

HOW HEALTH BEHAVIORS CORRELATE WITH ACADEMIC PERFORMANCE
OF COLLEGE STUDENTS

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HOW HEALTH BEHAVIORS CORRELATE WITH ACADEMIC PERFORMANCE OF
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Abstract

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This paper explores the relationship among GPA and alcohol consumption, sleep behaviors and routines, sedentary lifestyle and exercise habits, and dietary patterns and practices of students in the dental hygiene program at Madison College. The dental hygiene program has a rigorous and demanding curriculum that can be impacted by negative health behaviors and may interfere with academic performance and future employment opportunities. Previous studies have found a strong correlation between student GPA and successfully completing the National Board Dental Hygiene Examination, a requirement to practice dental hygiene in the United States (Bauchmoyer, Carr, Clutter 2004). A self-reported, anonymous questionnaire was administered to 36 first-year students in the dental hygiene program at Madison College. The questionnaire examined the following four health behaviors: alcohol consumption, sleep behaviors and routines, sedentary lifestyle and exercise habits, and dietary patterns and practices and the relationship to GPA. The results of this study showed no significant difference in the variables studied due to the small range of variance in GPA.

Keywords: dental hygiene education, alcohol consumption, sleep patterns, eating habits, sedentary lifestyle, National Board Dental Hygiene examination, academic performance, health behaviors, college students, academic success, GPA, sleep disorders, BMI

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Chapter One: Introduction

Going off to college is a memorable experience for young adults. For most, it is the first attempt at independence and personal growth. It is a time when students may think that moderation is overrated. Healthy eating, adequate sleep, exercise, and social opportunities are a personal choice. Growing evidence continues to demonstrate that the health of college students is linked to their academic achievements and future success as adults (Ansari & Stock, 2010). As a result, how can academic institutions instill the importance of making sensible choices during these pivotal and vulnerable periods?

Alcohol consumption, sleep behaviors and routines, sedentary lifestyle and exercise habits, and dietary patterns and practices of first-year students in the dental hygiene program at Madison College were identified as possibly having a negative impact on overall academic performance in the classroom, clinical setting, and future employment opportunities. One study found a strong correlation between student GPA and passing the National Dental Hygiene Board Examination (Bauchmoyer et al., 2004). The dental hygiene program was known for having a rigorous and demanding curriculum. Ultimately, the dental hygiene program goal was for each student to pass both the National and State examinations on the first attempt. Negative student health behaviors were seen as possibly interfering with this program objective. Preparing students for a successful career was one of the vital roles of dental hygiene faculty. This study examined the relationship between student health behaviors and GPA of students in the dental hygiene program at Madison College.

Statement of the Problem

How did alcohol consumption, sleep behaviors and routines, sedentary lifestyle and exercise habits, and dietary patterns and practices interfere with achievement and academic performance of students in the dental hygiene program at Madison College?

Significance of the Study

The dental hygiene program has a challenging and difficult curriculum. Student success is a concern because candidates must pass both a State and National exam for licensure. In 2017 alone, 17% of Madison College dental hygiene students were unsuccessful in passing either the National or State Board Examination on the first attempt. Student health behaviors were suspected of interfering with achievement and academic performance of students in the dental hygiene program at Madison College. This study examined the relationship between student health behaviors and academic success (GPA) of first year students in the dental hygiene program at Madison College.

Purpose of the Study

The purpose of this study was to examine if student health behaviors, such as alcohol consumption, sleep behaviors and routines, sedentary lifestyle and exercise habits, and dietary patterns and practices had a direct relationship on academic performance. This study examined health behaviors in relation to GPA of first year students in the dental hygiene program at Madison College. It was anticipated that information gained from this study may become the basis for promoting positive health behaviors to increase student preparedness for successful completion of the National and State dental hygiene board examinations.

Definition of Terms

Basal Metabolic Index (BMI): a measurement of body fat based on height and weight

(Anderson, Angela, & Good, 2017).

Binge Drinking: Five or more drinks in one sitting or in a row for males. Four or more drinks in one sitting or in a row for females under the same conditions (Martin, Cremeens, Umstattd, Usdan, Talbott-Forbes, Garner, 2011).

National Board Dental Hygiene Examination: A standardized examination to evaluate the preparedness of graduate dental hygiene students (Bauchmoyer, et al., 2004).

Sleep Disorders: Sleep disturbances that may produce excessive daytime sleepiness (EDS) (Gaultney, 2010).

Delimitations of Research

The self-reported data collected on health behaviors; alcohol consumption, sleep behaviors and routines, sedentary lifestyle and exercise habits, and dietary patterns and practices for this study was gathered from 36 first-year students in the dental hygiene program at Madison College. Therefore, caution was urged in applying the results of this study to other student groups.

Method of Approach

First-year students in the dental hygiene program at Madison College were asked to voluntarily complete a self-reported, anonymous questionnaire assessing alcohol consumption, sleep behaviors and routines, sedentary lifestyle and exercise habits, and dietary patterns and practices. Participants were asked to self-report their current GPA. The researcher used the Madison College Resource Library to locate studies that relate to this topic for the Review of Literature. A t-test was used as the basis for data analysis of the completed questionnaires.

Chapter Two: Review of Related Literature

Introduction

The research summarized in this chapter investigated the effects of health-related habits on GPA in college students. In the early 2000s, examining behaviors was seen to be important for both college students and educational institutions to help understand the impact lifestyle choices might have on GPA and success in academic performance. The behaviors examined included episodic alcohol use, sleep quality and quantity, exercise and sedentary patterns, and food choices and eating routines. College students, upon entering a new environment, were faced with many opportunities to decide; for example, how much to sleep and eat, when to exercise, and the type of social activities to explore. This transition into adulthood may lead to increased stress for college students. As a result, binge drinking was a common social occurrence widespread on college campuses and was associated with a number of negative academic and health-related consequences.

Alcohol Consumption

At the time of this study, alcohol abuse and binge drinking were a public health issue spanning across college campuses in the US. Research pointed to college students among the heaviest drinking demographic groups; and alcohol was the No. 1 drug of choice according to Martin et al, (2011), whose study sampled 71,189 undergraduate students. In fact, in a self-reported survey, 70% of college students reported using alcohol in the 30 days previous to taking the survey, showing a direct correlation between binge drinking and decreased academic performance; that is, missing class, failing exams, falling behind in coursework, and achieving

lower GPAs (Martin et al., 2011). At the time of the study despite increased public awareness and documented evidence, heavy alcohol consumption was still considered acceptable social behavior among college students.

Alcohol had been shown to alter and impair brain function causing impaired memory, decision making and judgment, and impulsivity in young adults, with the highest reported individuals with substance abuse issues between the ages of 18 and 29 years of age (Ansari, Stock, & Mills, 2013). Besides a subpar academic performance, there might also be a strong correlation between students who binge drink and a higher attrition rate compared to non-binge drinkers. In fact, a sampling of college administration and counselors reported that alcohol was involved in 21% of all cases of student attrition (Martinez, Sher, & Wood, 2008). College attrition in the United States was a prevalent social and distinct problem for students who attempted college but left without a degree and were further burdened by student loans, financial responsibilities, and unemployment.

In one study alcohol consumption patterns reported that most students, 74%, consumed alcohol at least once per week while only 3% reported no alcohol consumption (Ansari et al., 2013). Of the same sample, 54% reported binge drinking at least three times during the previous month (Ansari et al., 2013). According to research on student demographics, Caucasian males reported the highest alcohol consumption, followed by Hispanics and African American males (McBride, Barrett, Moore, Schonfeld, 2014). Research also suggested a correlation between binge drinking and students participating in college Greek systems, students enrolled full-time versus part-time, and students living on college campus versus students who commuted (McBride et al., 2014).

Research also examined the indirect effects of alcohol on GPA. One study found a direct effect of alcohol on GPA and an indirect effect by suppressing daily study hours and indirectly lowering student GPA. Therefore, because study hours affected grades, and drinking affected study hours, the indirect impact of drinking on GPA was noted, citing frequent intoxications having had the greatest negative impact on study hours (Wolaver, 2002).

After an extensive review of literature on alcohol consumption in college, it was clear that colleges need to develop programs that provide students with skills to increase students' awareness of binge drinking and the negative consequences associated with drinking and academic performance. Intervention programs provided by the college with a focus on strategies, skills, and self-efficacy had proven effective for students looking for assistance in improving academic performance. By identifying risk factors, for example, binge drinking, college administration could develop interventions to decrease negative behaviors and attrition rates for students, the community, and higher education.

Sleep Behaviors & Routines

Poor sleep quality and deprivation were widespread across college campuses, which might impact health, mood, and academic performance of college students (Gaultney, 2010). For many students, sleep might be sacrificed due to social factors, academic and work schedules, and less than ideal sleeping conditions (Gaultney, 2010). Sleep is a biological necessity, which is well documented in promoting a positive correlation between learning, memory, and a sense of well-being. The college environment and the new freedom it brings might impact student sleep behaviors and routines and directly affect students' GPAs.

A study completed just previous to this literature review (Cates, Clark, Woolley, & Saunders, 2015), found that poor sleep quality, sleep disturbances, and frequency of sleep had all

worsened in the college population over the decades leading up to 2015. The same study concluded that poor sleep quality existed among first-, second-, and third-year pharmacy students, especially those with lower GPAs (Cates, et al., 2015). The study by Gaultney (2010) found that college students were at considerable risk for sleep disorders producing excessive daytime sleepiness (EDS), citing that of the 12% suffering from insomnia, 22% of those same students were on academic probation.

When two student health behaviors, physical activity and sleep, were studied in relation to students' learning goal achievements, Flueckiger, Lieb, Meyer, & Mata's (2014) research demonstrated that sleep quality was a stronger predictor of learning goals and achievement than physical activity, especially on a day-to-day level. This study concluded that both health behaviors, sleep and physical activity, were important predictors for both academic performance and positive mental health particularly during stressful examination periods (Flueckiger, et al., 2014).

When investigating the sleep quantity of college students, sleep might be voluntarily sacrificed due to social behaviors or academic obligations. In the study by Gaultney (2010), students in the sample reported 6.79 hours of sleep per week night, falling short of the recommend 8 hours of sleep recommendation for this age group. The accumulated sleep deficiency for this group equaled 6.05 hours over a five-day period, with 86% of students reporting waking up tired. Many students attempted to reduce the sleep deficit over the weekend, but still fell short over a seven-day period.

Gender also played a role in sleep quality among college students. In Gilbert & Weaver (2010), a significant difference was cited between sleep quality and academic performance of female students, but the study did not prove the same correlation for male students. However,

both male and female students reported both poor sleep quantity and quality, producing equally negative cognitive and medical effects.

In a study by Asawa, Sen, Bhat, Tak, Sultane, & Mandal (2017), self-reported sleep quality was recounted by Indian dental students. It demonstrated that non-vegetarian eaters scored higher in the Vitality, Sleep, and Fatigue scores than students who consumed a plant based, vegetarian diet. The findings were attributed to a diet higher in fat, which slowed digestion and might contribute to excessive daytime sleepiness (EDS). This finding also demonstrated an interrelationship between dietary patterns and practices and their effect on sleep quality.

Students who understood the importance of proper sleep habits might improve their academic performance in college. One recommendation from Taylor, Vatthauer, Bramoweth, Ruggero, & Roane (2013) was to use a multi-modal approach in college counseling services addressing sleep disturbances on campus as well as alcohol consumption and stress factors indirectly contributing to poor sleep quality and quantity. In addition, students on academic probation could be screened for disrupted sleep patterns and habits and educated on the effects of sleep on academic performance in an effort to improve student health, retention, and GPA.

Sedentary Lifestyle & Exercise Habits

The connection between a healthy mind and body had been well established. The relationship between physical activity and cognitive function was well documented as a means to stimulate new brain pathways to support the learning process (Mull & Tietjen-Smith, 2014). A number of studies had specifically examined the exercise habits and sedentary effects on academic performance of college students.

In the study by Mull et al., (2014), the researcher was able to correlate GPA and exercise habits of college students. Students who followed a regularly scheduled workout routine had higher GPAs than students belonging to a control group who did not exercise regularly.

The well-documented technology phenomenon was demonstrated to have had a negative impact on exercise habits and promoted a sedentary lifestyle among college students (Judge, Bellar, Petersen, Wanless, Surber, Simon, 2012). According to the Healthy People 2010 report, nearly 25% of adults were completely sedentary and only 25% of young adults participated in light to moderate activity every day (United States Department of Health and Human Services, 2010). The lifestyle of college students, namely the importance of study hours, led to being a productive student; however, compulsive Internet use, surfing the Web, and computer gaming could interfere with grades, relationships, and exercise habits. In fact, 76.7% of students reported non-study computer use six to seven times per week (Judge, et al., 2012). The same study found a positive correlation between students' self-reported GPA and frequency and duration of physical activity citing an intrinsic motivation to study and receive better grades and enhanced concentration as possible mechanisms by which physical activity promoted mental health benefits (Judge, et al., 2012).

Many college campuses foster behaviors that might promote negative health behaviors for students. Studies showed that students who incorporated a regular exercise regime improved study habits and received better grades than students who were sedentary. Improving accessibility of physical activity options to college students by offering intramural opportunities and promoting healthy engagement socially would help foster behaviors to promote a healthier lifestyle on college campuses.

These findings could provide a basis for health promotion programs that would allow young adults to maintain good physical and mental health in order to achieve their academic goals as students.

Dietary Patterns and Practices

Colleges played an instrumental role in the eating behaviors of college students. Research by Deliens, Clarys, Bourdeaudhuij, & Deforche (2014a) stated that the United States obesity epidemic continued to surpass all other countries and that college students were continuously challenged to select healthy food options. The “freshman fifteen” was a common phrase used to describe the weight gain of first-year college students.

Researchers also found a strong correlation demonstrated between cognitive function and eating habits. Misuraca, Miceli, & Teuscher (2017), looked at specific food compounds, found that Omega-3 fatty acids improved learning, memory, and verbal intelligence, while also reducing learning defects with mild cognitive impairment. Other food compounds studied in the same study were flavonoids, folic acid, vitamins, choline, iron, caffeine, and the role they played in enhancing attention and memory. It was concluded that following a Mediterranean diet, rich in healthy fats, nuts, vegetables, fish, and low in meats and dairy was found to positively contribute to brain development (Misuraca, et al., 2017).

During the transition to college when independence increases, students become influenced by many factors when making dietary choices. A self-reported study of Belgian students found that students were influenced by many factors such as self-discipline, time, and convenience as well as by their peers and the physical environment. Personal contributing factors also included budget constraints and taste preferences (Deliens, et al., 2014a).

Belgian students, who consumed more sugar and fast foods were more likely to have lower GPAs compared to students who ate more fruits and vegetables. The study included a correlation between a healthy diet consisting of low saturated fats and limited refined sugars and the positive correlation of improved cognitive health (Deliens, T, Clarys, Bourdeaudhuij. & Deforche, 2014b). In Manimony, Payton, & Marzigliano (2008), a strong positive correlation was found between students who consumed a healthy diet in addition to a consistent breakfast routine and increased GPA. The same study also found the more vegetables in a student's diet, the higher the GPA (Manimony et al., 2008).

Several studies also examined the relationship between higher academic achievement and a healthy basal metabolic index (BMI). Students with a BMI in the obese and overweight categories were more likely to have lower grades than those students with a BMI in the normal range, showing a relationship between healthy body weight and better academic performance (Anderson, Angela, & Good, 2017).

Consistently, the literature demonstrated that a healthy diet composed of fruits and vegetables might have a positive correlation to students' academic performance in college (Deliens et al., 2014b). Therefore, preventive programs opposing unhealthy eating patterns of college students were important for the academic success of students as well as being an effective way to reduce the occurrence of the overweight/obesity epidemic among young adults.

Lifestyle and Academics

A healthy lifestyle included maintaining a nutritious diet and strong exercise regimen, receiving adequate sleep, and managing stress and mental health through healthy social outlets. College students entering a new environment while no longer under parental control were faced with opportunities that might have led to unhealthy lifestyle choices, which negatively impacted

their academic achievements. For example, a previous study found a strong correlation between student GPA and successfully completing the National Board Dental Hygiene Examination, a requirement to practice dental hygiene in the United States (Bauchmoyer, Carr, Clutter, 2004). This study examined the academic records of 173 graduates of the dental hygiene program at Ohio State University from 1998 to 2002. The research results demonstrated a strong predictor for success on the National Board Examination for those students who practiced positive health behaviors and maintained academic excellence throughout the dental hygiene program.

As an instructor in the dental hygiene program at Madison College in and previous to 2018, this researcher was part of a petition process that required students to successfully complete core science courses (microbiology, anatomy and physiology, biochemistry) before applying to the dental hygiene program. This process could take a student anywhere from one to four years, with Madison College accepting only 32 applicants each year. The selection of students into the dental hygiene profession was often a very competitive and rigorous process that attracted higher achieving students.

Researchers had investigated the effects of both the positive and negative health-related lifestyle behaviors on GPA in college students across the world. Some studies looked at the relationship on sleep quality and quantity, while others focused on other lifestyle factors such as dietary and exercise habits. While some studies reported mixed findings or no correlation, others found a positive correlation associated with lifestyle choices and academic performance. Ansari & Stock (2010) reported that comprehensive health promotion programs provided by colleges and universities were demonstrated to have the potential to influence predictors of academic achievement at school. The study concluded that health and wellbeing were essential for effective learning and, furthermore, that education was a strong predictor of lifelong quality of

life in different populations, although these pathways were not clearly understood and were often interdependent.

Previous research regarding sleep by Taylor, Vatthauer, Bramoweth, Ruggero, & Roane (2013) focused on the problem associated with sleep risk factors including inconsistent sleep schedules, frequent difficulties falling and staying asleep, and the effects this might have on academic and psychological well-being of college students. Continuing research verified that sleep, across the lifecycle, played an important role in both physical and mental health.

In the research many lifestyle factors were associated with academic outcomes. Beginning early in adolescence, students who used alcohol and other drugs demonstrated lower grades, negative attitudes toward education, and increased absenteeism. On the other hand, exercise and healthy foods during adolescence demonstrated improved academic outcomes, so much so that government agencies such as the National Center for Chronic Disease Prevention and Health Promotion, a division of the CDC, created a Web site for school districts, parents, and students with a core message. It stated that healthy students were better learners on all levels of academic achievement including improved educational behavior, attitude, and cognitive skills. The research also demonstrated that a focus on healthy eating and physical activity in schools could reduce barriers to learning and students were more likely to pursue higher levels of education (Centers for Disease Control, 2014). Evidence on physical activity and academic achievement also revealed that students who were physically active tended to have better standardized testing scores, fewer disciplinary problems, and improved concentration (Centers for Disease Control, 2014). Even when physical activity took the place of class time, such as during recess or other brief classroom physical activity, it was still shown to have a positive

impact on overall student reading literacy and math fluency scores (Centers for Disease Control, 2014).

Other well-documented evidence by the United States Department of Agriculture (USDA) School Breakfast Program (SBP) suggested that skipping breakfast is associated with decreased cognitive function including increased absenteeism and poor concentration, memory, and mood (Centers for Disease Control, 2014). The study established that specific nutrient deficiency, Vitamins A, B6, B12, folate, iron, and calcium, found mainly in fruits, vegetables, and dairy products were associated with lower grades and tardiness among students (Centers for Disease Control, 2014). Hunger in the United States, due to food insecurity, had been studied and was also associated with repeating a grade and the inability to focus in a classroom (Centers for Disease Control, 2014). The community message to school districts, parents, and students was to implement strategies early in the educational process to create a healthy learning environment and provide multiple opportunities to promote positive lifelong habits during these pivotal adolescent years in order for students to instill positive habits into adulthood.

Summary

Past research pointed to the importance of creating healthy lifestyle habits early in life to achieve academic success. While young adults do not always elect to make wise choices, many influential health behaviors--alcohol consumption, sleep behaviors and routines, sedentary and exercise habits, and dietary patterns--are all domains that may overlap and affect one another during a student's academic career.

College students may experience lifestyle stress and fatigue from their academic workload that may lead to unhealthy habits and routines. In the study by Hsu, Chiang, & Yang (2014), e-literacy provided by schools mediated a positive correlation of health behaviors,

encouraging colleges to aim at reaching students by way of e-Health literacy education. In addition to providing students with e-literature, colleges may offer varied recreational activities, enhanced sleep conditions, and provide additional healthy eating options to students. Colleges have an obligation to promote the balance of social activities with study hours as a means to combat the negative academic demands and increase educational resources and opportunities for student success.

Chapter 3: Methods and Procedures

Introduction

Many variables could have an impact on college students' academic success. Grade point average (GPA) was one indicator of student achievement and might be influenced by both positive and negative health behaviors. A number of factors might account for a fluctuation in students' GPAs. This study hypothesized that specific health behaviors--alcohol consumption, sleep behaviors and routines, sedentary lifestyle and exercise habits, and dietary patterns and practices--played a role in student achievement. The purpose of this study was to investigate the relationship between academic performance and lifestyle behaviors of first-year students in the dental hygiene program at Madison College in Madison, Wisconsin.

Participants

The sample was comprised of 36 first-year students enrolled in the dental hygiene program at Madison College. The criteria were as follows: 18 years of age or older; full-time student status; and enrolled in the required course, Nutrition and Dental Health. The participating student demographics included two males, 34 females, age 21-32. Ethnicity included Caucasian, Asian, and African American. No participants were excluded based on their gender, ethnicity, or age. A self-reported, voluntary, anonymous questionnaire was distributed to 36 first-year students in the course, Nutrition and Dental Health, at Madison College. The final pool of voluntary participants included 34 students, a 94% completion rate.

Methods

The questionnaire constructed by this researcher consisted of 13 questions. To answer Question 1, students self-reported their current GPAs (see Appendix C, Questionnaire). The

remainder of the Questionnaire consisted of three questions each, inquiring about four specific health behaviors:

- Questions 2-4 Dietary patterns and practices
- Questions 5-7 Sedentary lifestyle and exercise habits
- Questions 8-10 Sleep behaviors and routines
- Questions 11-13 Alcohol consumption

The researcher chose the questions based on previous studies and the hypothesis that the specific health behaviors, --alcohol consumption, sleep behaviors and routines, sedentary lifestyle and exercise habits, and dietary patterns and practices--might account for variations in GPA. The researcher used a t-test while analyzing the data.

Procedures

First-year students in the dental hygiene program at Madison College were asked to complete a two-page, 13-item Questionnaire. No material inducements were provided. Once the proposal was approved by the Institutional Review Board (IRB) at the University of Wisconsin-Platteville (see Appendix A, IRB Human Participants Research Review Protocol: Standard Form) and the IRB Project Coordinator, Teresa Werhane, at Madison College (see Appendix B, Informed Consent), data collection occurred on January 17, 2018, at 1705 Hoffman Street, School of Health Sciences in Room 311 at Madison College, Madison, Wisconsin.

The researcher explained the purpose of the study and asked for volunteers. Students were given an opportunity to ask questions. The researcher distributed the questionnaire to the volunteer students. The students were provided verbal information so they understood that a completed and returned questionnaire implied informed consent. Completed questionnaires, which contained no identifying information, were placed face-down in a large envelope and

stored in a locked cabinet for the duration of the study. Once the questionnaires were completed by the participants and placed in the large envelope, the researcher provided a debriefing (see Appendix C, Questionnaire).

Analysis of data from the completed Questionnaires as well as conclusions drawn from this research, and recommendations for the future appear in Chapter 4.

Chapter 4: Analysis, Conclusions, and Recommendations

Introduction

Numerous studies investigated the impact of health decisions of students and their academic standing in college. In this study health behavior data collected at the beginning of the second semester of the first academic year of a two-year program, indicated a substantial number of dental hygiene students at Madison College participate in harmful behaviors--alcohol consumption, inconsistent sleep behaviors and routines, unpredictable sedentary and exercise habits, and erratic dietary patterns. The results of the study did not reveal a strong likelihood of significance of variation in academic performance directly associated with the surveyed health behaviors. Informed by a lack of variance in GPAs of the student participants following completion of the course, no significant conclusions could be drawn that might link the health behaviors to higher or lower grades. However, institutions such as Madison College remain concerned about retention and graduation rates, as well as individual student's physical and emotional well-being. Future research is worth the effort to identify risk behaviors among Madison College students in hopes of improving their overall health as well as achieving their academic goals as adults.

Supportive Analysis of Literature Review

In summary, student health behaviors--alcohol consumption, sleep behaviors and routines, sedentary lifestyle and exercise habits, and dietary patterns and practices-- may play a significant role in student achievement and academic success. College focus should include agendas to educate and implement programs that increase healthy behaviors such as reduced

alcohol consumption, encourage adequate sleep hours, promote exercise opportunities, and provide nutritious eating options.

By identifying risk factors, for example, binge drinking, college administration could develop interventions to decrease behaviors and attrition rates for students. Based on existing literature, alcohol had both a direct and indirect effect on student academic success by directly affecting GPA and by indirectly suppressing study hours (Wolaver, 2002).

Sleep requirements for young adults were estimated at eight hours per night; yet according to Gaultney (2010), 86% of students reported waking up feeling tired. Students with sleep disorders might suffer from sleep deprivation and experience excessive daytime sleepiness (EDS) (Gaultney, 2010) that in turn might negatively impact GPA as well as impair emotional health.

Both Plato and Aristotle studied the relationship between physical movement and the brain (Mull, et al., 2014). The benefits of exercise were well documented not only on a physical level, but on a cognitive level as well. Providing learners with a variety of exercise opportunities on campus could support both their physical and emotional well-being, directly impacting the academic success of students.

Dietary patterns of college students at the time of this study were influenced by a number of factors. With limited parental control, food choices were driven by self-discipline and peer influence (Deliens et al., 2014a). Taking into account a student's time constraints and limited budget, preparing and consuming healthy meals required time management skills and a supportive network of individuals including the university administration.

Based on these conclusions, this researcher recommends that further studies be conducted to examine the health behaviors of college students in relationship to academic performance.

Comprehensive health promotion programs by college counseling services and administration might help improve the lifestyle choices made by college students and assist them to achieve their educational goals and future success as young adults.

Analysis of Data

Descriptive statistics were used to describe the sample and the percentage, means, and standard deviations of the variables. Results demonstrated no significant difference correlating health behaviors and student achievement of 34 first-year students in the dental hygiene program at Madison College. Of the total sample, the mean GPA was 3.20 (SD = 0.3283). A null hypothesis was verified due to the insignificant variance of GPA. The lack of variance in GPA resulted from students in the program having high entrance level exam scores; the program initially attracts students with an above average GPA. The program requirements are competitive, requiring that students complete upper level science courses with a 76% or better before applying to the program. The strong curriculum attracts students who have already established academic success with above average GPAs. Further research would be beneficial using a broader and larger group of students from health programs at Madison College with a more varied GPA.

A small significance was found in two areas of student reported health behaviors, sleep and sedentary behaviors. Participants with the highest self-reported GPA (3.5-4.0) slept 7 to 8 hours per night verses students with lower self-reported GPA (2.5-2.99) who slept 5 to 6 hours per night. Nearly half, specifically 44% of students, attributed their poor sleep habits to stress, 27% to schedule (work/school/family), while 29% reported good sleep habits. More than half, specifically 53% of participants, with the highest self-reported GPA (3.5-4.0) were involved in sedentary behavior “screen time” (T.V. computer, phone) 1-2 hours per day verses 47% of

participants with lower self-reported GPA (3.0-3.49) were involved in sedentary behavior “screen time” (T.V. computer, phone) 3-4 hours per day.

Dietary behaviors that had no significant relationship to GPA included 65% of students who consumed an average of 1-2 servings of fruits and vegetables per day, 65% consumed sweetened beverages 1-2 servings per week, and 59% consumed “fast food” 1-2 times per week.

Exercise habits that had no significant relationship to GPA included 23% of students who participated in 0 days moderate-intensity activity in the 7 days previous to answering the Questionnaire; 23%, 1-2 days; 29%, 3-4 days; and 23% 5-6 days.

Regarding alcohol consumption, 35 % of students reported never consuming alcohol, 47% consumed alcohol only on the weekends, and 18% of students consumed alcohol once during the week. Fewer than one in five or 18% of students reported “binge drinking” one to two times in the last two weeks. Among this group 6% of students reported skipping class due to previous drinking episodes. Analysis of these numbers, however, did not translate into any significant differences related to student GPA and alcohol consumption.

Conclusion

In conclusion, this study investigated the relationship among four health related behaviors--alcohol consumption, sleep behaviors and routines, sedentary lifestyle and exercise habits, and dietary patterns and practices--and GPA of first-year college students in the dental hygiene program at Madison College. This researcher hypothesized a significant correlation existed between student health behaviors and academic achievement, similar to previous research by Manimony, Payton, & Marzigliano (2008).

However, the findings suggested that no significant correlation existed among student health behaviors and academic performance of first-year students in the dental hygiene program

at Madison College. These findings were inconsistent with previous studies. A major limitation of the study was due to the range of variance in GPA, with a self-reported mean GPA of 3.2. One reason for the lack of variance in student GPA was due to program requirements that first-year students enrolled in the dental hygiene program at Madison College must meet high entrance exam requirements and continued academic excellence to remain in the program. The high academic standards are in accordance with passing both the National and State licensing board examination, a requirement to legally practice dental hygiene.

A small positive correlation was found in sleep habits and sedentary health behaviors and GPA. The students with the highest self-reported GPA (3.5-4.0) sleeping 7 to 8 hours per night verses students with lower self-reported GPA (2.5-2.99) sleeping 5 to 6 hours per night. In regard to sedentary behaviors, 53% of participants with the highest self-reported GPA (3.5-4.0) were involved in sedentary behavior “screen time” (T.V. computer, phone) 1-2 hours per day verses 47% of participants with lower self-reported GPA (3.0-3.49) were involved in sedentary behavior “screen time” (T.V. computer, phone) 3-4 hours per day. The lack of significant difference in other health behaviors may be related to the lack of range of variance in self-reported student GPA. Recommendation for further studies suggest using a broader range of variance of GPA from a larger pool of students at Madison College.

Recommendations

Further studies should continue to investigate health related behaviors and academic performance of all college students at Madison College. It remains to be explored whether programs aimed to promote healthy behavior among college students could have a positive impact on academic performance, especially within other programs at the college.

Despite the limitations in this study, the findings suggest more research may be beneficial for all health programs at Madison College using a multimodal approach addressing overlapping effects of health behaviors (alcohol, sleep, diet, and exercise) and the combined influences they may have on academic performance of students. Furthermore, additional research is needed to determine methods of interventions to increase awareness and assist with strategies to change negative health behaviors once they have been identified.

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APPENDIX A

INSTITUTIONAL REVIEW BOARD APPLICATION

IRB HUMAN PARTICIPANTS RESEARCH REVIEW PROTOCOL: STANDARD FORM

UNIVERSITY OF WISCONSIN-PLATTEVILLE

PART I: DESCRIPTION OF STUDY

Note:

For detailed instructions on completing Parts I and II, refer to pages 20-23 of the IRB Manual.

A. RESEARCH QUESTION:

(Include appropriate citations)

How does alcohol consumption, disrupted sleep patterns, poor eating habits, and a sedentary lifestyle effect academic performance of university students in the Nutrition and Dental Health course? The dental hygiene program at Madison College has a rigorous and demanding curriculum. Student success is a concern because candidates must pass both a practical and national board exam for licensure. Student health behaviors may interfere with achievement and academic performance of university students (Flueckiger, Lieb Meyer, Mata, 2014) This study will examine the relationship between student health behaviors and academic success of dental hygiene students at Madison College.

B. HYPOTHESIS(ES):

Health behaviors such as sleep patterns, eating habits, alcohol consumption, and physical activity of Madison College dental hygiene students may correlate with their academic success, in this course.

C. PARTICIPANT SELECTION:

1. Number of participants: Data will be collected from 1 to 36 students. Each of the students is over 18 years of age. The number of participants is contingent upon the number of students who choose to voluntarily participate in the study. The students are in their second semester of their first year in the dental hygiene program.

2. Human participant pool:

a. Relevant features of the participants you will be using:

The participating pool includes Madison College first year dental hygiene students. Student demographics include 2 males, 34 females, ages 21-32. Ethnicity includes Caucasian, Asian, and African American.

In addition, de-identified data will be collected on approximately 36 students enrolled in Nutrition and Dental Health.

b. Relevant affiliations of your participants:

Madison College, Madison, Wisconsin. Participants will be first year, second semester dental hygiene students, enrolled in Nutrition and Dental Health.

3. If participants are from a legally restricted group:

a. Explain the necessity of using these particular groups:

I am researching student health characteristics in students in a dental hygiene program to determine if unhealthy behaviors impact academic success. The students are all at least 18 years of age.

b. Describe any special arrangements to protect their safety, rights and well-being:

The questionnaire completed by the student will be distributed and collected anonymously. The program director of dental hygiene has given me permission to conduct this survey. The data will be kept in a locked cabinet during the study. This sheet will be kept in a highly confidential file, access only to the researcher. Once the data collection is complete, the questionnaire and all of the identifying information will be shredded.

D. PROCEDURES:

1. Recruitment procedures and material inducements for participation:

Students in the dental hygiene group will be asked to volunteer. No material inducements will be provided.

2. Location of study (data collection):

Data collection will occur in Room 311 at Madison College. The address is 1705 Hoffman Street, School of Health Sciences; Madison, Wisconsin.

3. Personnel and relevant affiliations:

Diane Callahan, a Master's student in the School of Education and an instructor at Madison College, will be the principal investigator. Dr. Richard A. Rogers, School of Education, will serve as faculty sponsor.

4. Information to be gathered and means for collecting and recording data (include citations, if applicable; attach all materials):

The questionnaire will include questions about the following:

Alcohol consumption

Sleep patterns (Television screen time hours, sleep habits and average number of hrs. sleep per night)

Eating habits (Meal patterns, Fruit and vegetable consumption, Sweetened beverage consumption)

Physical activity and current weight

Each of these categories of questions will be compared to the student's current GPA.

5. Step-by-step description of procedure(s), including any materials not described in D.4: Students will be asked to complete the two-page, 13-item questionnaire regarding alcohol consumption, sleep patterns, eating habits, and physical activity. The questions about the behaviors are consistent and clear. Students will also be asked to provide their current GPA. The survey will be anonymous. The researcher will then:

1. Explain the purpose of the research.
2. Ask for student volunteers.
3. Ask the volunteer students to review answer any questions.
4. Distribute the questionnaire to the volunteer students
5. Collect the questionnaire, face-down, by having students place in a large envelope.
6. Then provide debriefing.

6. Proposed design and statistical analysis:

Each of the questions in the two page-long questionnaire will ask about one of the four areas of interest in this study: alcohol consumption, sleep patterns, eating habits, and physical activity. The results for each of the separate questions will be compiled and prepared into a table that is divided by the 4 categories. For example, the three questions about alcohol consumption.

Students will then be divided into two groups: students who answered affirmatively that they did participate in excessive alcohol consumption and those who responded that they did not participate in alcohol consumption.

GPA from students who reported that they did participate in alcohol consumption will be compared to students who did not in a simple t test to see if there is any relationship in this variable.

The same procedure will be done with the 3 questions about disrupted sleep patterns; the 3 questions about eating habits and the 3 questions about physical activity.

Students will be divided into two groups for each of the sub-categories based on their answers on the 3 questions in the category. For example, based on the category, students will be identified as being physically active or not physically active. The two groups of students will then have their average GPA computed for their subgroup. The two groups will then be compared on a t- test.

Each subcategory will follow the same procedure.

The results may then be reviewed to see if there is a relationship between lower GPA and any of the four subcategories of self-reported negative behaviors (alcohol consumption, sleep habits, eating habits, physical activity).

Future research may be able to identify negative related behaviors: i.e. Alcohol consumption and disrupted sleep patterns or lack of physical activity and poor eating habits.

E. REFERENCES:

(for above citations)

Flueckiger, L., Lieb, R., Meyer, A. H., & Mata, J. (2014). How Health Behaviors Relate to Academic Performance via Affect: An Intensive Longitudinal Study. *PLoS ONE*, 9(10). doi:10.1371/journal.pone.0111080

PART II: HUMAN PARTICIPANT PROTECTION

A. POTENTIAL RISKS YOU CAN ANTICIPATE FOR PARTICIPANTS:

1. Describe immediate risks, long-term risks, and rationale for the necessity of such risks, alternatives that were or will be considered, and why alternatives may not be feasible.

There will be no immediate risks to students other than the time and effort required to complete the questionnaire. No long-term risks are foreseen.

2. Describe any potential legal, financial, social, or personal effects on participants of unintentional data disclosure.

Data will be recorded in an anonymous fashion. Consequently, any disclosure of the data, accidental or through breach of security, would not present risk to the participants.

B. SAFEGUARDING PARTICIPANTS' IDENTITY:

1. Where might you present or publish your findings? Will any formal papers or reports result from your project and with whom will they be shared?

A copy of my master's thesis will be published on the website MINDS@UWplatteville. Results may also be presented at appropriate conferences or submitted for publication.

2. What precautions will be taken to safeguard identifiable records of individuals and/or groups? How will confidentiality of data be protected?

Data will be recorded in an anonymous fashion. Consequently, any disclosure of the data, accidental or through breach of security, would not present risk to the participants.

C. EXPECTED BENEFITS FOR PARTICIPANTS (IF ANY) AND/OR SOCIETY:

1. Clarify the potential for new knowledge resulting from this study as well as any benefits directly to the participants.

This research study will benefit both dental hygiene faculty and college administration for continued academic support of all students at Madison College. This data could possibly benefit both current and future students instilling the importance of healthy lifestyle choices during their academic careers.

Ongoing research would benefit students at Madison College by offering continued student support for improved retention and graduation rates and for continued academic success and employment opportunities.

2. Summarize the content of your debriefing.

The debriefing process will occur the first week of the Nutritional and Oral health course, spring semester, and approximately in the second week of January 2018.

The primary researcher will explain the purpose of the study; to assist students achieve academic success by studying and collecting data on student health behaviors, specifically, sleep quantity and quality, alcohol consumption, and exercise and dietary habits.

The primary research will review the student questionnaire for clarification before distribution to volunteers. When all participants have finished completing the materials, the debriefing will be read aloud to them and they will have an opportunity to ask questions. After the study, students will be given an opportunity to view the result.

D. DECEPTION USED IN GATHERING DATA:

Justify the use of any deception in the project. If participants are provided with any untruthful or misleading information, provide a detailed written description of the debriefing.

No deception will occur in the project.

E. INFORMED CONSENT:

Submit a copy of all materials used in the recruitment and selection of participants.

Either submit a copy of the (signed or unsigned) consent form or, if you believe informed consent should be waived for your project, write a justification for your recommendation based on the criteria detailed in Section VII, page 15, of the IRB Manual.

APPENDIX B
INFORMED CONSENT



TO: Teresa Werhane
FROM: Diane Callahan
RE: Request for Permission to Conduct Research at Madison College
DATE: January 17, 2018

In the completion of my master's degree at the University of Wisconsin-Platteville (UWP), I am required to conduct an action/applied research project. I am asking permission to collect data at Madison College. The attached UWP Institutional Review Board (IRB) protocol/proposal describes my study and identifies which students I would like to participate. I am requesting your approval to carry out the study. Once the study is completed, I will share a summary of the results with you.

If you have questions, please feel free to contact me or my faculty sponsor.

Thank you,

A handwritten signature in black ink that reads "Diane Callahan".

Diane Callahan, Researcher

Dr. Richard Rogers, Faculty Sponsor
 Department of Education
 University of Wisconsin-Platteville
 E-mail: dick.a.rogers@gmail.com

I have read the foregoing information. I have had the opportunity to ask questions about it, and any questions that I have asked have been answered to my satisfaction. I consent to this research being conducted at Madison College.

(Printed Name)

(Signature)

(Position Title)

**STUDENT ASSENT FORM FOR PARTICIPATION IN RESEARCH
UNIVERSITY OF WISCONSIN-PLATTEVILLE &
MADISON COLLEGE**

Dear Student:

You are invited to participate in this survey on health behaviors of college students. The purpose of our survey is to explore how health behaviors affect academic performance at Madison College, school of Dental Hygiene. You are being asked to participate in this survey because you are a student in the above program.

Participation in this survey will have absolutely no impact on your grades. The information gathered in this survey will be used to help make Madison College, School of Dental Hygiene, a continued success for students.

Your voluntary completion of the survey constitutes your agreement to participate.

Sincerely,

Diane Callahan, Graduate Student in Education
University of Wisconsin-Platteville
Email: dcallahan@madisoncollege.edu
Faculty Sponsor: Dr. Richard A. Rogers, PhD

Dr. Mark Lausch
Dean, School of Health
608-243-4508
mlausch@madisoncollege.edu

If you have any questions about your treatment as a participant in this study, please call or write either of us or contact:

Barb Barnet
Chair of the UW-Platteville IRB
(608) 342-1942
barnetb@uwplatt.edu

[Teresa Werhane](#)
[IRB Project Coordinator](#)
(608) 243-4236
Twerhane@madisoncollege.edu

**CONSENT FORM FOR PARTICIPATION OF HUMAN PARTICIPANTS IN
RESEARCH
UNIVERSITY OF WISCONSIN – PLATTEVILLE**

PLEASE DO NOT PUT YOUR NAME ANYWHERE ON THE MATERIALS USED IN THIS PROJECT. There is no need to identify yourself.

- 1. Purpose:** The purpose of this research is to gain understanding into health behaviors and academic performance among college students. If you agree to participate, you will be asked to complete the following questionnaire to the best of your ability. The questionnaire should take about 15 minutes to complete.
- 2. Procedure:** After you have completed the anonymous questionnaire, please turn it face down and then wait for the debriefing.
- 3. Time Required:** Participation is expected to take approximately 15 minutes.
- 4. Risks:** There will be no immediate risks to participants other than the time and effort required to participate in the study. No long-term risks are foreseen.
- 5. Benefits:** The knowledge gained from this study could, potentially, contribute to the development of improved student health behaviors and academic success at Madison College.
- 6. Your Rights as a Participant:** Your participation is completely voluntary. The information gathered will be recorded in an anonymous form. Data or summarized results will not be released in any way that could identify you.

At the end of the study, you have the right to a complete explanation (“debriefing”) of the study. If you have questions afterward, please ask your experimenter or contact:

Diane Callahan, Researcher
E-mail: dcallahan@madisoncollege.edu
Dr. Richard A. Rogers, Faculty Sponsor
Department of Education
University of Wisconsin-Platteville
E-mail: dick.a.rogers@gmail.com

At the end of the semester, you may request a summary of the results by contacting the above researcher or faculty sponsor.

7. If you have any questions about your treatment as a participant in this study, please call or write:

Barb Barnet, Chair, UW-Platteville IRB
(608) 342-1942
E-mail: barnetb@uwplatt.edu

APPENDIX C
STUDENT QUESTIONNAIRE



Health Behaviors Among Madison College Students Survey

1. What is your current GPA at Madison College?
 - 3.5-4.0
 - 3.0-3.49
 - 2.5-2.99
 - 2.0-2.49
 - Below a 2.0

2. How many servings of fruits and vegetables do you usually have **per day**?
 - 0 servings per day
 - 1-2 servings per day
 - 3-4 servings per day
 - 5 or more servings per day

3. How many times do you consume sweetened beverages **per day**? (soda, energy or sport drinks)
 - 0 servings per week
 - 1-2 servings per week
 - 3-4 servings per week
 - 5 or more servings per week

4. How many times do you eat fast food **per week**?
 - 0 servings per week
 - 1-2 servings per week
 - 3-4 servings per week
 - 5 or more servings per week

5. How would you describe your weight?
 - Slightly underweight
 - About right
 - Slightly overweight
 - Very overweight

6. Over the past 7 days, on how many days did you engage in moderate-intensity exercise for at least 30 minutes per day?
 - 0 days
 - 1-2 days
 - 3-4 days
 - 5-6 days
 - 7 days

7. How many hours of “screen time” do you participate in **per day**? (TV, computer, phone)
- 0 hours per day
 - 1-2 hours per day
 - 3-4 hours per day
 - 5-6 hours per day
 - 7 or more hours
8. I average _____ hours of sleep **per night**.
- Less than 5 per night
 - 5-6 per night
 - 7-8 per night
 - 9-10 per night
 - 10 or more per night
9. I struggle to stay awake in class;
- Occasionally
 - Often
 - Never
10. My sleep habits are contributed to;
- Stress
 - Schedule
 - Socializing
 - I generally sleep well.
11. How often do you drink alcoholic beverages?
- Never
 - On special occasions
 - Only on the weekends
 - Once per week
 - 3-5 times per week
 - Everyday
12. Over the last **two weeks**, how many times have you had four or more drinks of alcohol in one sitting?
- 0
 - 1-2 times
 - 2-3 times
 - 4-5 times
 - More than 5 times
13. Have you ever skipped or missed class because of drinking?
- Yes
 - No

Thank you for completing this survey. Please remain at your seat for debriefing.

APPENDIX D

DATA BREAKDOWN FROM STUDENT QUESTIONNAIRE

APPENDIX C
DATA BREAKDOWN FROM STUDENT QUESTIONNAIRE
Students Reporting High GPA, 3.5-4.0

1. What is your current GPA at Madison College?

3.5-4.0 (17 students)

3.0-3.49

2.5-2.99

2.0-2.49

Below a 2.0

2. How many servings of fruits and vegetables do you usually have per day?

0 servings per day 6% (1)

1-2 servings per day 65% (11)

3-4 servings per day 23% (4)

5 or more servings per day 6% (1)

3. How many times do you consume sweetened beverages per day? (soda, energy or sport drinks)

0 servings per week 12% (2)

1-2 servings per week 65% (11)

3-4 servings per week 18% (3)

5 or more servings per week 6% (1)

4. How many times do you eat fast food per week?

0 servings per week 30% (5)

1-2 servings per week 59% (10)

3-4 servings per week 6% (1)

5 or more servings per week 6% (1)

5. How would you describe your weight?

- Slightly underweight 6% (1)
- About right 71% (12)
- Slightly overweight 23% (4)
- Very overweight 0% (0)

6. Over the past 7 days, on how many days did you engage in moderate-intensity exercise for at least 30 minutes per day?

- 0 days 23% (4)
- 1-2 days 23% (4)
- 3-4 days 29% (5)
- 5-6 days 23% (4)
- 7 days 0% (0)

7. How many hours of “screen time” do you participate in per day? (TV, computer, phone)

- 0 hours per day 0% (0)
- 1-2 hours per day 53% (9)
- 3-4 hours per day 47% (8)
- 5-6 hours per day 0% (0)
- 7 or more hours 0% (0)

8. I average _____ hours of sleep per night.

- Less than 5 per night 0% (0)
- 5-6 per night 12% (2)
- 7-8 per night 82% (14)
- 9-10 per night 6% (1)
- 10 or more per night 0% (0)

9. I struggle to stay awake in class;

Occasionally 47% (8)

Often 0% (0)

Never 53% (9)

10. My sleep habits are contributed to;

Stress 59% (10)

Schedule (work/school/family) 24% (4)

Socializing 0% (0)

I generally sleep well 17% (3)

11. How often do you drink alcoholic beverages?

Never 35% (6)

Only on the weekends 47% (8)

Once per week 18% (3)

3-5 times per week 0% (0)

Everyday 0% (0)

12. Over the last two weeks, how many times have you had four or more drinks of alcohol in one sitting?

0 82% (14)

1-2 times 18% (3)

2-3 times 0% (0)

4-5 times 0% (0)

More than 5 times 0% (0)

13. Have you ever skipped or missed class because of drinking?

Yes 6% (1)

No 94% (16)

APPENDIX C
DATA BREAKDOWN FROM STUDENT QUESTIONNAIRE
Students Reporting Medium GPA, 3.0-3.49

1. What is your current GPA at Madison College?

- 3.5-4.0
- 3.0-3.49 14 students
- 2.5-2.99
- 2.0-2.49
- Below a 2.0

2. How many servings of fruits and vegetables do you usually have per day?

- 0 servings per day 0% (0)
- 1-2 servings per day 93% (12)
- 3-4 servings per day 7% (1)
- 5 or more servings per day 0% (1)

3. How many times do you consume sweetened beverages per day? (soda, energy or sport drinks)

- 0 servings per week 14% (2)
- 1-2 servings per week 79% (11)
- 3-4 servings per week 0%
- 5 or more servings per week 7% (1)

4. How many times do you eat fast food per week?

- 0 servings per week 36% (5)
- 1-2 servings per week 50% (7)
- 3-4 servings per week 14% (2)
- 5 or more servings per week (0)

5. How would you describe your weight?

- Slightly underweight 0% (0)
- About right 29% (4)
- Slightly overweight 57% (8)
- Very overweight 14% (2)

6. Over the past 7 days, on how many days did you engage in moderate-intensity exercise for at least 30 minutes per day?

- 0 days 29% (4)
- 1-2 days 29% (4)
- 3-4 days 21% (3)
- 5-6 days 14% (2)
- 7 days 7% (1)

7. How many hours of “screen time” do you participate in per day? (TV, computer, phone)

- 0 hours per day
- 1-2 hours per day 14% (2)
- 3-4 hours per day 64% (9)
- 5-6 hours per day 14% (2)
- 7 or more hours 7% (1)

8. I average _____ hours of sleep per night.

- Less than 5 per night 0% (0)
- 5-6 per night 29% (4)
- 7-8 per night 57% (8)
- 9-10 per night 14% (2)
- 10 or more per night 0% (0)

9. I struggle to stay awake in class;

Occasionally 43% (6)

Often 0% (0)

Never 57% (8)

10. My sleep habits are contributed to;

Stress 29% (4)

Schedule (work/school/family) 21% (3)

Socializing 0% (0)

I generally sleep well 50% (7)

11. How often do you drink alcoholic beverages?

Never 21% (3)

Only on the weekends 50% (7)

Once per week 14% (2)

3-5 times per week 14% (2)

Everyday 0% (0)

12. Over the last two weeks, how many times have you had four or more drinks of alcohol in one sitting?

0 50% (7)

1-2 times 36% (5)

2-3 times 7% (1)

4-5 times 0% (0)

More than 5 times 7% (1)

13. Have you ever skipped or missed class because of drinking?

Yes 0% (0)

No 100% (14)

APPENDIX C
DATA BREAKDOWN FROM STUDENT QUESTIONNAIRE
Students Reporting Low GPA, 2.5-2.99

1. What is your current GPA at Madison College?

- 3.5-4.0
- 3.0-3.49
- 2.5-2.99 3 students
- 2.0-2.49
- Below a 2.0

2. How many servings of fruits and vegetables do you usually have per day?

- 0 servings per day 0% (0)
- 1-2 servings per day 100% (3)
- 3-4 servings per day 0% (0)
- 5 or more servings per day 0% (0)

3. How many times do you consume sweetened beverages per day? (soda, energy or sport drinks)

- 0 servings per week 67% (2)
- 1-2 servings per week 33% (1)
- 3-4 servings per week 0% (0)
- 5 or more servings per week 0% (0)

4. How many times do you eat fast food per week?

- 0 servings per week 0% (0)
- 1-2 servings per week 100% (3)
- 3-4 servings per week 0% (0)
- 5 or more servings per week 0% (0)

5. How would you describe your weight?

- Slightly underweight 0% (0)
- About right 33% (1)
- Slightly overweight 33% (1)
- Very overweight 33% (1)

6. Over the past 7 days, on how many days did you engage in moderate-intensity exercise for at least 30 minutes per day?

- 0 days 33% (1)
- 1-2 days 33% (1)
- 3-4 days 0% (0)
- 5-6 days 33% (1)
- 7 days 0% (0)

7. How many hours of “screen time” do you participate in per day? (TV, computer, phone)

- 0 hours per day 0% (0)
- 1-2 hours per day 67% (2)
- 3-4 hours per day 0% (0)
- 5-6 hours per day 33% (1)
- 7 or more hours 0% (0)

8. I average _____ hours of sleep per night.

- Less than 5 per night 0% (0)
- 5-6 per night 100% (3)
- 7-8 per night 0% (0)
- 9-10 per night 0% (0)
- 10 or more per night 0% (0)

9. I struggle to stay awake in class;

Occasionally 33% (1)

Often 33% (1)

Never 33% (1)

10. My sleep habits are contributed to;

Stress 33% (1)

Schedule (work/school/family) 67% (2)

Socializing 0% (0)

I generally sleep well 0% (0)

11. How often do you drink alcoholic beverages?

Never 33% (1)

Only on the weekends 33% (1)

Once per week 0% (0)

3-5 times per week 33% (1)

Everyday 0% (0)

12. Over the last two weeks, how many times have you had four or more drinks of alcohol in one sitting?

0 0% (0)

1-2 times 33% (1)

2-3 times 7% (1)

4-5 times 33% (1)

More than 5 times 0% (0)

13. Have you ever skipped or missed class because of drinking?

Yes 0% (0)

No 100% (3)