencies, Percentages, and Measures of Tendency and Dispersion for Perceived Intrapersonal Skills Items (continued)

Item	n	AN n(%)	SE n(%)	SO n(%)	O n(%)	AA n(%)	Mean	Std Dev	Variance
Subscale: Self-Esteem Scale (continued)									
There are times when I do not like myself.*	147	46(31.3)	41(27.9)	42(28.6)	13(8.8)	5(3.4)	2.25	1.09	1.20
I wish I were someone else.*	148	62(41.9)	28(18.9)	39(26.4)	13(8.8)	6(4.1)	2.14	1.17	1.39
There is no way to solve some of the problems I have.*	148	63(42.6)	47(31.8)	29(19.6)	7(4.7)	2(1.4)	1.91	0.96	0.93
I feel useless.*	148	73(49.3)	41(27.7)	24(16.2)	7(4.7)	3(2.0)	1.82	1.00	1.00
I feel like a failure.*	148	81(54.7)	30(20.3)	28(18.9)	4(2.7)	5(3.4)	1.80	1.06	1.12
I feel worthless.*	146	79(54.1)	38(26.0)	19(13.0)	7(4.8)	3(2.1)	1.75	1.00	0.99
Subscale: Understanding Emotions Scale									
I can express concern, love and warmth to others.	148	1(0.7)	6(4.1)	29(19.6)	46(31.1)	66(44.6)	4.15	0.92	0.85

* Items reverse coded when computing composite scores
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Table 12

Frequencies, Percentages, and Measures of Tendency and Dispersion for Perceived Intrapersonal Skills Items (continued)

Item	n	AN n(%)	SE n(%)	SO n(%)	O n(%)	AA n(%)	Mean	Std Dev	Variance
Subscale: Understanding Emotions Scale (continued)									
I know what makes me happy.	148	1(0.7)	6(4.1)	26(17.6)	54(36.5)	61(41.2)	4.14	0.89	0.80
I am aware of my inner feelings.	148	1(0.7)	4(2.7)	32(21.6)	53(35.8)	58(39.2)	4.10	0.88	0.77
I can feel angry without hurting myself and others.	148	3(2.0)	12(8.1)	32(21.6)	49(33.1)	52(35.1)	3.91	1.04	1.07
I am concerned about others.	148	3(2.0)	7(4.7)	40(27.0)	55(37.2)	43(29.1)	3.86	0.96	0.92
I know what makes me sad.	148	4(2.7)	13(8.8)	32(21.6)	51(34.5)	48(32.4)	3.85	1.06	1.12
I am aware of the changes in my mood.	148	3(2.0)	14(9.5)	32(21.6)	62(41.9)	37(25.0)	3.78	0.99	0.99
I think about my reasons for doing things.	147	3(2.0)	9(6.1)	48(32.7)	53(36.1)	34(23.1)	3.72	0.96	0.92
I find constructive ways to express my feelings.	148	8(5.4)	13(8.8)	56(37.8)	40(27.0)	31(20.9)	3.49	1.08	1.18

* Items reverse coded when computing composite scores
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Table 12

Frequencies, Percentages, and Measures of Tendency and Dispersion for Perceived Intrapersonal Skills Items (continued)

Item	n	AN n(%)	SE n(%)	SO n(%)	O n(%)	AA n(%)	Mean	Std Dev	Variance
Subscale: Understanding Emotions Scale (continued)									
I am concerned about the way I do things.*	148	11(7.4)	17(11.5)	42(28.4)	42(28.4)	36(24.3)	3.51	1.19	1.42
It's okay for me to be scared.	148	11(7.4)	10(6.8)	59(39.9)	47(31.8)	21(14.2)	3.39	1.05	1.11
I worry about making a good impression.*	148	6(4.1)	15(10.1)	66(44.6)	42(28.4)	19(12.8)	3.36	0.97	0.94
I am concerned about how others perceive me.*	148	15(10.1)	38(25.7)	63(42.6)	22(14.9)	10(6.8)	2.82	1.03	1.06
I lose my temper.*	148	34(23.0)	34(23.0)	54(36.5)	20(13.5)	6(4.1)	2.53	1.11	1.23
I am a nervous person.*	148	33(22.3)	49(33.1)	45(30.4)	13(8.8)	8(5.4)	2.42	1.09	1.20
I am concerned about losing control.*	148	50(33.8)	42(28.4)	35(23.6)	18(12.2)	3(2.0)	2.20	1.10	1.21
I am emotionally unstable.*	139	80(57.6)	32(23.0)	21(15.1)	4(2.9)	2(1.4)	1.68	0.93	0.87

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Table 12

Frequencies, Percentages, and Measures of Tendency and Dispersion for Perceived Intrapersonal Skills Items (continued)

Item	n	AN n(%)	SE n(%)	SO n(%)	O n(%)	AA n(%)	Mean	Std Dev	Variance
Subscale: Self-Discipline Scale									
When I decide to do something, I do it.	148	6(4.1)	3(2.0)	33(22.3)	63(42.6)	43(29.1)	3.90	0.98	0.96
I stick with tough tasks until I finish them.	148	1(0.7)	8(5.4)	44(29.7)	55(37.2)	40(27.0)	3.84	0.91	0.83
I do today what needs to be done today.	147	9(6.1)	13(8.8)	49(33.3)	48(32.7)	28(19.0)	3.50	1.09	1.18
Even when I am very angry, I consider my actions carefully.	147	6(4.1)	16(10.9)	58(39.5)	42(28.6)	25(17.0)	3.44	1.03	1.06
When I feel anxious, I stop and think before I do anything.	148	2(1.4)	26(17.6)	49(33.1)	50(33.8)	21(14.2)	3.42	0.98	0.97
I put off what needs to be done today.*	148	28(18.9)	35(23.6)	60(40.5)	17(11.5)	8(5.4)	2.61	1.09	1.18
I act without stopping to think.*	148	39(26.4)	34(23.0)	52(35.1)	19(12.8)	4(2.7)	2.43	1.09	1.20
I do not have self-control.*	148	68(45.9)	30(20.3)	33(22.3)	15(10.1)	2(1.4)	2.01	1.10	1.22

* Items reverse coded when computing composite scores
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Table 12

Frequencies, Percentages, and Measures of Tendency and Dispersion for Perceived Intrapersonal Skills Items (continued)

Item	n	AN n(%)	SE n(%)	SO n(%)	O n(%)	AA n(%)	Mean	Std Dev	Variance
Subscale: Locus of Control Scale									
I can do things I set my mind to do.	148	1(0.7)	5(3.4)	19(12.8)	63(42.6)	60(40.5)	4.19	0.84	0.70
The choices I make can change my health.	146	4(2.7)	8(5.5)	21(14.4)	41(28.1)	72(49.3)	4.16	1.04	1.09
Becoming successful is a matter of hard work, not luck.	148	5(3.4)	7(4.7)	34(23.0)	51(34.5)	51(34.5)	3.92	1.03	1.07
When I make plans, I can make them work.	148	0(0.0)	5(3.4)	51(34.5)	56(37.8)	36(24.3)	3.83	0.84	0.70
I can do things to prevent accidents.	148	1(0.7)	5(3.4)	51(34.5)	53(35.8)	38(25.7)	3.82	0.88	0.77
I control my feelings.	148	3(2.0)	6(4.1)	51(34.5)	49(33.1)	39(26.4)	3.78	0.95	0.91
Good health is a matter of good fortune.*	148	34(23.0)	45(30.4)	40(27.0)	19(12.8)	10(6.8)	2.50	1.18	1.38

* Items reverse coded when computing composite scores
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Table 12

Frequencies, Percentages, and Measures of Tendency and Dispersion for Perceived Intrapersonal Skills Items (continued)

Item	n	AN n(%)	SE n(%)	SO n(%)	O n(%)	AA n(%)	Mean	Std Dev	Variance
Subscale: Locus of Control Scale (continued)									
I have little control over the things that happen to me.*	147	39(26.5)	50(34.0)	36(24.5)	19(12.9)	3(2.0)	2.30	1.06	1.13
I don't seem to have much control over my life.*	148	56(37.8)	42(28.4)	32(21.6)	8(5.4)	10(6.8)	2.15	1.19	1.41
What happens to me in the future is out of my control.*	148	60(40.5)	34(23.0)	33(22.3)	14(9.5)	7(4.7)	2.15	1.19	1.42
Good health comes from being lucky.*	147	46(31.3)	54(36.7)	36(24.5)	6(4.1)	5(3.4)	2.12	1.01	1.02
I need other people to tell me what to do to stay healthy.*	147	50(34.0)	46(31.3)	38(25.9)	10(6.8)	3(2.0)	2.12	1.02	1.05
I lack control over the direction my life is taking.*	148	58(39.2)	48(32.4)	28(18.9)	10(6.8)	4(2.7)	2.01	1.05	1.10

* Items reverse coded when computing composite scores
Note: 1 = AN = Almost Never (Less than 5% of the time); 2 = SE = Seldom (About 25% of the time); 3 = SO = Sometimes (About 50% of the time); 4 = O = Often (About 75% of the time); 5 = AA = Almost Always (About 95% of the time

Table 12

Frequencies, Percentages, and Measures of Tendency and Dispersion for Perceived Intrapersonal Skills Items (continued)

Item	n	AN n(%)	SE n(%)	SO n(%)	O n(%)	AA n(%)	Mean	Std Dev	Variance
Subscale: Personal Responsibility Scale									
When I agree to give someone a ride, I do it.	148	2(1.4)	8(5.4)	20(13.5)	51(34.5)	67(45.3)	4.17	0.95	0.90
When people are dependent on me, I follow through.	147	3(2.0)	5(3.4)	26(17.6)	48(32.4)	65(43.9)	4.14	0.96	0.93
I am responsible.	148	2(1.4)	7(4.7)	25(16.9)	53(35.8)	61(41.2)	4.11	0.94	0.89
I complete school assignments on time.	148	1(0.7)	6(4.1)	31(20.9)	55(37.2)	55(37.2)	4.06	0.90	0.81
I take responsibility of consequences of my actions.	146	3(2.1)	10(6.8)	29(19.9)	50(34.2)	54(37.0)	3.97	1.02	1.03
I take responsibility for tasks at home.	148	0(0.0)	11(7.4)	30(20.3)	62(41.9)	45(30.4)	3.95	0.90	0.81
I have high standards.	148	4(2.7)	9(6.1)	42(28.4)	45(30.4)	48(32.4)	3.84	1.04	1.08

* Items reverse coded when computing composite scores
Note: 1 = AN = Almost Never (Less than 5% of the time); 2 = SE = Seldom (About 25% of the time); 3 = SO = Sometimes (About 50% of the time); 4 = O = Often (About 75% of the time); 5 = AA = Almost Always (About 95% of the time

Table 12

Frequencies, Percentages, and Measures of Tendency and Dispersion for Perceived Intrapersonal Skills Items (continued)

Item	n	AN n(%)	SE n(%)	SO n(%)	O n(%)	AA n(%)	Mean	Std Dev	Variance
Subscale: Personal Responsibility Scale (continued)									
I follow rules.	148	3(2.0)	7(4.7)	38(25.7)	67(45.3)	33(22.3)	3.81	0.91	0.82
I put off doing important things until it is too late.*	148	36(24.3)	50(33.8)	37(25.0)	20(13.5)	5(3.4)	2.38	1.10	1.20
I fail to take responsibility for my health.*	147	44(29.7)	38(25.7)	39(26.4)	17(11.5)	9(6.1)	2.38	1.20	1.44
I get into trouble.*	148	50(33.8)	39(26.4)	53(35.8)	5(3.4)	1(0.7)	2.11	0.94	0.89
Subscale: Autonomy and Independence Scale									
I am allowed to do things on my own.	148	5(3.4)	4(2.7)	10(6.8)	44(29.7)	85(57.4)	4.35	0.97	0.94
I can disagree with my parents as long as I do it with respect.	148	3(2.0)	7(4.7)	24(16.2)	45(30.4)	69(46.6)	4.15	0.99	0.99

* Items reverse coded when computing composite scores
Note: 1 = AN = Almost Never (Less than 5% of the time); 2 = SE = Seldom (About 25% of the time); 3 = SO = Sometimes (About 50% of the time); 4 = O = Often (About 75% of the time); 5 = AA = Almost Always (About 95% of the time

Table 12

Frequencies, Percentages, and Measures of Tendency and Dispersion for Perceived Intrapersonal Skills Items (continued)

Item	n	AN n(%)	SE n(%)	SO n(%)	O n(%)	AA n(%)	Mean	Std Dev	Variance
Subscale: Autonomy and Independence Scale (continued)									
I can decide on important things for myself.	148	0(0.0)	10(6.8)	31(20.9)	56(37.8)	51(34.5)	4.00	0.91	0.83
I can openly disagree with my peers.	148	3(2.0)	8(5.4)	30(20.3)	53(35.8)	54(36.5)	3.99	0.99	0.97
I know when to agree with someone and when to assert myself.	148	4(2.7)	6(4.1)	30(20.3)	67(45.3)	41(27.7)	3.91	0.94	0.88
I can openly disagree with my parents.	148	3(2.0)	16(10.8)	33(22.3)	42(28.4)	54(36.5)	3.86	1.09	1.19
My parents hold me to firm family rules.*	148	19(12.8)	28(18.9)	45(30.4)	34(23.0)	22(14.9)	3.08	1.23	1.53
My parents insist that I do things their way.*	147	33(22.4)	40(27.2)	52(35.4)	14(9.5)	8(5.4)	2.48	1.11	1.22

* Items reverse coded when computing composite scores
Note: 1 = AN = Almost Never (Less than 5% of the time); 2 = SE = Seldom (About 25% of the time); 3 = SO = Sometimes (About 50% of the time); 4 = O = Often (About 75% of the time); 5 = AA = Almost Always (About 95% of the time)

Table 12

Frequencies, Percentages, and Measures of Tendency and Dispersion for Perceived Intrapersonal Skills Items (continued)

Item	n	AN n(%)	SE n(%)	SO n(%)	O n(%)	AA n(%)	Mean	Std Dev	Variance
Subscale: Autonomy and Independence Scale (continued)									
I do what my friends do, even when I don't want to.*	148	41(27.7)	55(37.2)	37(25.0)	11(7.4)	4(2.7)	2.21	1.02	1.03
I am unable to make my own decisions.*	148	65(43.9)	42(28.4)	24(16.2)	10(6.8)	7(4.7)	2.00	1.14	1.31
I am unable to act independently.*	146	68(46.6)	42(28.8)	22(15.1)	8(5.5)	6(4.1)	1.92	1.09	1.21
My parents insist on choosing my friends for me.*	148	95(64.2)	22(14.9)	18(12.2)	11(7.4)	2(1.4)	1.67	1.04	1.08
I am unable to take care of myself.*	148	93(62.8)	32(21.6)	13(8.8)	7(4.7)	3(2.0)	1.61	0.97	0.95

* Items reverse coded when computing composite scores
Note: 1 = AN = Almost Never (Less than 5% of the time); 2 = SE = Seldom (About 25% of the time); 3 = SO = Sometimes (About 50% of the time); 4 = O = Often (About 75% of the time); 5 = AA = Almost Always (About 95% of the time)

Table 12

Frequencies, Percentages, and Measures of Tendency and Dispersion for Perceived Intrapersonal Skills Items (continued)

Item	n	AN n(%)	SE n(%)	SO n(%)	O n(%)	AA n(%)	Mean	Std Dev	Variance
Subscale: Value System Scale									
My personal values guide my decisions.	148	2(1.4)	7(4.7)	25(16.9)	61(41.2)	53(35.8)	4.05	0.92	0.84
I stand up for what I believe even when it is unpopular to do so.	148	3(2.0)	13(8.8)	38(25.7)	48(32.4)	46(31.1)	3.82	1.04	1.08
I tell the truth even when it is not easy.	148	3(2.0)	6(4.1)	56(37.8)	58(39.2)	25(16.9)	3.65	0.88	0.77
I feel guilty after doing something I should not do.	147	8(5.4)	20(13.6)	33(22.4)	42(28.6)	44(29.9)	3.63	1.20	1.44
I don't live up to my own standards.*	148	27(18.2)	49(33.1)	39(26.4)	21(14.2)	12(8.1)	2.61	1.18	1.38
I haven't really thought about what is important to me.*	148	55(37.2)	43(29.1)	33(22.3)	10(6.8)	7(4.7)	2.13	1.13	1.28

* Items reverse coded when computing composite scores
Note: 1 = AN = Almost Never (Less than 5% of the time); 2 = SE = Seldom (About 25% of the time); 3 = SO = Sometimes (About 50% of the time); 4 = O = Often (About 75% of the time); 5 = AA = Almost Always (About 95% of the time)

Table 13

Measures of Tendency and Dispersion for Subscales of Perceived Intrapersonal Skills Instrument

Subscale	n	Possible Scores	Mean	Grand Mean	Std. Deviation	Variance	Range	Min	Max
Self-Concept	148	6-30	23.99	4.00	3.66	13.37	17.00	13.00	30.00
Autonomy and Independence	148	13-65	51.30	3.95	7.21	52.00	33.47	31.53	65.00
Personal Responsibility	148	11-55	43.18	3.93	6.05	36.63	25.00	30.00	55.00
Sense of Hope, Purpose, and Future	148	18-90	70.33	3.91	10.28	105.60	42.00	47.00	89.00
Self-Esteem	148	19-95	74.22	3.90	11.30	127.72	54.00	40.00	94.00
Locus of Control	148	13-65	50.36	3.87	6.99	48.90	31.00	34.00	65.00
Value System	148	6-30	22.00	3.67	3.34	11.13	16.00	14.00	30.00
Self-Discipline	148	8-40	29.06	3.63	4.61	21.23	23.00	17.00	40.00
Understanding Emotions	148	16-80	58.06	3.63	7.21	51.99	37.66	41.34	79.00
Total Intrapersonal Skills Score	148	110-550	423.01	3.85	50.59	2559.48	210.86	321.00	531.86

Table 14

Frequencies, Percentages, and Measures of Tendency and Dispersion for Perceived Interpersonal Skills Items

Item	n	AN n(%)	SE n(%)	SO n(%)	O n(%)	AA n(%)	Mean	Std Dev	Variance
Subscale: Developing and Maintaining Relationships Scale									
I know someone I can really count on.	166	4(2.4)	7(4.2)	19(11.4)	37(22.3)	99(59.6)	4.33	1.00	1.00
I am a good listener.	166	1(0.6)	3(1.8)	33(19.9)	45(27.1)	84(50.6)	4.25	0.88	0.77
I hold private the confidential secrets or thoughts others tell me.	166	4(2.4)	9(5.4)	22(13.3)	39(23.5)	92(55.4)	4.24	1.03	1.07
I am willing to help others when they need help.	166	1(0.6)	7(4.2)	19(11.4)	68(41.0)	71(42.8)	4.21	0.85	0.73
I get along with most people.	166	2(1.2)	8(4.8)	16(9.6)	71(42.8)	69(41.6)	4.19	0.88	0.78
I know more than one other person I can really count on.	166	4(2.4)	13(7.8)	29(17.5)	29(17.5)	91(54.8)	4.14	1.11	1.24
I am really easy to be around.	166	5(3.0)	12(7.2)	21(12.7)	56(33.7)	72(43.4)	4.07	1.06	1.12

* Items reverse coded when computing composite scores
Note: 1 = AN = Almost Never (Less than 5% of the time); 2 = SE = Seldom (About 25% of the time); 3 = SO = Sometimes (About 50% of the time); 4 = O = Often (About 75% of the time); 5 = AA = Almost Always (About 95% of the time)

Table 14

Frequencies, Percentages, and Measures of Tendency and Dispersion for Perceived Interpersonal Skills Items (continued)

Item	n	AN n(%)	SE n(%)	SO n(%)	O n(%)	AA n(%)	Mean	Std Dev	Variance
Subscale: Developing and Maintaining Relationships Scale (continued)									
I am able to keep my friend's secrets confidential.	164	6(3.7)	10(6.1)	29(17.7)	41(25.0)	78(47.6)	4.07	1.11	1.23
Friends come to me when they have problems or need advice.	166	1(0.6)	9(5.4)	34(20.5)	66(39.8)	56(33.7)	4.01	0.90	0.82
I help people without expecting anything in return.	166	5(3.0)	4(2.4)	35(21.1)	68(41.0)	54(32.5)	3.98	0.95	0.91
I work well with others.	165	3(1.8)	8(4.8)	34(20.6)	69(41.8)	51(30.9)	3.95	0.94	0.88
I share my feelings with close friends.	166	7(4.2)	10(6.0)	39(23.5)	56(33.7)	54(32.5)	3.84	1.08	1.16
Most people think I am interesting.	166	37(22.3)	68(41.0)	44(26.5)	13(7.8)	4(2.4)	3.73	0.97	0.95

* Items reverse coded when computing composite scores
Note: 1 = AN = Almost Never (Less than 5% of the time); 2 = SE = Seldom (About 25% of the time); 3 = SO = Sometimes (About 50% of the time); 4 = O = Often (About 75% of the time); 5 = AA = Almost Always (About 95% of the time)

Table 14

Frequencies, Percentages, and Measures of Tendency and Dispersion for Perceived Interpersonal Skills Items (continued)

Item	n	AN n(%)	SE n(%)	SO n(%)	O n(%)	AA n(%)	Mean	Std Dev	Variance
Subscale: Developing and Maintaining Relationships Scale (continued)									
Most people would rather work with me than with someone else.	166	3(1.8)	12(7.2)	62(37.3)	65(39.2)	24(14.5)	3.57	0.89	0.79
My family asks for my opinion.	166	10(6.0)	20(12.0)	46(27.7)	50(30.1)	40(24.1)	3.54	1.16	1.34
I am a leader in school.	166	11(6.6)	20(12.0)	56(33.7)	50(30.1)	29(17.5)	3.40	1.11	1.24
I have few people with whom I can talk to honestly.*	165	35(21.2)	25(15.2)	40(24.2)	33(20.0)	32(19.4)	3.01	1.41	1.99
I prefer to be by myself.*	166	26(15.7)	45(27.1)	48(28.9)	25(15.1)	22(13.3)	2.83	1.25	1.56
I have few friends.*	165	57(34.5)	35(21.2)	22(13.3)	25(15.2)	26(15.8)	2.56	1.48	2.20
I choose not to get involved with others.*	165	26(15.8)	56(33.9)	59(35.8)	16(9.7)	8(4.8)	2.54	1.03	1.06

* Items reverse coded when computing composite scores
Note: 1 = AN = Almost Never (Less than 5% of the time); 2 = SE = Seldom (About 25% of the time); 3 = SO = Sometimes (About 50% of the time); 4 = O = Often (About 75% of the time); 5 = AA = Almost Always (About 95% of the time)

Table 14

Frequencies, Percentages, and Measures of Tendency and Dispersion for Perceived Interpersonal Skills Items (continued)

Item	n	AN n(%)	SE n(%)	SO n(%)	O n(%)	AA n(%)	Mean	Std Dev	Variance
Subscale: Developing and Maintaining Relationships Scale (continued)									
I find it difficult to show people that I care about them.*	166	44(26.5)	51(30.7)	44(26.5)	16(9.6)	11(6.6)	2.39	1.17	1.37
I have a hard time making friends.*	166	61(36.7)	59(35.5)	27(16.3)	15(9.0)	4(2.4)	2.05	1.05	1.11
My friends are not interested in hearing my ideas or opinions.*	166	66(39.8)	55(33.1)	26(15.7)	15(9.0)	4(2.4)	2.01	1.07	1.14
People are not interested in talking with me.*	165	65(39.4)	60(36.4)	24(14.5)	10(6.1)	6(3.6)	1.98	1.06	1.12
I am not socially accepted by my peers.*	166	75(45.2)	46(27.7)	25(15.1)	13(7.8)	7(4.2)	1.98	1.14	1.30
I am unpopular.*	166	62(37.3)	66(39.8)	27(16.3)	5(3.0)	6(3.6)	1.96	0.99	0.99
I am unable to make close friends.*	166	84(50.6)	41(24.7)	23(13.9)	10(6.0)	8(4.8)	1.90	1.15	1.32

* Items reverse coded when computing composite scores
Note: 1 = AN = Almost Never (Less than 5% of the time); 2 = SE = Seldom (About 25% of the time); 3 = SO = Sometimes (About 50% of the time); 4 = O = Often (About 75% of the time); 5 = AA = Almost Always (About 95% of the time)

Table 14

Frequencies, Percentages, and Measures of Tendency and Dispersion for Perceived Interpersonal Skills Items (continued)

Item	n	AN n(%)	SE n(%)	SO n(%)	O n(%)	AA n(%)	Mean	Std Dev	Variance
Subscale: Developing and Maintaining Relationships Scale (continued)									
I am uncooperative with others.*	166	65(39.2)	66(39.8)	26(15.7)	7(4.2)	2(1.2)	1.89	0.90	0.82
People avoid me.*	166	84(50.6)	49(29.5)	18(10.8)	9(5.4)	6(3.6)	1.82	1.06	1.13
Subscale: Communication Skills Scale									
I express myself well so that people understand what I mean.	165	6(3.6)	18(10.9)	45(27.3)	62(37.6)	34(20.6)	3.61	1.05	1.09
I can say what I mean without hurting others' feelings.	166	2(1.2)	11(6.6)	67(40.4)	61(36.7)	25(15.1)	3.58	0.87	0.75
I can say what I mean without hurting people's feelings.	166	1(0.6)	17(10.2)	64(38.6)	62(37.3)	22(13.3)	3.52	0.87	0.76
I listen to people without interrupting.	166	6(3.6)	15(9.0)	62(37.3)	56(33.7)	27(16.3)	3.50	0.99	0.98

* Items reverse coded when computing composite scores
Note: 1 = AN = Almost Never (Less than 5% of the time); 2 = SE = Seldom (About 25% of the time); 3 = SO = Sometimes (About 50% of the time); 4 = O = Often (About 75% of the time); 5 = AA = Almost Always (About 95% of the time)

Table 14

Frequencies, Percentages, and Measures of Tendency and Dispersion for Perceived Interpersonal Skills Items (continued)

Item	n	AN n(%)	SE n(%)	SO n(%)	O n(%)	AA n(%)	Mean	Std Dev	Variance
Subscale: Communication Skills Scale (continued)									
I think about how to say something before I say it, so I don't hurt someone's feelings.	166	8(4.8)	19(11.4)	56(33.7)	56(33.7)	27(16.3)	3.45	1.05	1.10
I worry about saying the wrong things to people who are close to me.*	166	15(9.0)	31(18.7)	51(30.7)	47(28.3)	22(13.3)	3.18	1.16	1.34
I feel guilty when I say "no" to people.*	166	24(14.5)	39(23.5)	51(30.7)	31(18.7)	21(12.7)	2.92	1.23	1.51
I have a hard time saying "no" to my friends.*	166	29(17.5)	37(22.3)	50(30.1)	33(19.9)	17(10.2)	2.83	1.23	1.51
If a friend became angry with me, I would worry about the friendship ending.*	166	35(21.1)	43(25.9)	45(27.1)	25(15.1)	18(10.8)	2.69	1.26	1.60
I have a hard time expressing my thoughts clearly.*	166	33(19.9)	49(29.5)	59(35.5)	18(10.8)	7(4.2)	2.50	1.06	1.12

* Items reverse coded when computing composite scores
Note: 1 = AN = Almost Never (Less than 5% of the time); 2 = SE = Seldom (About 25% of the time); 3 = SO = Sometimes (About 50% of the time); 4 = O = Often (About 75% of the time); 5 = AA = Almost Always (About 95% of the time)

Table 14

Frequencies, Percentages, and Measures of Tendency and Dispersion for Perceived Interpersonal Skills Items (continued)

Item	n	AN n(%)	SE n(%)	SO n(%)	O n(%)	AA n(%)	Mean	Std Dev	Variance
Subscale: Communication Skills Scale (continued)									
Things I say are misunderstood.*	166	18(10.8)	56(33.7)	71(42.8)	15(9.0)	6(3.6)	2.35	1.14	1.30
I cut people off when they are talking.*	166	38(22.9)	67(40.4)	50(30.1)	9(5.4)	2(1.2)	2.22	0.90	0.81
I am a poor listener.*	166	71(42.8)	51(30.7)	33(19.9)	7(4.2)	4(2.4)	1.93	1.01	1.01
Subscale: Conflict Resolution Scale									
I am willing to consider all sides of an argument.	166	3(1.8)	9(5.4)	34(20.5)	64(38.6)	56(33.7)	3.97	0.96	0.93
If I make a mistake, I own up to it and apologize.	166	1(0.6)	6(3.6)	52(31.3)	57(34.3)	50(30.1)	3.90	0.90	0.81
After a fight with a friend, I make-up as soon as possible.	166	10(6.0)	9(5.4)	59(35.5)	42(25.3)	46(27.7)	3.63	1.12	1.26

* Items reverse coded when computing composite scores
Note: 1 = AN = Almost Never (Less than 5% of the time); 2 = SE = Seldom (About 25% of the time); 3 = SO = Sometimes (About 50% of the time); 4 = O = Often (About 75% of the time); 5 = AA = Almost Always (About 95% of the time)

Table 14

Frequencies, Percentages, and Measures of Tendency and Dispersion for Perceived Interpersonal Skills Items (continued)

Item	n	AN n(%)	SE n(%)	SO n(%)	O n(%)	AA n(%)	Mean	Std Dev	Variance
Subscale: Conflict Resolution Scale (continued)									
If I disagree with someone, I can compromise.	166	3(1.8)	14(8.4)	54(32.5)	79(47.6)	16(9.6)	3.55	0.85	0.72
I get upset easily if someone yells at me.*	166	15(9.0)	34(20.5)	49(29.5)	45(27.1)	23(13.9)	3.16	1.17	1.37
When conflict occurs, I usually leave the situation.*	166	20(12.0)	34(20.5)	73(44.0)	32(19.3)	7(4.2)	2.83	1.01	1.03
When others criticize me, I get angry.*	166	12(7.2)	63(38.0)	57(34.3)	20(12.0)	14(8.4)	2.77	1.04	1.08
If I disagree with someone, it is important that I win.*	166	23(13.9)	48(28.9)	62(37.3)	19(11.4)	14(8.4)	2.72	1.11	1.22
When conflict occurs, I am unwilling to change my position.*	166	19(11.4)	58(34.9)	63(38.0)	18(10.8)	8(4.8)	2.63	0.99	0.98
I get into arguments.*	165	23(13.9)	50(30.3)	64(38.8)	22(13.3)	6(3.6)	2.62	1.00	1.00

* Items reverse coded when computing composite scores
Note: 1 = AN = Almost Never (Less than 5% of the time); 2 = SE = Seldom (About 25% of the time); 3 = SO = Sometimes (About 50% of the time); 4 = O = Often (About 75% of the time); 5 = AA = Almost Always (About 95% of the time)

Table 14

Frequencies, Percentages, and Measures of Tendency and Dispersion for Perceived Interpersonal Skills Items (continued)

Item	n	AN n(%)	SE n(%)	SO n(%)	O n(%)	AA n(%)	Mean	Std Dev	Variance
Subscale: Conflict Resolution Scale (continued)									
I feel uncomfortable discussing a personal conflict with another person.*	166	25(15.1)	43(25.9)	72(43.4)	24(14.5)	2(1.2)	2.61	0.95	0.91
I feel lonely after an argument.*	166	32(19.3)	48(28.9)	50(30.1)	25(15.1)	11(6.6)	2.61	1.15	1.33
I make negative judgments of others.*	166	28(16.9)	54(32.5)	56(33.7)	25(15.1)	3(1.8)	2.52	1.00	1.00
Subscale: Empathy Scale									
I am concerned when my friends are sad.	166	2(1.2)	11(6.6)	25(15.1)	47(28.3)	81(48.8)	4.17	0.99	0.99
I feel joyful when others are happy.	165	3(1.8)	6(3.6)	33(20.0)	66(40.0)	57(34.5)	4.02	0.93	0.86
I listen thoughtfully to others' ideas and opinions.	166	4(2.4)	7(4.2)	33(19.9)	69(41.6)	53(31.9)	3.96	0.95	.091

* Items reverse coded when computing composite scores
Note: 1 = AN = Almost Never (Less than 5% of the time); 2 = SE = Seldom (About 25% of the time); 3 = SO = Sometimes (About 50% of the time); 4 = O = Often (About 75% of the time); 5 = AA = Almost Always (About 95% of the time)

Table 14

Frequencies, Percentages, and Measures of Tendency and Dispersion for Perceived Interpersonal Skills Items (continued)

Item	n	AN n(%)	SE n(%)	SO n(%)	O n(%)	AA n(%)	Mean	Std Dev	Variance
Subscale: Empathy Scale (continued)									
I care about how others are feeling.	166	5(3.0)	9(5.4)	33(19.9)	63(38.0)	56(33.7)	3.94	1.01	1.03
I try to understand others' thoughts and feelings.	166	6(3.6)	9(5.4)	36(21.7)	73(44.0)	42(25.3)	3.82	0.99	0.99
I am sensitive to other people's feelings even if they are not my friends.	166	5(3.0)	17(10.2)	41(24.7)	60(36.1)	43(25.9)	3.72	1.06	1.11
People I do not like can have good ideas.	165	11(6.7)	13(7.9)	40(24.2)	59(35.8)	42(25.5)	3.65	1.14	1.30
I can feel what others are feeling when I picture or think about them.	166	11(6.6)	17(10.2)	57(34.3)	55(33.1)	26(15.7)	3.41	1.08	1.17
I feel sad when others are sad.	166	9(5.4)	29(17.5)	64(38.6)	42(25.3)	22(13.3)	3.23	1.06	1.13
I try not to get involved with other people's problems.*	166	5(3.0)	35(21.1)	80(48.2)	37(22.3)	9(5.4)	3.06	0.88	0.77

* Items reverse coded when computing composite scores
Note: 1 = AN = Almost Never (Less than 5% of the time); 2 = SE = Seldom (About 25% of the time); 3 = SO = Sometimes (About 50% of the time); 4 = O = Often (About 75% of the time); 5 = AA = Almost Always (About 95% of the time)

Table 15

Measures of Tendency and Dispersion for Subscales of Perceived Interpersonal Skills Instrument

Subscale	n	Possible Scores	Mean	Grand Mean	Std. Deviation	Variance	Range	Min	Max
Developing and Maintaining Relationships	166	29-145	112.60	3.88	14.33	205.37	64.00	80.00	144.00
Empathy	166	10-50	36.87	3.69	5.98	35.79	30.00	19.00	49.00
Conflict Resolution	166	9-45	31.75	3.53	3.91	15.29	22.00	23.00	45.00
Communication Skills	166	12-60	41.62	3.47	6.17	38.06	35.00	25.00	60.00
Total Interpersonal Skills Score	166	60-300	222.84	3.71	25.37	643.84	110.00	175.00	285.00

Table 16

Frequencies, Percentages, and Measures of Tendency and Dispersion for Perceived Judgment Skills Items

Item	n	AN n(%)	SE n(%)	SO n(%)	O n(%)	AA n(%)	Mean	Std Dev	Variance
Subscale: Defining Problem or Issue Scale									
I know when I am having a bad day.	184	6(3.3)	0(0.0)	22(12.0)	41(22.3)	115(62.5)	4.41	0.94	0.88
I can identify problems in my life.	185	5(2.7)	8(4.3)	23(12.3)	75(40.5)	74(40.0)	4.11	0.97	0.93
When I have a problem, I try to figure out what is causing it.	185	3(1.6)	8(4.3)	33(17.8)	85(45.9)	56(30.3)	3.99	0.90	0.80
I set personal goals based on what I value.	183	1(0.5)	11(6.0)	40(21.7)	74(40.4)	57(31.1)	3.98	0.93	0.86
When I try to change something, I think of all the things that are related to it.	185	7(3.8)	16(8.6)	75(40.5)	66(35.7)	21(11.4)	3.42	0.94	0.88
I find it difficult to focus on a problem and see ways to solve it.*	185	44(23.8)	84(45.4)	44(23.8)	10(5.4)	3(1.6)	2.16	0.90	0.82

* Items reverse coded when computing composite scores
Note: 1 = AN = Almost Never (Less than 5% of the time); 2 = SE = Seldom (About 25% of the time); 3 = SO = Sometimes (About 50% of the time); 4 = O = Often (About 75% of the time); 5 = AA = Almost Always (About 95% of the time)

Table 16

Frequencies, Percentages, and Measures of Tendency and Dispersion for Perceived Judgment Skills Items (continued)

Item	n	AN n(%)	SE n(%)	SO n(%)	O n(%)	AA n(%)	Mean	Std Dev	Variance
Subscale: Predicting Outcomes or Consequences Scale									
I know my actions affect others.	185	2(1.1)	6(3.2)	25(13.5)	60(32.4)	92(49.7)	4.26	0.89	0.79
I think through my problems before reacting.	184	5(2.7)	13(7.1)	54(29.3)	66(35.9)	46(25.0)	3.75	1.01	1.03
Before I make a decision, I think about the possible consequences.	185	6(3.2)	16(8.6)	45(24.3)	69(37.3)	49(26.5)	3.75	1.04	1.09
I react to a situation without thinking about how it will impact others.*	184	52(28.2)	55(29.9)	50(27.1)	22(12.0)	5(2.7)	2.30	1.10	1.21
Subscale: Identify Potential Alternative Solutions Scale									
I believe that every problem has a solution.	185	6(3.2)	15(8.1)	35(18.9)	55(29.7)	74(40.0)	3.95	1.10	1.21

* Items reverse coded when computing composite scores
Note: 1 = AN = Almost Never (Less than 5% of the time); 2 = SE = Seldom (About 25% of the time); 3 = SO = Sometimes (About 50% of the time); 4 = O = Often (About 75% of the time); 5 = AA = Almost Always (About 95% of the time)

Table 16

Frequencies, Percentages, and Measures of Tendency and Dispersion for Perceived Judgment Skills Items (continued)

Item	n	AN n(%)	SE n(%)	SO n(%)	O n(%)	AA n(%)	Mean	Std Dev	Variance
Subscale: Identify Potential Alternative Solutions Scale (continued)									
I can focus on a problem and come up with ways to solve it.	183	4(2.2)	4(2.2)	46(25.1)	79(43.2)	50(27.3)	3.94	0.92	0.84
Solutions to my problems are consistent with what I believe.	184	4(2.2)	9(4.9)	45(24.5)	81(44.0)	45(24.5)	3.85	0.94	0.88
When I have a problem, I think about how I solved a similar one.	185	2(1.1)	17(9.2)	56(30.3)	73(39.5)	37(20.0)	3.68	0.93	0.87
In making a decision, I identify all possible alternatives instead of deciding quickly.	184	1(0.5)	24(13.0)	65(35.3)	58(31.5)	36(19.6)	3.57	0.97	0.94
I have trouble making up my mind.*	184	18(9.8)	49(26.6)	69(37.5)	35(19.0)	13(7.1)	2.87	1.06	1.12
I have trouble identifying solutions before I start.*	185	42(22.7)	61(33.0)	63(34.1)	18(9.7)	1(0.5)	2.32	0.95	0.91

* Items reverse coded when computing composite scores
Note: 1 = AN = Almost Never (Less than 5% of the time); 2 = SE = Seldom (About 25% of the time); 3 = SO = Sometimes (About 50% of the time); 4 = O = Often (About 75% of the time); 5 = AA = Almost Always (About 95% of the time)

Table 16

Frequencies, Percentages, and Measures of Tendency and Dispersion for Perceived Judgment Skills Items (continued)

Item	n	AN n(%)	SE n(%)	SO n(%)	O n(%)	AA n(%)	Mean	Std Dev	Variance
Subscale: Goal Setting Scale									
I strive for higher goals.	184	3(1.6)	2(1.1)	25(13.6)	74(40.2)	80(43.5)	4.23	0.84	0.71
I have realistic expectations of myself.	185	2(1.1)	7(3.8)	20(10.8)	82(44.3)	74(40.0)	4.18	0.85	0.73
My personal goals are consistent with my values.	185	4(2.2)	9(4.9)	21(11.4)	78(42.2)	73(39.5)	4.11	0.94	0.89
When I make a plan, I follow through.	185	3(1.6)	5(2.7)	39(21.1)	93(50.3)	45(24.3)	3.93	0.84	0.71
I can identify barriers to reaching my goals.	185	5(2.7)	3(1.6)	52(28.1)	77(41.6)	48(25.9)	3.86	0.91	0.84
I am satisfied with my current goals.	185	8(4.3)	9(4.9)	39(21.1)	83(44.9)	46(24.9)	3.81	1.01	1.01
When planning ahead, I think about past mistakes.	185	6(3.2)	9(4.9)	67(36.2)	64(34.6)	39(21.1)	3.65	0.97	0.95

* Items reverse coded when computing composite scores
Note: 1 = AN = Almost Never (Less than 5% of the time); 2 = SE = Seldom (About 25% of the time); 3 = SO = Sometimes (About 50% of the time); 4 = O = Often (About 75% of the time); 5 = AA = Almost Always (About 95% of the time)

Table 16

Frequencies, Percentages, and Measures of Tendency and Dispersion for Perceived Judgment Skills Items (continued)

Item	n	AN n(%)	SE n(%)	SO n(%)	O n(%)	AA n(%)	Mean	Std Dev	Variance
Subscale: Goal Setting Scale (continued)									
I am unable to accomplish my short term goals.*	184	54(29.2)	81(43.8)	29(15.8)	17(9.2)	3(1.6)	2.10	0.98	0.96
I do not set long-term goals.*	185	81(43.8)	55(29.7)	33(17.8)	11(5.9)	5(2.7)	1.94	1.05	1.10
Setting goals just means you are going to be disappointed.*	185	93(50.3)	57(30.8)	23(12.4)	9(4.9)	3(1.6)	1.77	0.96	0.92
I fail to set personal goals.*	185	97(52.4)	52(28.1)	27(14.6)	6(3.2)	3(1.6)	1.74	0.94	0.88
Subscale: Assessing Information and Resources Scale									
When making a decision, I can find relevant information.	185	2(1.1)	7(3.8)	46(24.9)	90(48.6)	40(21.6)	3.86	0.84	0.70
I can evaluate information on the internet for accuracy.	183	1(0.5)	13(7.1)	45(24.6)	84(45.9)	40(21.9)	3.81	0.88	0.77

* Items reverse coded when computing composite scores
Note: 1 = AN = Almost Never (Less than 5% of the time); 2 = SE = Seldom (About 25% of the time); 3 = SO = Sometimes (About 50% of the time); 4 = O = Often (About 75% of the time); 5 = AA = Almost Always (About 95% of the time)

Table 16

Frequencies, Percentages, and Measures of Tendency and Dispersion for Perceived Judgment Skills Items (continued)

Item	n	AN n(%)	SE n(%)	SO n(%)	O n(%)	AA n(%)	Mean	Std Dev	Variance
Subscale: Assessing Information and Resources Scale (continued)									
I am aware of available resources at school.	185	8(4.3)	13(7.0)	40(21.6)	77(41.6)	47(25.4)	3.77	1.05	1.09
I know how to access community resources to meet my needs.	185	8(4.3)	18(9.7)	47(25.4)	79(42.7)	33(17.8)	3.60	1.03	1.06
I ask my friends their opinion when I'm making a decision.	185	6(3.2)	22(11.9)	85(45.9)	44(23.8)	28(15.1)	3.36	0.98	0.97
I ask my family their opinion when I'm making a decision.	185	15(8.1)	32(17.3)	66(35.7)	39(21.1)	33(17.8)	3.23	1.17	1.38
It's hard for me to find accurate information.*	185	42(22.7)	83(44.9)	45(24.3)	12(6.5)	3(1.6)	2.19	0.92	0.84
I'm not sure where to look for information to help solve problems.*	185	58(31.4)	72(38.9)	39(21.1)	12(6.5)	4(2.2)	2.09	0.99	0.98

* Items reverse coded when computing composite scores
Note: 1 = AN = Almost Never (Less than 5% of the time); 2 = SE = Seldom (About 25% of the time); 3 = SO = Sometimes (About 50% of the time); 4 = O = Often (About 75% of the time); 5 = AA = Almost Always (About 95% of the time)

Table 17

Measures of Tendency and Dispersion for Subscales of Perceived Judgment Skills Instrument

Subscale	n	Possible Scores	Mean	Grand Mean	Std. Deviation	Variance	Range	Min	Max
Goal Setting	185	11-55	44.25	4.02	6.31	39.87	30.00	25.00	55.00
Defining Problem or Issue	185	6-30	23.75	3.96	3.38	11.44	20.00	10.00	30.00
Predicting Outcomes or Consequences	185	4-20	15.46	3.87	2.84	8.05	12.00	8.00	20.00
Identify Potential Alternative Solutions	185	7-35	25.79	3.68	3.90	15.21	21.00	14.00	35.00
Assessing Information and Resources	185	8-40	29.34	3.67	4.30	18.49	24.00	16.00	40.00
Total Judgment Skills Score	185	36-180	138.59	3.85	17.45	304.38	99.00	76.00	175.00

Table 18

Health Risk Behaviors of Study Participants (n = 656)

Health Risk Behavior Items	Frequency (n)	Percentage (%)
During the past 30 days, how many times did you drive a car or other vehicle when you had been drinking alcohol?		
0 times	483	73.6
1 time	67	10.2
2 or 3 times	67	10.2
4 or 5 times	18	2.7
6 or more times	20	3.0
During the past 12 months, did you ever feel so sad or hopeless almost every day for two weeks or more in a row that you stopped doing some usual activities?		
Yes	66	10.1
No	568	86.6
During the past 12 months, did you ever seriously consider committing suicide?		
Yes	162	24.7
No	473	72.1

Note: Percentages not totaling 100% indicate missing data

Table 18

Health Risk Behaviors of Study Participants (n = 656) (continued)

Health Risk Behavior Items	Frequency (n)	Percentage (%)
During the past 30 days, on how many days did you smoke cigarettes?		
0 days	453	69.1
1 or 2 days	52	7.9
3 to 5 days	30	4.6
6 to 9 days	41	6.3
10 to 19 days	16	2.4
20 to 29 days	33	5.0
All 30 days	30	4.6
During the past 30 days, on how many days did you have at least one drink of alcohol?		
0 days	149	22.7
1 or 2 days	123	18.8
3 to 5 days	129	19.7
6 to 9 days	122	18.6
10 to 19 days	108	16.5
20 to 29 days	17	2.6
All 30 days	6	0.9

Note: Percentages not totaling 100% indicate missing data

Table 18

Health Risk Behaviors of Study Participants (n = 656) (continued)

Health Risk Behavior Items	Frequency (n)	Percentage (%)
During the past 30 days, on how many days did you have 5 or more drinks of alcohol in a row, that is, within a couple of hours?		
0 days	288	43.9
1 day	69	10.5
2 days	74	11.3
3 to 5 days	88	13.4
6 to 9 days	80	12.2
10 to 19 days	45	6.9
20 or more days	9	1.4
During the past 30 days, on how many times did you use marijuana?		
0 times	416	63.4
1 or 2 times	64	9.8
3 to 9 times	61	9.3
10 to 19 times	33	5.0
20 to 39 times	34	5.2
40 or more times	45	6.9

Note: Percentages not totaling 100% indicate missing data

Table 18

Health Risk Behaviors of Study Participants (n = 656) (continued)

Health Risk Behavior Items	Frequency (n)	Percentage (%)
During the past 3 months, with how many people did you have sexual intercourse?		
I have never had sexual intercourse.	121	18.4
I have had sexual intercourse, but not during the past 3 months.	92	14.0
1 person	282	43.0
2 people	94	14.3
3 people	40	6.1
4 people	12	1.8
5 people	3	0.5
6 or more people	11	1.7
Did you drink alcohol or use drugs before you had sexual intercourse last time?		
I have never had sexual intercourse.	121	18.4
Yes	192	29.3
No	326	49.7

Note: Percentages not totaling 100% indicate missing data

Table 18

Health Risk Behaviors of Study Participants (n = 656) (continued)

Health Risk Behavior Items	Frequency (n)	Percentage (%)
During the past 30 days, how often did you or your partner use a condom?		
I have not had sexual intercourse during the past 30 days.	186	28.4
Never used a condom	99	15.1
Rarely used a condom	65	9.9
Sometimes used a condom	43	6.6
Most of the time used a condom	89	13.6
Always used a condom	171	26.1
During the past 7 days, on how many days were you physically active for a total of at least 60 minutes per day?(Add up all the time you spent in any kind of physical activity that increased your heart rate and made you breathe hard some of the time.)		
0 days	93	14.2
1 day	90	13.7
2 days	116	17.7
3 days	106	16.2
4 days	102	15.5
5 days	64	9.8
6 days	30	4.6
7 days	54	8.2

Note: Percentages not totaling 100% indicate missing data

Table 19

Spearman Rho Correlations(ρ) Among Health Risk Behaviors and Personal and Social Competence Scales

	Coping Skills	Intrapersonal Skills	Interpersonal Skills	Judgment Skills
Driving and consuming alcohol	-.096	-.234*	.014	-.132
Cigarette use	-.110	-.382*	-.078	-.347*
Alcohol use	.003	-.171	.040	-.270*
Binge drinking	-.040	-.209	-.018	-.283*
Marijuana use	-.129	-.299*	-.109	-.299*
Number of sexual partners	-.154	-.108	-.081	-.084
Sexual intercourse without condom	-.247*	.054	-.059	-.087
Physically inactive days	-.252*	-.031	-.112	-.045

* Statistically significant after adjusting for family wise error rate using the Bonferroni adjustment

Table 20

Point Biserial Correlations(r_{pb}) Among Health Risk Behaviors and Personal and Social Competence Scales

	Coping Skills	Intrapersonal Skills	Interpersonal Skills	Judgment Skills
Sad or hopeless	-.308*	-.289*	-.193	-.188
Suicide consideration	-.219	-.090	-.218	.023
Alcohol or drug use before sexual intercourse	-.052	-.238*	-.073	-.270*

* Statistically significant after adjusting for family wise error rate using the Bonferroni adjustment

CHAPTER FIVE

SUMMARY, CONCLUSIONS, DISCUSSION, AND RECOMMENDATIONS

Overview

This chapter presents conclusions drawn by the researcher based upon the study results. A detailed discussion of these conclusions and results is offered. Further, the chapter includes recommendations for future research and health education practice.

Summary of the Study

To determine the relationship among personal and social competence, selected health risk behaviors, and academic achievement of selected undergraduate students, an exploratory, descriptive, correlational research design study was employed. The following research questions were used to guide this study:

1. What are the self-reported perceptions of personal and social competence (intrapersonal skills, interpersonal skills, coping skills, and judgment skills) among selected undergraduate students?

2. What are the self-reported health risk behaviors among selected undergraduate students?

3. Do statistically significant correlations exist among perceptions of personal and social competence and health risk behaviors?

4. How much variance in self-reported, college grade point average can be accounted for by perceived personal and social competence and selected health risk behaviors?

Near the end of a spring semester at a large Midwestern university, 796 participants were sampled from multiple sections of an introductory nutrition course, a personal health course, and a physical fitness course. Of the 796 participants sampled, 656 (82.4%) participants were included in the final data analysis. Using matrix sampling, each participant completed one of four surveys. Each survey contained items measuring one of four personal and social competence constructs; coping skills, interpersonal skills, intrapersonal skills, or judgment skills. Personal and social competence items were based upon Fetro's (2000) research and used a five-point Likert-type scale with responses ranging from "almost never" to "almost always." Standard and reverse coding was used so that the most favorable responses had the highest scores. Total scores were computed for each scale and its respective subscales by summing scores for each item in the given scale or subscale.

Additionally, each survey contained identical items pertaining to demographics and eleven health risk behaviors. Health risk behavior items were selected from the *2009 Youth Risk Behavior Survey* (CDC-NCCDPHP, 2008c) based upon their similarity to items in other health behavior assessments of college students, including the 2008 *National College Health Assessment* (American College Health Association, 2008). Items were coded so that the least risky behaviors had the lowest score and the most risky behaviors had the highest score.

Also, the 13-item short form of the *Marlowe-Crowne Social Desirability Scale* (Reynolds, 1982) was included on the surveys to eliminate personal and social competence items that yielded socially desirable responses. True/false items in this scale were coded as one or two where two represented the most socially desirable response. A

total score was calculated for each participant by summing the scores of the 13 items.

Correlations were computed between total social desirability scores and each item in the

personal and social competence scales. Items with correlations greater than .3 were

removed for subsequent analyses (Ardelt, 2003).

Descriptive statistics, correlations, and multiple regressions were calculated to

address the research questions. Adjustments were made to control for family wise error

rate as necessary using the Bonferroni adjustment. Prior to computing correlations

between health risk behaviors and personal and social competence scales, one nominal

data health risk behavior item was dichotomized. All health risk behavior items that were

not already dichotomous were dichotomized prior to the multiple regression analyses.

This procedure allowed for fewer dummy variables to be created.

Perceived intrapersonal skills and judgment skills were reported as being the

strongest areas of perceived personal and social competence. Multiple statistically

significant correlations were found among perceived personal and social competence

components and health risk behaviors. Perceived intrapersonal skills and judgment skills

were most frequently correlated with health risk behaviors and also had the strongest

correlations. Perceived coping skills also had multiple correlations with health risk

behaviors, but perceived interpersonal skills were not significantly correlated with any

health risk behaviors. Variance in academic success due to perceived personal and social

competence and health risk behaviors was limited. Only a small percentage of variance

in self-reported, college GPA could be attributed to perceived coping skills and judgment

skills, while no variance could be attributed to perceived intrapersonal skills or

interpersonal personal skills. Also, few health risk behaviors accounted for any variance in self-reported, college GPA. These findings were not consistent across data sets.

Conclusions

Based on the results of this study, the following conclusions have been determined:

1. Study participants generally perceived themselves to have moderate levels of personal and social competence.

2. With some exceptions, study participants engaged in health risk behaviors similar to other college students across the United States.

3. Most health risk behaviors measured were inversely related to perceived personal and social competence.

4. Perceived levels of intrapersonal skills and judgment skills appeared to be most closely related to health risk behaviors.

5. The health risk behaviors; cigarette use, marijuana use, feelings of sadness or hopelessness, and alcohol or drug use before sexual intercourse seemed to be most closely related to perceived personal and social competence.

6. Coping skills and judgment skills appeared to impact academic success, while other components of personal and social competence do not.

7. Health risk behaviors did not consistently impact academic success.

Discussion

Overall, participants perceived themselves as having moderate skill levels regarding personal and social competence. Grand mean scores were 3.85, 3.85, 3.71, and 3.25, with 5.00 being the highest possible grand mean, for the intrapersonal, judgment, interpersonal, and coping scales, respectively. While these scores were more favorable than not, they did indicate there is still room for improvement in personal and social competence. Also, it may be that participants perceived their skill levels to be higher than they actually were and even more improvement could be made than these data indicate. The higher scores of the intrapersonal and judgments scales are not surprising considering they each contained one of the two subscales with the highest scores, while the *coping scale* contained the two subscales with the lowest scores.

More specifically, two of the 23 subscales assessed had grand means of 4.0 or greater. These subscales were the *goal setting subscale* (GM=4.02) and the *self-concept subscale* (GM=4.00). The *goal setting subscale* was part of the larger *judgment skills scale* while the *self-concept subscale* belonged with the *intrapersonal skills scale*. High scores on the *goal setting subscale* and *self-concept subscale* may be explained by one key characteristic of all of the participants. All participants were college students. This characteristic seems to lend itself to be representative of someone who values and/or sets goals.

Post secondary education is an optional extension of one's education. Graduation from college is a naturally occurring goal that accompanies this experience. Thus, those individuals who opt to attend college seem to be predisposed to having high perceptions of goal setting skills. Further, post secondary education is not only an optional

experience but also inaccessible to some people in the United States. This reality may help explain why self-concept scores were so high. Participants in this study represent individuals who voluntarily decided to attend college and were able to effectively access it. Therefore, college students may be inclined to perceive themselves more favorably than non-college students. Thus, the mere identity of being a college student may explain why goal setting and self-concept scores were so high. This explanation somewhat aligns with what Morales (2008) found regarding academically, successful female undergraduate students of color being goal oriented and Dass-Brailsford's (2005) research where academic success was attributed to qualities including high achieving, having strong initiative and motivation, being goal orientated, and having a belief of high self agency.

While favorable perceptions of goal setting and self-concept may be explained by the college student characteristic, an interesting discovery was made when further examining the *goal setting subscale*. Eleven items were used to assess goal setting. Six of these items had mean scores greater than 4.00 after all appropriate items had been reversed coded. Interestingly, the highest scores related more to conceptual ideas about goals or indicated whether individuals set goals for themselves, while the items with the lower scores related to the actual steps used in setting realistic goals or accomplishment of goals. For example, the six items with mean scores greater than 4.00 related to setting personal-goals, beliefs about setting goals, striving for goals, expectations of oneself, personal values being consistent with goals, and setting long-term goals. However, the five items with scores less than 4.00 related to following plans, accomplishing goals,

identifying barriers to goals, satisfaction with current goals, and thinking about past

mistakes when planning ahead.

Thus, it appears the study sample values the concept of goal setting and does set

goals, but their ability to thoughtfully construct goals with implementation plans and

consequently accomplish goals could be improved. Therefore, it seems efforts to

increase this population's ability in goal setting should focus on the actual steps in goal

setting and implementation, while efforts to enhance the "buy in" regarding the value of

goal setting are less necessary. Fortunately, specific goal setting strategies likely are

easier to teach and impact than trying to change one's beliefs about goal setting. While

skills specific to goal setting could be enhanced, it bears repeating this area was still

perceived as one of the greatest strengths regarding personal and social competence by

participants.

The perceived weakest skills for the sample both related to stress as the *stress*

management subscale and the *stress response and reaction subscale* shared the lowest

grand mean of all the subscales (GM=3.17). Both of these subscales were part of the

larger *coping skills scale*. While a variety of items were used to assess both of these

scales, it should be noted that one item in particular on the *stress management subscale*

contributed to its low grand mean. This item addressed using deep muscle relaxation to

manage stress. More than three quarters of participants (n=120, 76.4%) indicated they

"almost never" or "seldom" used deep muscle relaxation to manage stress (M=1.86;

SD=1.08). While this method may be an effective way to manage stress, it appears that it

is not a popular method among college students, at least not among this study sample.

The exclusion of this item from the subscale may be appropriate for the college student

population. Its exclusion from the *stress management subscale* would have yielded a grand mean score of 3.24 versus its actual grand mean of 3.17. However, regardless of this change, the *stress management subscale* would still have one of the two lowest grand mean scores of all personal and social competence subscales. Obviously, issues surrounding reactions to and management of stress are skill areas where improvements can and should be made. Particular consideration should be given to this skill area as one third of participants in the Spring 2008 *ACHA-NCHA* (ACHA, 2008) reported stress had negatively affected their academic performance in the previous school year. Further, weaker perceptions of skills regarding stress may explain why an excessive number of participants reported having considered suicide in the previous 12 months.

Approximately, one quarter of the study sample (n=162; 24.7%) reported having seriously considered suicide in the 12 months prior to survey completion. A similar item on the Spring 2008 *ACHA-NCHA* (ACHA, 2008) indicated 9.0% (n=7,141) of participants seriously considered suicide within the last school year. Although a school year would typically be considered only 9 or 10 months at the most, the 24.7% who reported seriously considering suicide over a 12-month period in this study still seemed to indicate a substantially higher percentage of participants. Further, the *2007 YRBS* (CDC, 2008) indicated only 13.5% of high school seniors seriously considered suicide in the 12-months prior to survey completion, while results of this study indicated an excessively high percentage of students considering suicide. In contrast, *2007 YRBS* data also indicated 29.4% of high school seniors reported experiencing feelings of sadness or hopelessness for two or more weeks to the extent they stopped doing some of their usual activities, while only 10.1% of participants (n=66) in this study reported this experience.

Thus, while suicide consideration was reported more frequently in this study, persistent feelings of sadness or hopelessness were reported less frequently. A plausible explanation for this occurrence is difficult to find. Perhaps participants in this study had more intense, but less persistent experiences of sadness or hopelessness, or maybe significant changes that occur transitioning from high school to college student were very overwhelming for many study participants. While an explanation may not be clear, further research regarding this issue is needed.

While data regarding suicide ideation and persistent feelings of sadness and hopelessness were not consistent with other research, other health risk behaviors were more comparable to national data. According to the Spring 2008 *ACHA-NCHA* (ACHA, 2008) 51.1%, 27.1%, and 3.5% of students reported using a condom always or most of the time during the 30 days prior to the survey while engaging in vaginal, anal, and oral sex respectively. In this study, approximately 40% of participants (n=260; 39.6%) reported using a condom during sexual intercourse always or most of the time during the 30 days prior to survey completion. However, the percentage, 39.6, takes into account students who were not sexually active during this time or did not respond to this item. Considering only those students who reported being sexually active during this time, 55.7% of them reported always or most of the time using a condom during the previous 30 days. While distinctions were not made in this study regarding the type of sexual intercourse, this statistic is comparable to the 51.1% of students who reported using a condom during vaginal intercourse in the Spring 2008 *ACHA-NCHA* (ACHA, 2008).

Regarding the number of sexual partners participants reported, it is difficult to make clear comparisons with other data sets. According to the Spring 2008 *ACHA-*

NCHA (ACHA, 2008) results, 68.6% of participants had one or more sexual partners (oral, vaginal, or anal) over the last school year. However, this study questioned students about sexual intercourse over a three-month time period and found 67.4% of participants (n=442) reported having had sexual intercourse with one or more people. This percentage is similar to the *ACHA-NCHA* (ACHA, 2008) data, but the time period is quite different. It is unknown how much impact this difference makes in the results.

When comparing results about the number of sexual partners to the *2007 YRBS* (CDC, 2008) from which this study's question was obtained, there is a large difference in reported sexual activity. According to the *2007 YRBS* (CDC, 2008), 35.0% of high school seniors reported having sexual intercourse with one or more people during the three months prior to completing the survey. While the *YRBS* results are clearly lower than this study's results, it may only reflect the increased freedom college students experience living away from home compared to high school seniors still living with their parents. The study sample may have very likely reported similar degrees of sexual activity when they were in high school. Thus, these results do not indicate the study sample necessarily takes more risks than any other group of college peers. Similar results were found between this study and the *2007 YRBS* (CDC, 2008) when considering the use of alcohol or drugs prior to the last incidence of sexual intercourse. Nearly 30% of the study sample (n=192, 29.3%) reported using alcohol or drugs before last having sexual intercourse compared to 22.6% of high school seniors in the *2007 YRBS* (CDC, 2008).

With regard to cigarette smoking and alcohol use this study's results were somewhat comparable to other research results. In this study, 30.8% of participants

indicated they were smokers (n=202) as compared to the slightly higher 34.0% of

smokers in the *ACHA-NCHA*. However, when compared to the 19.9% of cigarette users

in the 2007 *Monitoring the Future* survey (Johnston et al., 2008), this study had a higher

percentage of smokers. Further, 77% of participants in this study (n=505) reported using

alcohol within the 30 days prior to survey completion as compared to the lower 66.6% of

participants who reported using alcohol in the 2007 *Monitoring the Future* (Johnston et

al., 2008). While the most frequent response of participants in this study was that alcohol

had not been consumed in the previous 30 days (n=149, 22.7%), the second and third

most frequent responses indicated an alcohol consumption of three to five days (n=129,

19.7%) and six to nine days (n=122, 18.6%). These results indicate that 41.3% of

participants (n=271) consumed alcohol on average three to nine days per month which

coincides with the number of weekend nights in most months.

Incidences of drinking and driving were similar in this study as compared to data

in the Spring 2008 *ACHA-NCHA* (ACHA, 2008). Slightly more than one quarter of the

study sample (n=172, 26.2%) reported drinking and driving within the 30 days prior to

completing the survey. Slightly less than one quarter of the Spring 2008 *ACHA-NCHA*

(ACHA, 2008) sample (23.5%) reported this same risk behavior. While one quarter of

college students drinking and driving is an obvious health risk that needs to be addressed,

the study sample does not appear to be engaging in this risk behavior any more or less

than other college students.

Comparisons regarding binge drinking are more difficult to make. In the Spring

2008 *ACHA-NCHA* (ACHA, 2008), 36.6% of participants reported binge drinking (5 or

more alcoholic drinks at a sitting) in the two weeks prior to completing the survey.

However, 55.6% of the study sample reported binge drinking over a 30-day period.

Obviously, a higher percentage of participants reported binge drinking in this study, but

given the longer time frame being measured, a clear comparison cannot be made. It

should be noted, however, nearly half (48.3%) of the participants in the Spring 2008

ACHA-NCHA (ACHA, 2008) were age 21 or over, while only 7.6% of the study sample

(n=50) was age 21 or over. Therefore, when considering the frequency of any alcohol

related behaviors, within the study sample these behaviors often are occurring in

underage drinkers, which is not necessarily the case in other data sets.

While 16.8% of college students in the 2007 *Monitoring the Future* survey

reported having used marijuana in the 30 days prior to survey completion (Johnston et al.,

2008), a much higher percentage of participants (n=237, 36.1%) reported using marijuana

in the previous 30 days in this study. Further, when compared to non-college students

one to four years after completing high school (20.4% reported being current marijuana

users) (Johnston et al., 2008), this study still had a higher percentage of users. A

plausible explanation for this substantial difference is not known and further investigation

is needed. Some possibilities may be that perceptions of marijuana availability and/or

peer use of marijuana may be higher within the study sample than other populations.

The remaining health risk behavior item to be discussed is best compared to 12th

grade *2007 YRBS* (CDC, 2008) data as other research using college students does not

have similar enough items to make comparisons meaningful. While 29.5% of high

school seniors reported being physically active for at least 60 minutes on five or more

days of the week prior to completing the survey, only 22.6% of the study (n=148) sample

reported this same level of activity. Therefore, 77.3% of the study sample (n=507) is

only active enough on four or fewer days of the week. The lower percentage of active

students in the study sample is not surprising given that many students who are engaged

in organized sports at the high school level are no longer active in these sports once they

get to college. Further, a decrease in physical activity during adulthood is consistent with

other national research findings (CDC, 2007).

Regarding the link among these health risk behaviors and reported personal and

social competence, it is interesting to note, of the 11 health risk behaviors reported, all

but two were significantly correlated with at least one of the personal and social

competence components. While exact comparisons cannot be made to existing research,

results of this study align with what other researchers have found. For example, Search

Institute (2008a) data indicated fewer developmental assets were associated with

increased use of alcohol and/or binge drinking. Oman et al., (2004) associated non-use of

alcohol with the presence of particular assets. This study found alcohol use and binge

drinking to be negatively correlated with perceived judgment skills (ρ=-.270 and ρ=-.283

respectively).

Also, perceived coping skills was negatively correlated with sexual intercourse

without a condom in this study (ρ=-.270). Other researchers found a higher number of

developmental assets to be associated with increased likelihood to have used birth control

during last sexual intercourse experience (Oman et al., 2004). While the strongest

correlation in this study had only a modest value (ρ=-.382), these results merit further

review given the frequency of correlations. Further, there is potential to identify stronger

correlations in research conducted at the beginning of a school year when the likelihood

of sampling a higher number of lower personal and social competence skill level students may be greater as these students would not have dropped out of school yet.

It appeared that of the four personal and social competence components, judgment skills and intrapersonal skills were most closely related to health risk behaviors. Not only did each of these components have the greatest number of significant correlations with the health risk behaviors, they also had the two strongest correlations with a given health risk. Interestingly, the two strongest correlations were with the same health risk behavior, cigarette use. Perceived intrapersonal skills and judgment skills were negatively correlated with the number of days one smoked in the 30 days prior to completing the survey (ρ=-.382 and ρ=-.347, respectively). This finding represents a potential opportunity to help decrease the number of college smokers by increasing intrapersonal and judgment skills. Given that tobacco use accounted for approximately 435,000 U.S. deaths in 2000 (Mokdad, Marks, Stroup, & Gerberding, 2004) and between 20% (Johnston et al., 2008) and 34% (ACHA, 2008) of college students report being smokers, a reduction in engagement of this health risk behavior could have substantial impact.

Similar to cigarette use, the frequency of marijuana use was inversely related to perceived intrapersonal skills and judgment skills (ρ=-.299 and ρ=-.299, respectively). Additionally, two other health risk behaviors were significantly correlated with multiple components of personal and social competence. Feelings of sadness or hopelessness for two or more weeks that resulted in not continuing with usual activity was negatively correlated with perceived coping skills and intrapersonal skills (r_{pb}=-.308 and r_{pb}=-.289, respectively). Alcohol or drug use prior to last incidence of sexual intercourse was

negatively correlated with perceived intrapersonal skills and judgment skills (r_{pb} =-

.238(144); p=.004) and r_{pb} =-.270(181); p=.000). Given that the health risk behaviors;

cigarette use, marijuana use, feelings of sadness or hopelessness, and alcohol or drug use

prior to last incidence of sexual intercourse are all correlated with two components of

personal and social competence, interventions to increase personal and social competence

in college students may be effective ways to reduce these risk behaviors in college

students. Thus, as indicated in the CDC's *Characteristics of an Effective Health*

Education Curriculum (CDC-NCCDPHP, 2008a) and supported by several successful

health education programs (Botvin et al., 1995; Elder et al., 1993; Jemmott et al., 1998;

Kirby, et al., 1991; St. Lawrence et al., 1995; Howard & McCabe, 1990; Walter et al.,

1989) strategies to build personal competence and social competence should be included

in health education programs. Results of this study support the need for skill-building

instruction for college students. In particular, consideration should be given to including

skill-building personal health courses during students' first year experience. Addressing

these skills early in a student's college career could help s/he avoid participating in costly

health risk behaviors that could impact her/his GPA, retention, and graduation.

While perceived coping skills, intrapersonal skills, and judgment skills each had

significant relationships with three or more health risk behaviors, perceived interpersonal

skills had none. Some possible explanations for this finding exist. First, it could simply

be interpersonal skills are not related to engagement in health risk behaviors in a college

student population. However, this finding seems contradictory to resiliency research

indicating communication skills (Werner, 1989) (Benard, 2004), social skills (Garmezy,

1991) and empathy and caring (Benard, 2004) help protect youth from risk behaviors.

A second explanation may be that some interpersonal communication skills are negatively related to health risk behaviors and others are positively related to health risk behaviors. The *interpersonal skills scale* used in this study was made up of four subscales; developing and maintaining relationships, communication, conflict resolution, and empathy. In consideration of family wise error rate, this study was designed so that correlations were computed only on total scale scores not subscale scores and health risk behaviors. Given this design, it is possible statistically significant correlations in a particular subscale could be canceled out by another subscale. This reality may be true not only for the *interpersonal skills scale* but also for other scales.

However, particular consideration is given to the *interpersonal skills scale* in light of the *developing and maintaining relationships subscale*. The *developing and maintaining relationships subscale* measures the ability to make and keep friends. Given that a common setting for college students to socialize is in bars, it may be that those individuals with the highest perceived ability to make and keep friends also are more comfortable in social settings, such as bars. Consequently, they also are more likely to engage in risk behaviors that occur in and around bars (alcohol consumption, cigarette use, binge drinking, etc.). Thus, a logical assumption may be that the subscale developing and maintaining relationships is positively correlated with certain health risk behaviors. Therefore, when this subscale is analyzed in the context of the larger *interpersonal skills scale* instead of individually, its scores may reduce or eliminate otherwise noted relationships among other subscales and health risk behaviors. Thus, a more meaningful research design may have included the computation of correlations among subscales and health risk behaviors.

While there were multiple correlations among perceived personal and social competence and health risk behaviors, the impact on academic achievement is not as extensively noted. This result is contradictory to findings from other researchers (Martins & Alexandre, 2009; DeBerard, Spielmans, & Julka, 2004). It should be noted, however, that in this study four regression analyses, one representing each of the components of personal and social competence, were computed instead of one analysis with all of the components. This approach to data analysis was necessary given the design of the study, but also is a limitation of this study. A study design that required participants to complete all personal and social competence scales instead of only one may have yielded different results.

As the study was designed, four regression analyses were computed, but only three of the regression models were statistically significant. The models representing the coping, interpersonal, and judgment data sets were found to be statistically significant, while the model representing the intrapersonal data set was not. The amount of variance in self-reported, college GPA accounted for by any of the full models was limited ranging from 6.9% (judgment) to 8.1% (coping) based on the adjusted R square. Further, in only two of the models, coping and judgment, was the personal and social competence component variable found to be significant. Thus, in this study, perceived intrapersonal skills and interpersonal skills seem to have no impact on academic success as measured.

Additionally, while some health risk behaviors were noted as statistically significant in the models (binge drinking, sadness or hopelessness, and condom use), no single health risk behavior was found to be significant in more than one model. For example, incidence of binge drinking was a predictor of academic success in the coping

model. However, as noted, this result was not found in the other models. Thus, results regarding academic success impact are questionable. Further, given that a large proportion of the sample was freshmen, academic success was measured based upon the first and only semester of college for many participants. This measure is likely not reflective of potential or future academic success for these participants and also compromises the integrity of these results. Other measures, such as class attendance or attitudes towards school, may have been more appropriate measures in this study.

In addition to those limitations already discussed, there were several other limitations that also need to be considered. This study used a small sample (n=656) from one Midwestern university that minimizes the ability to generalize these results. However, generalizing results was not the intent of this exploratory study. Instead, its intent was to explore an area of research that was limited in this population.

Limitations regarding the time of data collection also existed. Data were collected at the end of an academic year. Data collection at this time likely resulted in two major limitations. First, students with the lowest perceived personal and social competence skill levels probably had dropped out of school or stopped attending class by the end of the second semester making them unavailable to complete a survey, thereby biasing the study sample. Second, perceptions of personal and social competence may have been influenced by coursework completed by participants or material covered in classes over the duration of the semester and consequently, skewed survey data.

Additional limitations pertained to the survey instrument. All four surveys were very long. As such, some participants may have decided not to complete the survey or may not have given serious consideration to all survey items as there were so many of

them. Also, while items measuring personal and social competence were tested for internal consistency reliability and content validity was established through an expert panel review (Fetro, 2000), test-retest reliability was not measured nor was a factor analysis conducted to validate that items were appropriately loading. A factor analysis not only could validate some instrument items but also could eliminate some items making the instrument shorter and more user-friendly. Additionally, it must be noted personal and social competence items measured perceptions. Data do not necessarily represent actual skill levels. Participants' perceptions may have been higher or lower than actual skill level. Educational efforts may be needed to help participants more aptly identify actual skill levels. Then, more or less effort may be necessary to address the personal and social skills of these participants.

Also, health risk behavior items were taken from the *2009 YRBS* (CDC-NCCDPHP, 2008c). These items were deemed valid and reliable within the context of the entire *YRBS* survey and with a high school population (CDC, 2004). Given this sample was from a college population and only selected items were used from the *YRBS* the validity and reliability of these items may have been compromised. Further, health risk behavior items were artificially dichotomized for some data analyses that also may have compromised their integrity. Accommodations should be made to address limitations in future research.

Recommendations for Future Research

1.) Examine suicide ideation in this population. Although this sample did engage in a variety of health risk behaviors, most were somewhat consistent with other

national data sets. However, overrepresentation of suicide ideation in this sample was very troubling. Further research needs to be conducted to confirm or disconfirm these results including follow-up inquiries regarding suicide attempts. If, in fact, the results of this study are confirmed, immediate interventions need to be implemented to address this health concern.

2.) Refine perceived personal and social competence survey instruments. As part of this study, a social desirability scale was included to identify personal and social competence items that yielded socially desirable responses and subsequently eliminate these items from data analysis. Further instrument development should include a factor analysis. Such analysis would confirm the inclusion of particular items in given subscales and allow for the elimination of unnecessary items. Consequently, a shorter more user-friendly survey could be created.

3.) Replicate this study with modifications to reduce limitations. While results of this study are meaningful, replication with some modifications may yield more meaningful and significant results. A larger sample should be used to allow results to be more generalizable. Data collection should be completed early in the semester at the beginning of an academic year to allow for the inclusion of as many students as possible and to eliminate the influence of coursework on perceptions of personal and social competence. Refined versions of the personal and social competence scales should be used. These versions likely will include fewer items resulting in increased completion of surveys. Also, further data analysis involving the subscales should be conducted so more specific relationships can be identified.

Finally, two different approaches to the inclusion of health risk behavior items in the multiple regression models should be considered. The first option would be to include only those risk behaviors in the model that significantly correlate with GPA. The second option would be to assess risk using a health risk behavior scale and use the total health risk behavior score in the regression model. This approach would allow for a single continuous variable to be used in analyses and may allow for a greater understanding of how much variance in GPA can be attributed to health risk behaviors. However, inclusion of such a score may require that different or additional health risk behavior items than those measured in this study be used to most effectively assess risk.

4.) Conduct a longitudinal, cohort study to better assess the impact of perceived personal and social skills and health risk behaviors on academic success and student retention. Given the measure of academic success in this study, it was difficult to make meaningful conclusions about the impact of personal and social skills and health risk behaviors on it. Further, the impact of student retention could not be assessed in this design. A longitudinal, cohort study where participants complete a survey that includes health risk behavior items, all four personal and social competence components, and cumulative GPA at the beginning of each academic year through graduation would allow for a greater understanding of how these variables impact both academic success and retention. Multiple analyses could be calculated to determine the relationships of these variables and to describe the health risk behaviors and perceived personal and social competence of those students who successfully reach college graduation.

Results of this type of study would have meaning for a greater audience beyond health educators as college student personnel and university administration also would find value in this research.

5.) Evaluate strategies used to increase perceptions of personal and social competence. If results of future studies continue to indicate statistically significant relationships among personal and social competence and health risk behaviors in this population, interventions specifically created to raise perceptions of skill levels in college students should be designed, implemented, and tested. Interventions such as these may be a valuable opportunity to improve health and wellbeing of college students. Further, if future studies indicate a more substantial impact on academic achievement and student retention, personal and social competence interventions may serve as a viable solution to improve student retention, graduation rates, and other academic statistics of universities.

Recommendations for the University Under Study

1.) Incorporate instructional strategies to build personal and social competence within the First Year Experience for students. In Fall 2009, the university under study initiated the First Year Experience. The First Year Experience includes a variety of programs and initiatives designed to help first-year students make a smooth transition into college (SIUC, 2009d). The mission of this program is "…to promote new student engagement, connection and investment in the university community. By focusing on student learning, through intentional, holistic, and student centered programs and services the SFY [Saluki First Year] provides a

pathway and guides new students in the development of the academic and personal skills essential for student success" (SIUC, 2009d, Mission Statement section, ¶ 1). Given this mission, an ideal inclusion into this program would be instructional strategies to build personal and social competence. Further, as the First Year Experience begins when students enter the university it is the earliest opportunity for the university to address personal and social skills and may help prevent risk behaviors that could negatively impact students' success at the university. Strategies to enhance these skills could be incorporated within one or more of the academic courses that are part of the First Year Experience.

2.) Educate students about existing school resources available to help them enhance personal health and wellbeing. There are many resources already available on-campus to help students with their health and wellbeing. Examples of such resources include a mental health clinic, recreation facilities, wellness center, student organizations, Student Health Assessment Center, dental clinic, pharmacy, and medical clinic. The university needs to ensure all students are aware of these resources. Certainly, information about these resources can be shared as part of the First Year Experience, but reinforcement of this message is needed throughout the students' university careers. This reinforcement will help ensure students do not forget what is available during their time of need and will reach those students who transfer into the university who do not participate in the First Year Experience. Some examples of how information about these resources could be delivered include mass emails, student newspaper, class announcements,

university website, text messages, campus billboards, and marquees at sports events.

3.) Create collaborative partnerships among student affairs, student health services, and the Department of Health Education and Recreation to further address student health risk behaviors. As efforts are made to increase student awareness about existing resources and services to address their health and wellbeing, it also is necessary for existing university units and departments to collaborate to further address student needs. These additional efforts can help prevent existing services from becoming overextended as more and more students become aware of and use them. Specifically, student affairs, student health services, and the Department of Health Education and Recreation could collaborate to meet student needs and thereby reduce negative consequences resulting from risk behaviors. One example of such an effort may be conducting training sessions for residential advisors on how to recognize signs and symptoms of depression and what to do if students are experiencing them. Procedures should be established and taught to residential advisors on when and how to help students access emergency counseling services. Curriculum for these trainings could be designed by Health Education graduate students and implemented by members of the local chapter of Eta Sigma Gamma, the National Health Education Honorary. A peer counseling system could be created for students who need someone to help talk through their problems but do not require professional counseling services. Also, graduate assistantships could be offered to Health Education students to teach academic courses that include instructional strategies to build personal and social

competence as part of the First Year Experience. Further, student affairs staff could divide students in the First Year Experience into small groups or "families." The purpose of these families would be to help students establish a small, but close-knit, social support network. Each family together could attend recreational activities, campus events, and health lectures taught by faculty and staff in health services and the Department of Health Education and Recreation. Family members would be encouraged to look out for one another and help each other during times of need. While these examples are not an exhaustive list, they highlight some of the efforts that could be done to help address students' needs and thereby, improve the likelihood of success at the university.

<div align="center">Recommendations for Health Educators</div>

1.) Continue to address health risk behaviors of college students. Results of this study as well as other studies indicate college students are engaging in a variety of health risk behaviors. Consequently, interventions designed to reduce these risk behaviors should continue to be implemented and evaluated by health educators.

2.) Emphasize personal and social skill building in personal health courses and other health related courses. Most measured health risk behaviors were related to components of perceived personal and social competence. Therefore, inclusion of skill building strategies within a personal health courses could be an appropriate strategy to address health risk behaviors in this population. Specific emphasis should be given to increasing judgment skills and coping skills. These skill sets were significantly correlated with multiple health risk behaviors and had a

statistically significant, albeit, small impact on academic success. Further, the inclusion of strategies to build these skills could easily be incorporated within a personal health course and expectations of increases in skill levels over a semester long course do not seem unreasonable.

In contrast, intrapersonal skills that include concepts, such as self-esteem, personal values, self-concept, and locus of control are related more to internal beliefs that likely take a greater amount of time to change and may be best addressed with individualized strategies, such as those available in therapeutic sessions. However, perceived intrapersonal skills were correlated with multiple health risk behaviors. Therefore, if effective strategies to impact these skills within the context of a personal health course are available, health educators should integrate them into curriculum. Perceived interpersonal skills were not found to be significantly correlated with any of the health risk behaviors or to have a significant impact on academic success. As such, until further research is conducted that supports their impact on these variables, it is not recommended they be the primary focus of personal and social skill building. However, given that communication skills are a necessary skill for all individuals and there is some question about the manner in which interpersonal skills were analyzed in this study, inclusion of strategies to build these skills still could be beneficial. Their exclusion is not recommended.

3.) Include instructional strategies to increase personal and social competence as part of professional preparation of health educators. In an effort to ensure best practice when teaching health education, health educators should be adequately

prepared to teach personal and social competence skill building strategies. As such, during their coursework, health educators should receive formal training that addresses the necessity of skill building, strategies to build skills, and opportunities to practice teaching skills. This training could be integrated within traditional teaching methods courses or conducted in a seminar format. Specifically, this training is of particular importance for school health educators and professionals who teach personal health courses at the university level. Training also may be of value to health educators working in other settings as they could be offered opportunities to teach these skills to additional populations.

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Appendices

APPENDIX A

Coping Skills Survey

Before beginning the survey, please fill in the following information on the scantron form:

Sex: (M or F)

Birthdate: (month, date, and last two digits of the year)

Grade: (0 = freshman, 1=sophomore, 2=junior, 3=senior, 4=other)

Special Codes: [Your two digit cumulative grade point average (GPA), Example: a 2.7 GPA would be recorded as 27]

DO NOT FILL IN THE NAME OR IDENTIFICATION NUMBER.

For each of the statements below, please select the choice that best describes you and fill in the corresponding letter on your scantron sheet.

	Almost never (Less than 5% of the time)	Seldom (About 25% of the time)	Sometimes (About 50% of the time)	Often (About 75% of the time)	Almost always (About 95% of the time)
1. Please fill in the "A" bubble for item number 1.	A	A	A	A	A
2. By changing my way of thinking, I can change how I feel.	A	B	C	D	E
3. I deal with stress by listening to music.	A	B	C	D	E
4. I do exercises that make me breathe hard or sweat at least 3 times a week.	A	B	C	D	E
5. I do not feel close to my family.	A	B	C	D	E
6. I feel out of control when I am stressed.	A	B	C	D	E
7. I get angry when stressed.	A	B	C	D	E
8. I do stretching exercises at least 3 times a week.	A	B	C	D	E
9. I can rely on my friends for emotional support.	A	B	C	D	E
10. I can talk to family members about the things that bother me.	A	B	C	D	E
11. I deal with my stress by eating.	A	B	C	D	E
12. I use deep muscle relaxation to manage stress.	A	B	C	D	E
13. I do not get enough sleep.	A	B	C	D	E
14. I do not worry ahead of time about problems that may occur.	A	B	C	D	E
15. I do some type of strengthening exercise at least 3 times a week.	A	B	C	D	E
16. When stressed, I "freeze" and do not know what to do.	A	B	C	D	E
17. I feel in control in difficult situations.	A	B	C	D	E
18. I lack the skills to deal with stress and anxiety.	A	B	C	D	E
19. I make an extra effort to get things done on time.	A	B	C	D	E
20. I manage my time better than most people my age.	A	B	C	D	E
21. I stay calm in stressful situations.	A	B	C	D	E
22. I have trouble scheduling my time.	A	B	C	D	E
23. I ignore problems and hope they go away.	A	B	C	D	E
24. I know what puts stress and strain on me.	A	B	C	D	E
25. I meditate or relax at least 15 minutes a day.	A	B	C	D	E
26. I react to stressful situations with frustration.	A	B	C	D	E
27. My family gives me the moral support I need.	A	B	C	D	E
28. I try to stay organized.	A	B	C	D	E
29. I use deep breathing when stressed.	A	B	C	D	E
30. My friends are aware when I need help.	A	B	C	D	E
31. My parents are patient with me.	A	B	C	D	E
32. To change a bad habit, I identify all the things that lead to it.	A	B	C	D	E

	Almost never (Less than 5% of the time)	Seldom (About 25% of the time)	Sometimes (About 50% of the time)	Often (About 75% of the time)	Almost always (About 95% of the time)
33. It is easier to talk about my problems with people outside the family.	A	B	C	D	E
34. My family is unaware of when I'm upset or stressed.	A	B	C	D	E
35. When I have a number of things to do, I am unable to plan how to get things done.	A	B	C	D	E
36. When I am under stress, I often yell or "snap" at others.	A	B	C	D	E
37. My friends support me during the difficult times.	A	B	C	D	E
38. To overcome feelings of failure, I tell myself I can do something about it.	A	B	C	D	E
39. When I am angry at someone, I think about what I will say and do before I react.	A	B	C	D	E
40. When I am stressed, I notice physical changes in my body.	A	B	C	D	E
41. When I find it hard to do something, I look for ways to accomplish it.	A	B	C	D	E
42. When I get stressed, I just want to get away from everyone.	A	B	C	D	E
43. When I have many things to do, I have a hard time deciding what to do first.	A	B	C	D	E
44. When I have to do something that makes me anxious, I have ways to deal with it.	A	B	C	D	E
45. When I have trouble concentrating, I have one or more things that I do that help.	A	B	C	D	E
46. When someone is upset with me, I keep it to myself.	A	B	C	D	E
47. When something is bothering me, I try to think about something positive.	A	B	C	D	E
48. When stressed, I try to control my breathing.	A	B	C	D	E
49. By changing the way I think about something, I change my reaction to it.	A	B	C	D	E
50. Family members help me solve problems.	A	B	C	D	E
51. I am not able to take things as they come.	A	B	C	D	E
52. I am unaware of my feelings during stressful situations.	A	B	C	D	E
53. I blame myself when things go wrong.	A	B	C	D	E
54. I have no one my age to talk to regarding problems.	A	B	C	D	E
55. I have trouble concentrating in stressful situations.	A	B	C	D	E
56. I worry about what I am going to do.	A	B	C	D	E
57. If I have done something that didn't work out well, I tell myself I can do something about it.	A	B	C	D	E
58. My friends have trouble helping me solve problems.	A	B	C	D	E
59. When I am angry, I act without thinking.	A	B	C	D	E
60. When I am feeling stressed, I can think of ways to relax.	A	B	C	D	E
61. When I am late, I tell myself to keep calm.	A	B	C	D	E
62. When I am stressed, I get sick.	A	B	C	D	E
63. I can change my priorities when I need to do so.	A	B	C	D	E
64. I can rely on my family for emotional support.	A	B	C	D	E
65. I eat well-balanced meals.	A	B	C	D	E

	Almost never (Less than 5% of the time)	Seldom (About 25% of the time)	Sometimes (About 50% of the time)	Often (About 75% of the time)	Almost always (About 95% of the time)
66. I feel alone during times of stress.	A	B	C	D	E
67. I get very upset about a stressful situation.	A	B	C	D	E
68. I have a hard time planning ahead.	A	B	C	D	E
69. I have difficulty talking about stressful situations with friends.	A	B	C	D	E

The following items ask about your health behaviors. For each item, please select the choice that best describes you and fill in the corresponding letter on your scantron sheet.

70. During the past 30 days, how many times did you drive a car or other vehicle when you had been drinking?
    - A. 0 times
    - B. 1 time
    - C. 2 or 3 times
    - D. 4 or 5 times
    - E. 6 or more times

71. During the past 12 months, did you ever feel so sad or hopeless almost every day for two weeks or more in a row that you stopped doing some usual activities?
    - A. Yes
    - B. No

72. During the past 12 months, did you ever seriously consider attempting suicide?
    - A. Yes
    - B. No

73. During the past 30 days, on how many days did you smoke cigarettes?
    - A. 0 days
    - B. 1 or 2 days
    - C. 3 to 5 days
    - D. 6 to 9 days
    - E. 10 to 19 days
    - F. 20 to 29 days
    - G. All 30 days

74. During the past 30 days, on how many days did you have at least one drink of alcohol?
    - A. 0 days
    - B. 1 or 2 days
    - C. 3 to 5 days
    - D. 6 to 9 days
    - E. 10 to 19 days
    - F. 20 to 29 days
    - G. All 30 days

75. During the past 30 days, on how many days did you have 5 or more drinks of alcohol in a row, that is, within a couple of hours?
     A.   0 days
     B.   1 day
     C.   2 days
     D.   3 to 5 days
     E.   6 to 9 days
     F.   10 to 19 days
     G.   20 or more days

76. During the past 30 days, how many times did you use marijuana?
     A.   0 times
     B.   1 or 2 times
     C.   3 to 9 times
     D.   10 to 19 times
     E.   20 to 39 times
     F.   40 or more times

77. During the past 3 months, with how many people did you have sexual intercourse?
     A.   I have never had sexual intercourse
     B.   I have had sexual intercourse, but not during the past 3 months
     C.   1 person
     D.   2 people
     E.   3 people
     F.   4 people
     G.   5 people
     H.   6 or more people

78. Did you drink alcohol or use drugs before you had sexual intercourse the last time?
     A.   I have never had sexual intercourse
     B.   Yes
     C.   No

79. During the past 30 days, how often did you or your partner use a condom?
     A.   I have not had sexual intercourse during the past 30 days
     B.   Never used a condom
     C.   Rarely used a condom
     D.   Sometimes used a condom
     E.   Most of the time used a condom
     F.   Always used a condom

80. During the past 7 days, on how many days were you physically active for a total of at least 60 minutes per day? (Add up all the time you spent in any kind of physical activity that increased your heart rate and made you breathe hard some of the time.)
     A.   0 days
     B.   1 day
     C.   2 days
     D.   3 days
     E.   4 days
     F.   5 days
     G.   6 days
     H.   7 days

Listed below are a number of statements concerning personal attitudes and traits. Read each item and decide whether the statement is true or false as it pertains to you personally. Fill in the corresponding letter on your scantron sheet.

	True	False
81. It is sometimes hard for me to go on with my work if I am not encouraged.	A	B
82. I sometimes feel resentful when I don't get my way.	A	B
83. On a few occasions, I have given up doing something because I thought too little of my ability.	A	B
84. There have been times when I felt like rebelling against people in authority even though I know they were right.	A	B
85. No matter who I'm talking to, I'm always a good listener.	A	B
86. There have been occasions when I took advantage of someone.	A	B
87. I'm always willing to admit it when I make a mistake.	A	B
88. I sometimes try to get even rather than forgive and forget.	A	B
89. I am always courteous, even to people who are disagreeable.	A	B
90. I have never been irked when people expressed ideas very different from my own.	A	B
91. There have been times when I was quite jealous of the good fortune of others.	A	B
92. I am sometimes irritated by people who ask favors of me.	A	B
93. I have never deliberately said something that hurt someone's feelings.	A	B

The items below ask about demographic information. For each item, please select the choice that best describes you and fill in the corresponding letter on your scantron sheet.

94. How would you describe yourself?
    A. White, non Hispanic (includes Middle Eastern
    B. Black, non Hispanic
    C. Hispanic or Latino/a
    D. Asian or Pacific Islander
    E. American Indian, Alaskan Native, or Native Hawaiian
    F. Biracial or Multiracial
    G. Other

95. What was your approximate cumulative grade point average in HIGH SCHOOL?
    A. A
    B. B
    C. C
    D. D/F
    E. N/A

**This concludes the survey. Please turn the survey over and raise your hand until it is collected.
Thank you for your participation!**

APPENDIX B

Intrapersonal Skills Survey

Before beginning the survey, please fill in the following information on the scantron form:

Sex: (M or F)

Birthdate: (month, date, and last two digits of the year)

Grade: (0 = freshman, 1=sophomore, 2=junior, 3=senior, 4=other)

Special Codes: [Your two digit cumulative grade point average (GPA), Example: a 2.7 GPA would be recorded as 27]

DO NOT FILL IN THE NAME OR IDENTIFICATION NUMBER.

For each of the statements below, please select the choice that best describes you and fill in the corresponding letter on your scantron sheet.

		Almost never (Less than 5% of the time)	Seldom (About 25% of the time)	Sometimes (About 50% of the time)	Often (About 75% of the time)	Almost always (About 95% of the time)
1.	Please fill in the "B" bubble for item number 1.	B	B	B	B	B
2.	The choices I make can change my health.	A	B	C	D	E
3.	The things I want to accomplish are out of reach.	A	B	C	D	E
4.	There are times when I do not like myself.	A	B	C	D	E
5.	There is no way to solve some of the problems I have.	A	B	C	D	E
6.	I am a nervous person.	A	B	C	D	E
7.	I am allowed to do things on my own.	A	B	C	D	E
8.	I am aware of my inner feelings.	A	B	C	D	E
9.	Good health comes from being lucky.	A	B	C	D	E
10.	I am concerned about others.	A	B	C	D	E
11.	I am concerned about the way I do things.	A	B	C	D	E
12.	I am proud of myself.	A	B	C	D	E
13.	I am responsible.	A	B	C	D	E
14.	I feel worthless.	A	B	C	D	E
15.	I am aware of the changes in my mood.	A	B	C	D	E
16.	I am concerned about how others perceive me.	A	B	C	D	E
17.	I am successful at most things.	A	B	C	D	E
18.	I am sure of myself.	A	B	C	D	E
19.	I am unable to act independently.	A	B	C	D	E
20.	I am confident in what I can do.	A	B	C	D	E
21.	I am happy with the way I am.	A	B	C	D	E
22.	I am hard working.	A	B	C	D	E
23.	I am not optimistic about the future.	A	B	C	D	E
24.	I am proud of my accomplishments.	A	B	C	D	E
25.	I am satisfied with myself.	A	B	C	D	E
26.	I am self-conscious of the way I look.	A	B	C	D	E
27.	I am successful at most things I do.	A	B	C	D	E
28.	I am unable to take care of myself.	A	B	C	D	E
29.	I anticipate more bad times than good.	A	B	C	D	E
30.	I believe I am as important as anyone else.	A	B	C	D	E
31.	I can achieve what I set out to do.	A	B	C	D	E
32.	I can decide on important things for myself.	A	B	C	D	E
33.	I can disagree with my parents as long as I do it with respect.	A	B	C	D	E
34.	I can do things I set my mind to do.	A	B	C	D	E
35.	I can do things to prevent accidents.	A	B	C	D	E
36.	I can express concern, love, and warmth to others.	A	B	C	D	E
37.	I can feel angry without hurting myself and others.	A	B	C	D	E
38.	I can fulfill my ambition.	A	B	C	D	E
39.	I am discouraged about the future.	A	B	C	D	E

	Almost never (Less than 5% of the time)	Seldom (About 25% of the time)	Sometimes (About 50% of the time)	Often (About 75% of the time)	Almost always (About 95% of the time)
40. I am emotionally unstable.	A	B	C	D	E
41. I do today what needs to be done today.	A	B	C	D	E
42. I do well in school.	A	B	C	D	E
43. I don't live up to my own standards.	A	B	C	D	E
44. I feel useless.	A	B	C	D	E
45. I expect to be happier in the future.	A	B	C	D	E
46. My parents insist that I do things their way.	A	B	C	D	E
47. My personal values guide my decisions.	A	B	C	D	E
48. On the whole, I am satisfied with myself.	A	B	C	D	E
49. I do what my friends do, even when I don't want to.	A	B	C	D	E
50. I feel like I am a failure.	A	B	C	D	E
51. I find constructive ways to express my feelings.	A	B	C	D	E
52. I find it difficult to come up with good ideas.	A	B	C	D	E
53. I follow rules.	A	B	C	D	E
54. I am concerned about losing control.	A	B	C	D	E
55. I can openly disagree with my parents.	A	B	C	D	E
56. I have few good qualities.	A	B	C	D	E
57. I have high standards.	A	B	C	D	E
58. I have little control over the things that happen to me.	A	B	C	D	E
59. I haven't really thought about what is important to me.	A	B	C	D	E
60. I know what makes me happy.	A	B	C	D	E
61. I know when to agree with someone and when to assert myself.	A	B	C	D	E
62. I lack control over the direction my life is taking.	A	B	C	D	E
63. I lack creativity.	A	B	C	D	E
64. I look forward to a future with hope.	A	B	C	D	E
65. I lose my temper.	A	B	C	D	E
66. I have many strengths.	A	B	C	D	E
67. I put off what needs to be done today.	A	B	C	D	E
68. I stand up for what I believe even when it is unpopular to do so.	A	B	C	D	E
69. I stick with tough tasks until I finish them.	A	B	C	D	E
70. I take responsibility for tasks at home.	A	B	C	D	E
71. I get into trouble.	A	B	C	D	E
72. I have a hard time seeing the bright side of a situation.	A	B	C	D	E
73. I have a sense of humor.	A	B	C	D	E
74. I know what makes me sad.	A	B	C	D	E
75. I wonder about what I am doing with my life.	A	B	C	D	E
76. I worry about making a good impression.	A	B	C	D	E
77. In the future, I expect to be a part of a happy life.	A	B	C	D	E
78. It's okay for me to be scared.	A	B	C	D	E

	Almost never (Less than 5% of the time)	Seldom (About 25% of the time)	Sometimes (About 50% of the time)	Often (About 75% of the time)	Almost always (About 95% of the time)
79. Most people like me the way I am.	A	B	C	D	E
80. My future is promising.	A	B	C	D	E
81. I need other people to tell me what to do to stay healthy.	A	B	C	D	E
82. I put off doing important things until it is too late.	A	B	C	D	E
83. My parents insist on choosing my friends for me.	A	B	C	D	E
84. I do not have self-control.	A	B	C	D	E
85. I do not know what I want in life.	A	B	C	D	E
86. Good health is a matter of good fortune.	A	B	C	D	E
87. I act without stopping to think.	A	B	C	D	E
88. I am a good person.	A	B	C	D	E
89. In the future, things will be better.	A	B	C	D	E
90. I wish I were someone else.	A	B	C	D	E
91. When I decide to do something, I do it.	A	B	C	D	E
92. When I feel anxious, I stop and think before I do anything.	A	B	C	D	E
93. When I make plans, I can make them work.	A	B	C	D	E
94. When people are dependent on me, I follow through.	A	B	C	D	E
95. When things are going badly, I know they will not stay that way forever.	A	B	C	D	E
96. I don't seem to have much control over my life.	A	B	C	D	E
97. I feel guilty after doing something I should not do.	A	B	C	D	E
98. I can openly disagree with my peers.	A	B	C	D	E
99. I complete school assignments on time.	A	B	C	D	E
100. I control my feelings.	A	B	C	D	E
101. I take responsibility for consequences of my actions.	A	B	C	D	E
102. I tell the truth even when it is not easy.	A	B	C	D	E
103. I think about my reasons for doing things.	A	B	C	D	E
104. I wish I had more respect for myself.	A	B	C	D	E
105. I am unable to make my own decisions.	A	B	C	D	E
106. What happens to me in the future is out of my control.	A	B	C	D	E
107. When I agree to give someone a ride, I do it.	A	B	C	D	E
108. Becoming successful is a matter of hard work, not luck.	A	B	C	D	E
109. Even when I am very angry, I consider my actions carefully.	A	B	C	D	E
110. I expect to achieve many good things in life.	A	B	C	D	E
111. My life has direction.	A	B	C	D	E
112. My parents hold me to firm family rules.	A	B	C	D	E
113. I fail to take responsibility for my health.	A	B	C	D	E
114. I feel calm and peaceful.	A	B	C	D	E

	Almost never (Less than 5% of the time)	Seldom (About 25% of the time)	Sometimes (About 50% of the time)	Often (About 75% of the time)	Almost always (About 95% of the time)
115. I feel good about the way I act.	A	B	C	D	E
116. I expect to succeed in life.	A	B	C	D	E

The following items ask about your health behaviors. For each item, please select the choice that best describes you and fill in the corresponding letter on your scantron sheet.

117. During the past 30 days, how many times did you drive a car or other vehicle when you had been drinking?
    A.   0 times
    B.   1 time
    C.   2 or 3 times
    D.   4 or 5 times
    E.   6 or more time

118. During the past 12 months, did you ever feel so sad or hopeless almost every day for two weeks or more in a row that you stopped doing some usual activities?
    A.   Yes
    B.   No

119. During the past 12 months, did you ever seriously consider attempting suicide?
    A.   Yes
    B.   No

120. During the past 30 days, on how many days did you smoke cigarettes?
    A.   0 days
    B.   1 or 2 days
    C.   3 to 5 days
    D.   6 to 9 days
    E.   10 to 19 days
    F.   20 to 29 days
    G.   All 30 days

PLEASE BEGIN RECORDING YOUR RESPONSES ON YOUR SECOND SCANTRON FORM. BE SURE TO KEEP THE TWO FORMS STAPLED TOGETHER.

1. During the past 30 days, on how many days did you have at least one drink of alcohol?
    A.   0 days
    B.   1 or 2 days
    C.   3 to 5 days
    D.   6 to 9 days
    E.   10 to 19 days
    F.   20 to 29 days
    G.   All 30 days

2. During the past 30 days, on how many days did you have 5 or more drinks of alcohol in a row, that is, within a couple of hours?
   - A. 0 days
   - B. 1 day
   - C. 2 days
   - D. 3 to 5 days
   - E. 6 to 9 days
   - F. 10 to 19 days
   - G. 20 or more days

3. During the past 30 days, how many times did you use marijuana?
   - A. 0 times
   - B. 1 or 2 times
   - C. 3 to 9 times
   - D. 10 to 19 times
   - E. 20 to 39 times
   - F. 40 or more times

4. During the past 3 months, with how many people did you have sexual intercourse?
   - A. I have never had sexual intercourse
   - B. I have had sexual intercourse, but not during the past 3 months
   - C. 1 person
   - D. 2 people
   - E. 3 people
   - F. 4 people
   - G. 5 people
   - H. 6 or more people

5. Did you drink alcohol or use drugs before you had sexual intercourse the last time?
   - A. I have never had sexual intercourse
   - B. Yes
   - C. No

6. During the past 30 days, how often did you or your partner use a condom?
   - A. I have not had sexual intercourse during the past 30 days
   - B. Never used a condom
   - C. Rarely used a condom
   - D. Sometimes used a condom
   - E. Most of the time used a condom
   - F. Always used a condom

7. During the past 7 days, on how many days were you physically active for a total of at least 60 minutes per day? (Add up all the time you spent in any kind of physical activity that increased your heart rate and made you breathe hard some of the time.)
   - A. 0 days
   - B. 1 day
   - C. 2 days
   - D. 3 days
   - E. 4 days
   - F. 5 days
   - G. 6 days
   - H. 7 days

Listed below are a number of statements concerning personal attitudes and traits. Read each item and decide whether the statement is true or false as it pertains to you personally. Fill in the corresponding letter on your scantron sheet.

	True	False
8. It is sometimes hard for me to go on with my work if I am not encouraged.	A	B
9. I sometimes feel resentful when I don't get my way.	A	B
10. On a few occasions, I have given up doing something because I thought too little of my ability.	A	B
11. There have been times when I felt like rebelling against people in authority even though I know they were right.	A	B
12. No matter who I'm talking to, I'm always a good listener.	A	B
13. There have been occasions when I took advantage of someone.	A	B
14. I'm always willing to admit it when I make a mistake.	A	B
15. I sometimes try to get even rather than forgive and forget.	A	B
16. I am always courteous, even to people who are disagreeable.	A	B
17. I have never been irked when people expressed ideas very different from my own.	A	B
18. There have been times when I was quite jealous of the good fortune of others.	A	B
19. I am sometimes irritated by people who ask favors of me.	A	B
20. I have never deliberately said something that hurt someone's feelings.	A	B

The items below ask about demographic information. For each item, please select the choice that best describes you and fill in the corresponding letter on your scantron sheet.

21. How would you describe yourself?
    A.   White, non Hispanic (includes Middle Eastern
    B.   Black, non Hispanic
    C.   Hispanic or Latino/a
    D.   Asian or Pacific Islander
    E.   American Indian, Alaskan Native, or Native Hawaiian
    F.   Biracial or Multiracial
    G.   Other

22. What was your approximate cumulative grade point average in HIGH SCHOOL?
    A.   A
    B.   B
    C.   C
    D.   D/F
    E.   N/A

This concludes the survey. Please turn the survey over and raise your hand until it is collected.
Thank you for your participation!

Before beginning the survey, please fill in the following information on the scantron form:

Sex: (M or F)

Birthdate: (month, date, and last two digits of the year)

Grade: (0 = freshman, 1=sophomore, 2=junior, 3=senior, 4=other)

Special Codes: [Your two digit cumulative grade point average (GPA), Example: a 2.7 GPA would be recorded as 27]

DO NOT FILL IN THE NAME OR IDENTIFICATION NUMBER.

For each of the statements below, please select the choice that best describes you and fill in the corresponding letter on your scantron sheet.

		Almost never (Less than 5% of the time)	Seldom (About 25% of the time)	Sometimes (About 50% of the time)	Often (About 75% of the time)	Almost always (About 95% of the time)
1.	Please fill in the "C" bubble for item number 1.	C	C	C	C	C
2.	I have few friends.	A	B	C	D	E
3.	After a fight with a friend, I make-up as soon as possible.	A	B	C	D	E
4.	Friends come to me when they have problems or need advice.	A	B	C	D	E
5.	I am a good listener.	A	B	C	D	E
6.	I am unpopular.	A	B	C	D	E
7.	I am willing to consider all sides of an argument.	A	B	C	D	E
8.	I am willing to help others when they need help.	A	B	C	D	E
9.	I can feel what others are feeling when I picture or think about them.	A	B	C	D	E
10.	I can say what I mean without hurting others' feelings.	A	B	C	D	E
11.	I feel sad when others are sad.	A	B	C	D	E
12.	I am uncooperative with others.	A	B	C	D	E
13.	I feel uncomfortable discussing a personal conflict with another person.	A	B	C	D	E
14.	I find it difficult to show people that I care about them.	A	B	C	D	E
15.	I get along with most people.	A	B	C	D	E
16.	I can say what I mean without hurting people's feelings.	A	B	C	D	E
17.	I care about how others are feeling.	A	B	C	D	E
18.	I choose not to get involved with others.	A	B	C	D	E
19.	I cut people off when they are talking.	A	B	C	D	E
20.	I express myself well so that people understand what I mean.	A	B	C	D	E
21.	I feel guilty when I say "no" to people.	A	B	C	D	E
22.	I feel joyful when others are happy.	A	B	C	D	E
23.	I feel lonely after an argument.	A	B	C	D	E
24.	I have a hard time making friends.	A	B	C	D	E
25.	I listen to people without interrupting.	A	B	C	D	E
26.	My family asks for my opinion.	A	B	C	D	E
27.	Most people would rather work with me than with someone else.	A	B	C	D	E
28.	I get into arguments.	A	B	C	D	E
29.	I get upset easily if someone yells at me.	A	B	C	D	E
30.	I have a hard time expressing my thoughts clearly.	A	B	C	D	E

	Almost never (Less than 5% of the time)	Seldom (About 25% of the time)	Sometimes (About 50% of the time)	Often (About 75% of the time)	Almost always (About 95% of the time)
31. When conflict occurs, I usually leave the situation.	A	B	C	D	E
32. When I disagree with someone, I can compromise.	A	B	C	D	E
33. When others criticize me, I get angry.					
34. I am a leader in school.	A	B	C	D	E
35. I am a poor listener.	A	B	C	D	E
36. I know someone I can really count on.	A	B	C	D	E
37. I listen thoughtfully to others' ideas and opinions.	A	B	C	D	E
38. People are not interested in talking to me.	A	B	C	D	E
39. I make negative judgments of others.	A	B	C	D	E
40. I prefer to be by myself.	A	B	C	D	E
41. I share my feelings with close friends.	A	B	C	D	E
42. I think about how to say something before I say it, so I don't hurt someone's feelings.	A	B	C	D	E
43. I try not to get involved with other people's problems.	A	B	C	D	E
44. I try to understand others' thoughts and feelings.	A	B	C	D	E
45. I work well with others.	A	B	C	D	E
46. I worry about saying the wrong things to people who are close to me.	A	B	C	D	E
47. If a friend became angry with me, I would worry about the friendship ending.	A	B	C	D	E
48. If I disagree with someone, it is important that I win.	A	B	C	D	E
49. If I make a mistake, I own up to it and apologize.	A	B	C	D	E
50. Most people think I am interesting.	A	B	C	D	E
51. My friends are not interested in hearing my ideas or my opinions.	A	B	C	D	E
52. People avoid me.	A	B	C	D	E
53. People I do not like can have good ideas.	A	B	C	D	E
54. Things I say are misunderstood.	A	B	C	D	E
55. When conflict occurs, I am unwilling to change my position.	A	B	C	D	E
56. I am able to keep my friend's secrets confidential.	A	B	C	D	E
57. I am concerned when my friends are sad.	A	B	C	D	E
58. I am not socially accepted by my peers.	A	B	C	D	E
59. I am really easy to be around.	A	B	C	D	E
60. I am sensitive to other people's feelings even if they are not my friends.	A	B	C	D	E

	Almost never (Less than 5% of the time)	Seldom (About 25% of the time)	Sometimes (About 50% of the time)	Often (About 75% of the time)	Almost always (About 95% of the time)
61. I am unable to make close friends.	A	B	C	D	E
62. I have a hard time saying "no" to my friends.	A	B	C	D	E
63. I have few people with whom I can talk to honestly.	A	B	C	D	E
64. I help people without expecting anything in return.	A	B	C	D	E
65. I hold private the confidential secrets or thoughts others tell me.	A	B	C	D	E
66. I know more than one other person I can really count on.	A	B	C	D	E

The following items ask about your health behaviors. For each item, please select the choice that best describes you and fill in the corresponding letter on your scantron sheet.

67. During the past 30 days, how many times did you drive a car or other vehicle when you had been drinking?
     A.   0 times
     B.   1 time
     C.   2 or 3 times
     D.   4 or 5 times
     E.   6 or more times

68. During the past 12 months, did you ever feel so sad or hopeless almost every day for two weeks or more in a row that you stopped doing some usual activities?
     A.   Yes
     B.   No

69. During the past 12 months, did you ever seriously consider attempting suicide?
     A.   Yes
     B.   No

70. During the past 30 days, on how many days did you smoke cigarettes?
     A.   0 days
     B.   1 or 2 days
     C.   3 to 5 days
     D.   6 to 9 days
     E.   10 to 19 days
     F.   20 to 29 days
     G.   All 30 days

71. During the past 30 days, on how many days did you have at least one drink of alcohol?
     A.   0 days
     B.   1 or 2 days
     C.   3 to 5 days
     D.   6 to 9 days
     E.   10 to 19 days
     F.   20 to 29 days
     G.   All 30 days

72. During the past 30 days, on how many days did you have 5 or more drinks of alcohol in a row, that is, within a couple of hours?
      A.   0 days
      B.   1 day
      C.   2 days
      D.   3 to 5 days
      E.   6 to 9 days
      F.   10 to 19 days
      G.   20 or more days

73. During the past 30 days, how many times did you use marijuana?
      A.   0 times
      B.   1 or 2 times
      C.   3 to 9 times
      D.   10 to 19 times
      E.   20 to 39 times
      F.   40 or more times

74. During the past 3 months, with how many people did you have sexual intercourse?
      A.   I have never had sexual intercourse
      B.   I have had sexual intercourse, but not during the past 3 months
      C.   1 person
      D.   2 people
      E.   3 people
      F.   4 people
      G.   5 people
      H.   6 or more people

75. Did you drink alcohol or use drugs before you had sexual intercourse the last time?
      A.   I have never had sexual intercourse
      B.   Yes
      C.   No

76. During the past 30 days, how often did you or your partner use a condom?
      A.   I have not had sexual intercourse during the past 30 days
      B.   Never used a condom
      C.   Rarely used a condom
      D.   Sometimes used a condom
      E.   Most of the time used a condom
      F.   Always used a condom

77. During the past 7 days, on how many days were you physically active for a total of at least 60 minutes per day? (Add up all the time you spent in any kind of physical activity that increased your heart rate and made you breathe hard some of the time.)
      A.   0 days
      B.   1 day
      C.   2 days
      D.   3 days
      E.   4 days
      F.   5 days
      G.   6 days
      H.   7 days

Listed below are a number of statements concerning personal attitudes and traits. Read each item and decide whether the statement is true or false as it pertains to you personally. Fill in the corresponding letter on your scantron sheet.

	True	False
78. It is sometimes hard for me to go on with my work if I am not encouraged.	A	B
79. I sometimes feel resentful when I don't get my way.	A	B
80. On a few occasions, I have given up doing something because I thought too little of my ability.	A	B
81. There have been times when I felt like rebelling against people in authority even though I know they were right.	A	B
82. No matter who I'm talking to, I'm always a good listener.	A	B
83. There have been occasions when I took advantage of someone.	A	B
84. I'm always willing to admit it when I make a mistake.	A	B
85. I sometimes try to get even rather than forgive and forget.	A	B
86. I am always courteous, even to people who are disagreeable.	A	B
87. I have never been irked when people expressed ideas very different from my own.	A	B
88. There have been times when I was quite jealous of the good fortune of others.	A	B
89. I am sometimes irritated by people who ask favors of me.	A	B
90. I have never deliberately said something that hurt someone's feelings.	A	B

The items below ask about demographic information. For each item, please select the choice that best describes you and fill in the corresponding letter on your scantron sheet.

91. How would you describe yourself?
   - A.   White, non Hispanic (includes Middle Eastern
   - B.   Black, non Hispanic
   - C.   Hispanic or Latino/a
   - D.   Asian or Pacific Islander
   - E.   American Indian, Alaskan Native, or Native Hawaiian
   - F.   Biracial or Multiracial
   - G.   Other

92. What was your approximate cumulative grade point average in HIGH SCHOOL?
   - A.   A
   - B.   B
   - C.   C
   - D.   D/F
   - E.   N/A

This concludes the survey. Please turn the survey over and raise your hand until it is collected. Thank you for your participation!

Before beginning the survey, please fill in the following information on the scantron form:

Sex: (M or F)

Birthdate: (month, date, and last two digits of the year)

Grade: (0 = freshman, 1=sophomore, 2=junior, 3=senior, 4=other)

Special Codes: [Your two digit cumulative grade point average (GPA), Example: a 2.7 GPA would be recorded as 27]

DO NOT FILL IN THE NAME OR IDENTIFICATION NUMBER.

For each of the statements below, please select the choice that best describes you and fill in the corresponding letter on your scantron sheet.

		Almost never (Less than 5% of the time)	Seldom (About 25% of the time)	Sometimes (About 50% of the time)	Often (About 75% of the time)	Almost always (About 95% of the time)
1.	Please fill in the "D" bubble for item number 1.	D	D	D	D	D
2.	I strive for higher goals.	A	B	C	D	E
3.	When I make a plan, I follow through.	A	B	C	D	E
4.	I find it difficult to focus on a problem and see ways to solve it.	A	B	C	D	E
5.	My personal goals are consistent with my values.	A	B	C	D	E
6.	I ask friends their opinion when I'm making a decision.	A	B	C	D	E
7.	I can evaluate information on the internet for accuracy.	A	B	C	D	E
8.	I can identify problems in my life.	A	B	C	D	E
9.	I think through my problems before reacting.	A	B	C	D	E
10.	I can focus on a problem and come up with ways to solve it.	A	B	C	D	E
11.	I fail to set personal goals.	A	B	C	D	E
12.	When making a decision, I can find relevant information.	A	B	C	D	E
13.	I know when I am having a bad day.	A	B	C	D	E
14.	I know my actions can affect others.	A	B	C	D	E
15.	I can identify barriers to reaching my goals.	A	B	C	D	E
16.	I'm not sure where to look for information to help solve problems.	A	B	C	D	E
17.	When I try to change something, I think of all the things that are related to it.	A	B	C	D	E
18.	Before I make a decision, I think about the possible consequences.	A	B	C	D	E
19.	I have trouble making up my mind.	A	B	C	D	E
20.	I am unable to accomplish my short term goals.	A	B	C	D	E
21.	I know how to access community resources to meet my needs.	A	B	C	D	E
22.	When I have a problem, I try to figure out what is causing it.	A	B	C	D	E
23.	I do not set long-term goals.	A	B	C	D	E
24.	I have trouble identifying solutions before I start.	A	B	C	D	E
25.	When I have a problem, I think about how I solved a similar one.	A	B	C	D	E
26.	I have realistic expectations of myself.	A	B	C	D	E
27.	I ask my family their opinion when I'm making a decision.	A	B	C	D	E

	Almost never (Less than 5% of the time)	Seldom (About 25% of the time)	Sometimes (About 50% of the time)	Often (About 75% of the time)	Almost always (About 95% of the time)
28. Solutions to my problem are consistent with what I believe.	A	B	C	D	E
29. Setting goals just means you are going to be disappointed.	A	B	C	D	E
30. I am aware of available resources at school.	A	B	C	D	E
31. When planning ahead, I think about past mistakes.	A	B	C	D	E
32. In making a decision, I identify all possible alternatives instead of deciding quickly.	A	B	C	D	E
33. I am satisfied with my current goals.	A	B	C	D	E
34. It's hard for me to find accurate information.	A	B	C	D	E
35. I set personal goals based on what I value.	A	B	C	D	E
36. I react to a situation without thinking about how it will impact others.	A	B	C	D	E
37. I believe that every problem has a solution.	A	B	C	D	E

The following items ask about your health behaviors. For each item, please select the choice that best describes you and fill in the corresponding letter on your scantron sheet.

38. During the past 30 days, how many times did you drive a car or other vehicle when you had been drinking?
   - A. 0 times
   - B. 1 time
   - C. 2 or 3 times
   - D. 4 or 5 times
   - E. 6 or more times

39. During the past 12 months, did you ever feel so sad or hopeless almost every day for two weeks or more in a row that you stopped doing some usual activities?
   - A. Yes
   - B. No

40. During the past 12 months, did you ever seriously consider attempting suicide?
   - A. Yes
   - B. No

41. During the past 30 days, on how many days did you smoke cigarettes?
   - A. 0 days
   - B. 1 or 2 days
   - C. 3 to 5 days
   - D. 6 to 9 days
   - E. 10 to 19 days
   - F. 20 to 29 days
   - G. All 30 days

42. During the past 30 days, on how many days did you have at least one drink of alcohol?
    A.   0 days
    B.   1 or 2 days
    C.   3 to 5 days
    D.   6 to 9 days
    E.   10 to 19 days
    F.   20 to 29 days
    G.   All 30 days

43. During the past 30 days, on how many days did you have 5 or more drinks of alcohol in a row, that is, within a couple of hours?
    A.   0 days
    B.   1 day
    C.   2 days
    D.   3 to 5 days
    E.   6 to 9 days
    F.   10 to 19 days
    G.   20 or more days

44. During the past 30 days, how many times did you use marijuana?
    A.   0 times
    B.   1 or 2 times
    C.   3 to 9 times
    D.   10 to 19 times
    E.   20 to 39 times
    F.   40 or more times

45. During the past 3 months, with how many people did you have sexual intercourse?
    A.   I have never had sexual intercourse
    B.   I have had sexual intercourse, but not during the past 3 months
    C.   1 person
    D.   2 people
    E.   3 people
    F.   4 people
    G.   5 people
    H.   6 or more people

46. Did you drink alcohol or use drugs before you had sexual intercourse the last time?
    A.   I have never had sexual intercourse
    B.   Yes
    C.   No

47. During the past 30 days, how often did you or your partner use a condom?
    A.   I have not had sexual intercourse during the past 30 days
    B.   Never used a condom
    C.   Rarely used a condom
    D.   Sometimes used a condom
    E.   Most of the time used a condom
    F.   Always used a condom

48. During the past 7 days, on how many days were you physically active for a total of at least 60 minutes per day? (Add up all the time you spent in any kind of physical activity that increased your heart rate and made you breathe hard some of the time.)
   - A.   0 days
   - B.   1 day
   - C.   2 days
   - D.   3 days
   - E.   4 days
   - F.   5 days
   - G.   6 days
   - H.   7 days

Listed below are a number of statements concerning personal attitudes and traits. Read each item and decide whether the statement is true or false as it pertains to you personally. Fill in the corresponding letter on your scantron sheet.

	True	False
49. It is sometimes hard for me to go on with my work if I am not encouraged.	A	B
50. I sometimes feel resentful when I don't get my way.	A	B
51. On a few occasions, I have given up doing something because I thought too little of my ability.	A	B
52. There have been times when I felt like rebelling against people in authority even though I know they were right.	A	B
53. No matter who I'm talking to, I'm always a good listener.	A	B
54. There have been occasions when I took advantage of someone.	A	B
55. I'm always willing to admit it when I make a mistake.	A	B
56. I sometimes try to get even rather than forgive and forget.	A	B
57. I am always courteous, even to people who are disagreeable.	A	B
58. I have never been irked when people expressed ideas very different from my own.	A	B
59. There have been times when I was quite jealous of the good fortune of others.	A	B
60. I am sometimes irritated by people who ask favors of me.	A	B
61. I have never deliberately said something that hurt someone's feelings.	A	B

The items below ask about demographic information. For each item, please select the choice that best describes you and fill in the corresponding letter on your scantron sheet.

62. How would you describe yourself?
   - A.   White, non Hispanic (includes Middle Eastern
   - B.   Black, non Hispanic
   - C.   Hispanic or Latino/a
   - D.   Asian or Pacific Islander
   - E.   American Indian, Alaskan Native, or Native Hawaiian
   - F.   Biracial or Multiracial
   - G.   Other

63. What was your approximate cumulative grade point average in HIGH SCHOOL?
- A.   A
- B.   B
- C.   C
- D.   D/F
- E.   N/A

This concludes the survey. Please turn the survey over and raise your hand until it is collected.
Thank you for your participation!

APPENDIX E

Data Collection Procedures

1. Go to all data collection locations with pencils, surveys, and several copies of the *Daily Egyptian* newspaper.

2. Greet students, identify yourself, and state, "Research involving personal and social skills and health risk behaviors is being conducted."

3. Read cover letter aloud to students.

4. State, "Voluntary participation in this study would be greatly appreciated. However, students under age 18 are not able to participate."

5. Pass a stack of surveys to students at each end of the row, instructing them to take the survey on top of the pile and pass the stack to their neighbor. Pass around pencils too.

6. Once surveys are distributed, inform participants to put no identifying marks on the scantron or the survey, but please be sure to fill in the sex, birthdate, grade, and special codes section.

7. Offer non-participants a newspaper to read during the survey.

8. Instruct participants to turn the survey over and raise their hand when finished.

9. Go to each participant and have them place their survey in the box/manilla envelope.

10. Take completed surveys to Darson's office.

APPENDIX F

Cover Letter

Dear Participant,

 I am a doctoral candidate in the Health Education and Recreation Department at Southern Illinois University Carbondale. I am conducting a research study to assess the relationship between personal and social competence and health risk behaviors. I would appreciate it if you would assist me in my research by completing one of four surveys. Please note some of the questions in the survey are sensitive in nature and ask about illicit drug and alcohol use and sexual activity. It will take approximately 15-30 minutes to complete the survey. Students in this class were selected to be potential participants based on the criteria that the class is a 100 level undergraduate course with adequate student enrollment. Completion and return of the survey indicates voluntary consent to participate in this study. All surveys are completely anonymous and participants may use this cover letter to conceal their responses while taking the survey if desired. If you have any questions about this research, you may contact me or my committee chair, Dr. Joyce V. Fetro. Our contact information is listed below:

Darson L. Rhodes	Dr. Joyce V. Fetro
Dept. of Health Education & Recreation	Dept. of Health Education and Recreation
Pulliam Hall 108	Pulliam Hall 307
(618) 453-2777	(618) 453-2777
dlrhodes@siu.edu	honu600@aol.com

Thank you for your participation!

 Sincerely,

 Darson L. Rhodes

This project has been reviewed and approved by the SIUC Human Subjects Committee. Questions concerning your rights as a participant in this research may be addressed to the Committee Chairperson, Office of Research Development and Administration, Southern Illinois University, Carbondale, IL, 62901-4709. Phone (618) 453-4533. Email siuhsc@siu.edu

APPENDIX G

Analysis of Variance (ANOVA) Results Comparing Perceived Personal and Social

Competence Mean Scores

	Variable Scores for Selected Courses					
	Model	**SS**	**df**	**MS**	**F**	**Sig.**
Coping Skills	Regression	4821.098	3	1607.033	2.275	.082
	Residual	108079.064	153	706.399		
	Total	112900.162	156			
Interpersonal Skills	Regression	1049.478	3	349.826	0.488	.691
	Residual	116874.517	163	717.022		
	Total	117923.995	166			
Intrapersonal Skills	Regression	5971.727	3	1990.576	0.709	.548
	Residual	407089.737	145	2807.515		
	Total	413061.464	148			
Judgment Skills	Regression	399.112	3	133.037	0.433	.730
	Residual	55606.194	181	307.217		
	Total	56005.306	184			

APPENDIX H

Pearson's Product Moment Correlation Coefficients (*r*) of Removed Items

	Marlowe-Crowne Social Desirability Scale (short version)
I feel out of control when I am stressed.	0.39
When I am under stress, I often yell or "snap" at others.	0.32
There are times when I do not like myself.	0.37
I am sure of myself.	0.31
I am self-conscious of the way I look.	0.35
I lose my temper.	0.37
I feel calm and peaceful.	0.35
I get upset easily if someone yells at me.	0.36
When others criticize me, I get angry.	0.33
I make negative judgments of others.	0.42
If I disagree with someone, it is important that I win.	0.39
I have a hard time saying "no" to my friends.	0.32

APPENDIX I

Linear Regression Analysis for Coping Skills Survey

Model Summary			
R	R^2	Adj. R^2	SEE
.413	.171	.081	6.911

Full Regression Model					
Model	SS	df	MS	F	Sig.
Regression	1089.751	12	90.813	1.902	.041*
Residual	5300.854	111	47.755		
Total	6390.605	123			

Individual Predictors		
Predictor	t-value	Sig.
Coping skills	2.722	.008**
Driving and consuming alcohol	-0.220	.826
Sad or hopeless	0.525	.600
Suicide consideration	1.503	.136
Cigarette use	0.137	.891
Alcohol use	-0.471	.639
Binge drinking	2.199	.030*
Marijuana use	-1.973	.051
Number of sexual partners	0.339	.735
Alcohol or drug use before sexual intercourse	-1.777	.078
Sexual intercourse without condom	0.329	.743
Physically inactive days	0.537	.593

*$p < .05$
** $p < .01$

APPENDIX J

Linear Regression Analysis for Interpersonal Skills Survey

Model Summary			
R	R^2	Adj. R^2	SEE
.390	.152	.073	7.243

Full Regression Model					
Model	SS	df	MS	F	Sig.
Regression	1207.901	12	100.658	1.919	.038*
Residual	6714.837	128	52.460		
Total	7922.738	140			

Individual Predictors		
Predictor	t-value	Sig.
Interpersonal skills	1.574	.118
Driving and consuming alcohol	-0.074	.941
Sad or hopeless	-2.488	.014*
Suicide consideration	0.777	.439
Cigarette use	0.030	.976
Alcohol use	-1.180	.240
Binge drinking	1.079	.283
Marijuana use	0.005	.996
Number of sexual partners	0.944	.347
Alcohol or drug use before sexual intercourse	-0.836	.405
Sexual intercourse without condom	-2.231	.027*
Physically inactive days	-1.072	.286

*$p < .05$

APPENDIX K

Linear Regression Analysis for Intrapersonal Skills Survey

Model Summary			
R	R^2	Adj. R^2	SEE
.309	.096	-.012	6.666

Full Regression Model					
Model	SS	df	MS	F	Sig.
Regression	474.910	12	39.576	0.891	.559
Residual	4487.721	101	44.433		
Total	4962.632	113			

Individual Predictors		
Predictor	t-value	Sig.
Intrapersonal skills	1.895	.061
Driving and consuming alcohol	0.119	.906
Sad or hopeless	-0.255	.799
Suicide consideration	0.000	1.000
Cigarette use	0.211	.833
Alcohol use	-1.606	.111
Binge drinking	-1.165	.247
Marijuana use	1.250	.214
Number of sexual partners	-0.331	.741
Alcohol or drug use before sexual intercourse	1.298	.197
Sexual intercourse without condom	0.280	.780
Physically inactive days	0.429	.669

APPENDIX L

Linear Regression Analysis for Judgment Skills Survey

Model Summary			
R	R^2	Adj. R^2	SEE
.373	.139	.069	6.408

Full Regression Model					
Model	SS	df	MS	F	Sig.
Regression	981.310	12	81.776	1.991	.029*
Residual	6077.795	148	41.066		
Total	7059.106	160			

Individual Predictors		
Predictor	t-value	Sig.
Judgment skills	2.011	.046*
Driving and consuming alcohol	0.679	.498
Sad or hopeless	-1.927	.056
Suicide consideration	-0.931	.353
Cigarette use	-0.029	.977
Alcohol use	-0.870	.386
Binge drinking	-0.624	.533
Marijuana use	1.282	.202
Number of sexual partners	-0.681	.497
Alcohol or drug use before sexual intercourse	-0.924	.357
Sexual intercourse without condom	-0.458	.648
Physically inactive days	-0.156	.876

*p < .05

VITA

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    An Exploratory Study of the Relationship Among Perceived Personal and Social
    Competence, Health Risk Behaviors, and Academic Achievement of Selected
    Undergraduate Students

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    Ratnapradipa, D. & **Rhodes, D.L.** (in press). An introductory lesson to
environmental
    health: Media analysis and risk reduction. *The Health Educator*.

Fetro, J.V., **Rhodes, D.L.,** & Hey, D.W. (2009). Reliability of four personal and social
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Ratnapradipa, D., Quilliam, D., Wier, L., & **Rhodes, D.L.** (2009). *Food safety
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    submitted for publication.

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