Health and Academic Performance
Minnesota Undergraduate Students

BOYNTON
HEALTH SERVICE

UNIVERSITY OF MINNESOTA

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Introduction

Q: What do these health conditions and behaviors have in common?

- Lack of Health Insurance
- Gambling
- Tobacco Use
- Alcohol Use
- Marijuana Use
- Chronic Health Condition
- Mental Health Condition
- Lack of Sleep
- Lack of Exercise

A: They are all associated with lower grade point averages among Minnesota undergraduate students.

The data presented in this report document clearly a link between the health of Minnesota undergraduate college students and their academic achievement. Few would argue that health has a powerful influence on an individual's ability to function in the world. Those who struggle with health issues or engage in unhealthy behaviors face many additional barriers in their daily lives.

For college students, health issues that affect their ability to attend class, complete projects, write papers, or take tests can have a profound impact on their ability to succeed academically.

College students are often considered to be in the prime of their life and free of health problems. As a result, there have been limited efforts and funding devoted to gathering information about college student health and health-related behaviors, other than in the areas of alcohol and drug use. Most notably, there is a lack of data on the association between academic achievement and health and health-related behaviors.

Over the past three years, Boynton Health Service has made a concerted effort to expand knowledge of health and health-related behaviors among students attending postsecondary institutions in Minnesota. During this time, Boynton Health Service has worked with 32 two- and four-year public and private postsecondary institutions to gather quality data that provide insights into the health and well-being of students attending these schools. These data offer a window into the health of all students attending Minnesota postsecondary institutions.

In spring 2007, Boynton Health Service conducted a comprehensive survey of a randomly selected group of college students attending 14 Minnesota two- and four-year public and private schools. The data captured reveal a variety of health and health-related factors associated with academic performance.

This report highlights the following factors found to influence the academic performance of undergraduate students: physical and mental health, health insurance, chronic conditions, acute conditions, mental health, perception of stress and ability to manage stress, experience of stressors, financial issues, and health-related behaviors such as tobacco use, alcohol use, marijuana and other illicit drug use, gambling, nutrition, physical activity, and sleep.

Boynton Health Service hopes these survey findings will spur discussions among college and university faculty, staff, and administrators centering on possible points of intervention, appropriate allocation of resources, and development of programs to address the health needs of their students.

Survey
Methodology

During February and March 2007, a random sample of 24,018 students from 14 Minnesota colleges and universities was selected to participate in the College Student Health Survey developed by Boynton Health Service at the University of Minnesota (see Appendix 1 for list of participating schools). The survey addressed the areas of health insurance, health care utilization, mental health, tobacco use, alcohol and other drug use, personal safety, financial health, nutrition, physical activity, and sexual health and included questions relating to the impact of health and personal issues on academic performance.

Participants were contacted through multiple mailings and e-mails:

- Postcards were sent to randomly selected students notifying them of their eligibility to participate in the survey.

- Students at eleven schools were e-mailed a link to an online version of the survey, and students at three schools received a paper survey via U.S. Mail.

- Reminder postcards/multiple e-mails were sent to all students to encourage participation.

- All students received a minimum of two invitations to participate in the survey.

As an incentive, all students who responded to the survey received a $5 gift card and entry into a drawing for gift certificates valued at $3,000 (one), $1,000 (one), and $500 (two) at a variety of stores.

2007 College Student Health Survey Methodology Highlights

- **24,018** students from 14 Minnesota colleges and universities were randomly selected to participate in this study.

- **9,931** completed and returned the survey.

- **149** surveys were undeliverable.

- **41.6%** was the overall 2007 College Student Health Survey response rate. (Surveys determined to be undeliverable were removed from the original sample size.)

2007 College Student Health Survey Postcard

Analysis

The information presented in this report is limited to only those students who indicated they were undergraduates. Since the survey collected data from both two-year and four-year schools, separate analysis was done for each type of institution. The evaluation revealed no significant differences between undergraduate students attending two-year or four-year schools. Because the associations with various health issues and health-related behaviors were found to be similar, the results presented in this report are based on the aggregate data from undergraduate students at all schools that participated in the 2007 College Student Health Survey. Refer to Appendices 2 and 3 for demographic characteristics of surveyed schools.

Measuring Academic Performance

The 2007 College Student Health Survey captured two measures of academic performance. Survey respondents reported their cumulative grade point average (GPA), which is based on a 4-point scale (A=4.00, B=3.00, C=2.00, and D=1.00). Students recorded their exact cumulative GPA, for example, 3.27 or 2.95. Differences seen in mean grade point averages among various groups were tested for statistical significance. The p-value is a statistic that denotes whether the difference between two or more groups is likely to occur solely by chance. The p-value is a probability with a value ranging from zero to one. A p-value can indicate whether a difference between means is statistically significant, but a p-value can not indicate whether the difference is of practical importance. In some cases, the change in mean GPA may seem insignificant–for example, a change from 3.27 to 3.11–but considering that the calculation is based on thousands of students, a seemingly small shift in mean GPA is actually quite substantial given that it is a shift at the population level. Statistically significant differences in mean GPA are noted within a graph or within the text when appropriate.

The second measure of academic performance stems from student responses to the question: During the past 12 months, how have the following affected your academic performance? (Please select the most serious outcome for each issue.) The question listed 21 issues and offered the following possible response options: I do not have the issue/not applicable; I have this issue, but my academics have not been affected; received a lower grade on an exam or important project; received a lower grade in the course; received an incomplete in the course; dropped the course; dropped out of school/took a leave of absence (see pages 11-14).

Results

Quality of Life: Physical Health and Mental Health

The first four graphs present the results from the following survey questions related to quality of life:

- Thinking about your physical health, which includes physical illness and injury, for how many days during the past 30 days was your physical health not good?

- Thinking about your mental health, which includes stress, depression, and problems with emotions, for how many days during the past 30 days was your mental health not good?

Survey respondents were asked to select the number of days within the past 30 days, ranging from 0 to 30, that they experienced the health issue in question. These two quality of life questions were patterned after questions used by the Centers for Disease Control and Prevention (CDC) in its state-based Behavioral Risk Factor Surveillance System (BRFSS) and its National Health and Nutrition Examination Survey (NHANES).[1] These questions have been used to identify health disparities and track population trends. These quality of life data are used to assess achievement of two of the CDC's major Healthy People 2010 goals: increase quality and years of healthy life and eliminate health disparities.[1]

Students who report experiencing three or more days of poor physical health within the past 30 days also report a lower grade point average (GPA). Students who report three or more days of poor physical health have a GPA of **3.20** while students who report two or fewer days of poor physical health have a mean GPA of **3.27** (p<0.0001).

Poor Physical Health and Grade Point Average

Y-axis: Grade Point Average
X-axis: Number of Days–Past 30 Days

0	1-2	3-5	6-10	11-30
3.27	3.28	3.22	3.19	3.11

More than two-fifths (**43.9%**) of survey respondents report three or more days of poor physical health within the past 30 days.
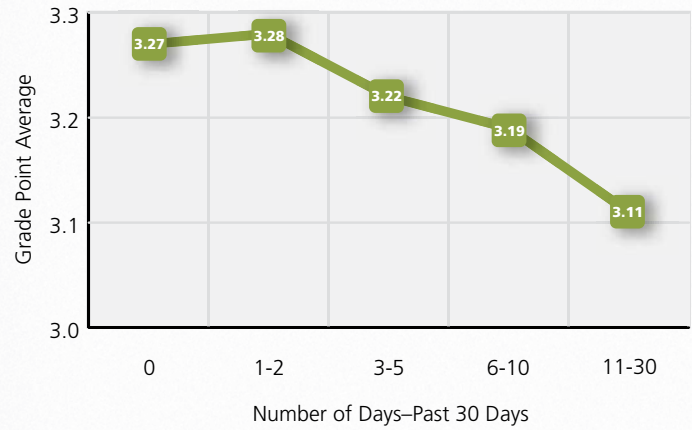
Percent of Students Who Report Poor Physical Health

Y-axis: Percent
X-axis: Number of Days–Past 30 Days

0	1-2	3-5	6-10	11-30
27.8	28.3	25.7	11.4	6.8
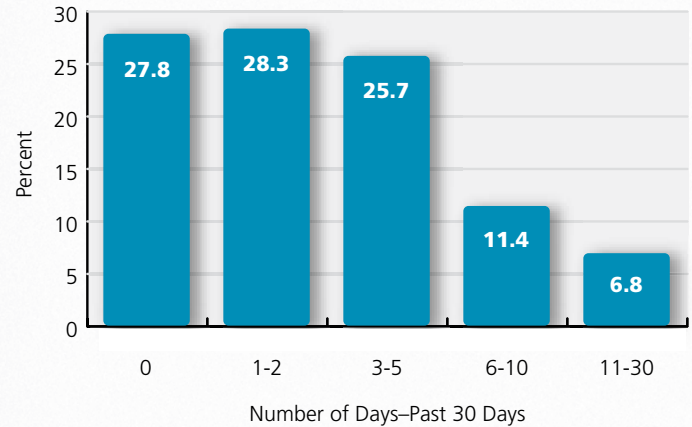
Poor Mental Health and Grade Point Average
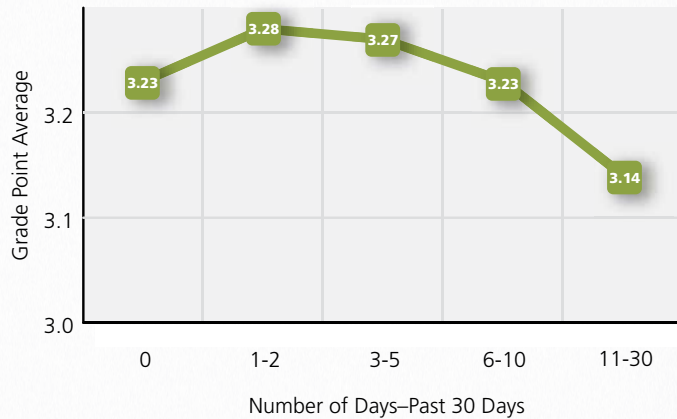
After 11 days of poor mental health within the past 30 days, grade point average decreases as the number of days of poor mental health increases. Students who report 11 or more days of poor mental health have a lower mean GPA than students who report 10 or fewer days of poor mental health (**3.14** vs. **3.26**, respectively, p<0.0001).

Percent of Students Who Report Poor Mental Health
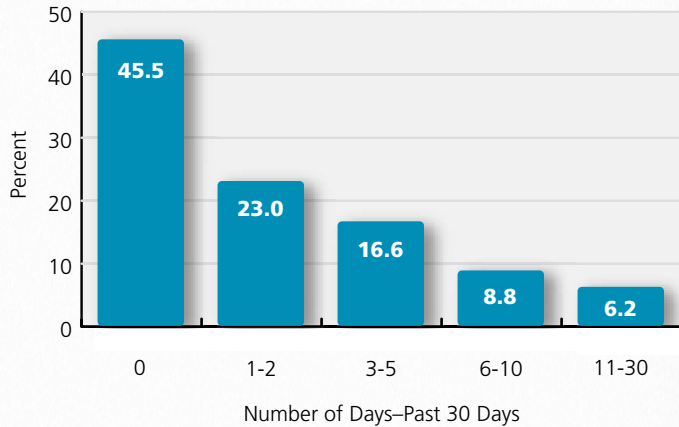
Approximately one in six students (**16.1%**) report experiencing 11 or more days of poor mental health within the past 30 days.

Results

Diagnosed Chronic, Acute, and Mental Health Conditions

Survey respondents were asked to report whether they have been diagnosed with selected health conditions within their lifetime and within the past 12 months. A total of 37 conditions could be chosen (see Appendix 4). For the purpose of this report, these health conditions are grouped into three categories: chronic, acute, and mental health.

Students who report being diagnosed with a chronic health condition within the past 12 months have significantly lower mean grade point averages compared to students who were not diagnosed with a chronic health condition within the past 12 months (p= 0.001). Students who report being diagnosed with a chronic condition within their lifetime and those who were never diagnosed with a chronic condition have the same mean grade point average. Further analysis shows that more than half (**51.6%**) of students report being diagnosed with a chronic condition within their lifetime, and approximately one-quarter (**24.4%**) of students report being diagnosed with a chronic condition within the past 12 months.

For a list of chronic health conditions, see Appendix 4.

Diagnosed Chronic Health Condition and Grade Point Average

*Note: The mean grade point average for students diagnosed with a chronic condition within their lifetime excludes students who report they were diagnosed within the past 12 months.

Students who report being diagnosed with an acute health condition within the past 12 months have lower mean grade point averages compared to students who were not diagnosed with an acute health condition within the past 12 months (p= 0.05). Nearly one in five (**18.0%**) students report they have been diagnosed with an acute condition within the past 12 months.

For a list of acute health conditions, see Appendix 4.

Diagnosed Acute Health Condition and Grade Point Average
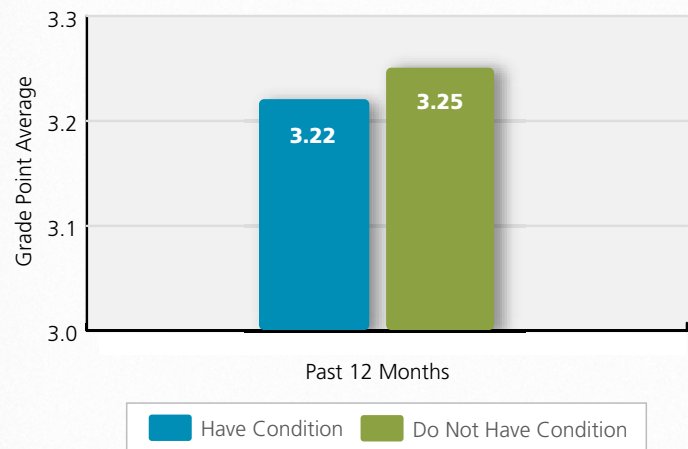
Diagnosed Mental Health Condition and Grade Point Average
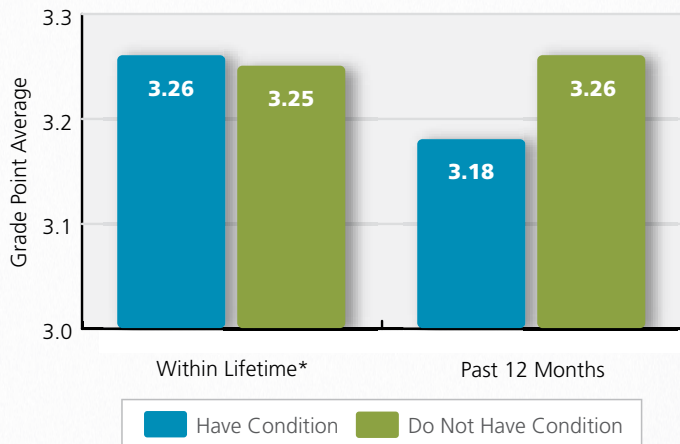
*Note: The mean grade point average for students diagnosed with a mental health condition within their lifetime excludes students who report they were diagnosed within the past 12 months.
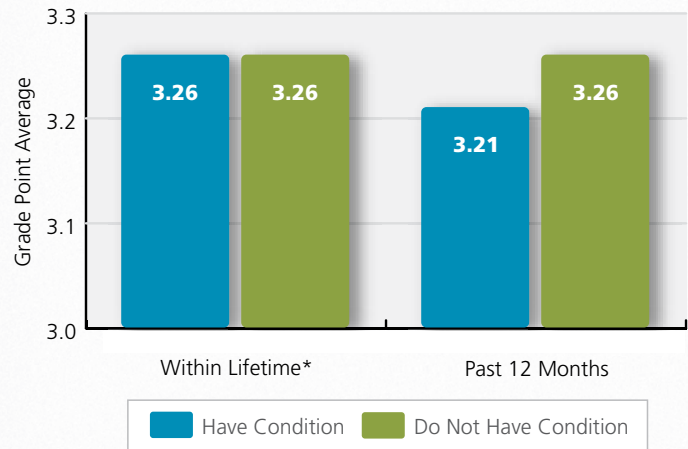
Students who report being diagnosed with a mental health condition within the past 12 months have lower mean grade point averages than students who were not diagnosed with a mental health condition within the past 12 months (p<0.0001). Students who report being diagnosed with a mental health condition within their lifetime and those who were never diagnosed with a mental health condition have similar mean GPAs.

Among all students surveyed, **27.1%** report being diagnosed with a mental health condition within their lifetime, and **15.6%** report being diagnosed with a mental health condition within the past 12 months.

For a list of mental health conditions, see Appendix 4.

Results

Health Insurance

The survey examined whether there is a relationship between students' health insurance status and their academic performance.

The following survey question related to health care coverage:

Other than health care service provided at your educational institution, do you have additional health insurance coverage?

Response options:

- Yes, I purchase health insurance through my educational institution
- Yes, through my parents' health insurance plan
- Yes, I purchase another health insurance plan
- No, I do not have health insurance
- Don't know

Students with health insurance have a significantly higher mean GPA compared to students without health insurance (**3.25** vs. **3.17**, respectively, p<0.0001).

Health Insurance Status and Grade Point Average

Among survey respondents, **88.5%** indicate they have health insurance, **9.3%** indicate they lack health insurance, and **2.2%** report they are unsure of their health insurance status.
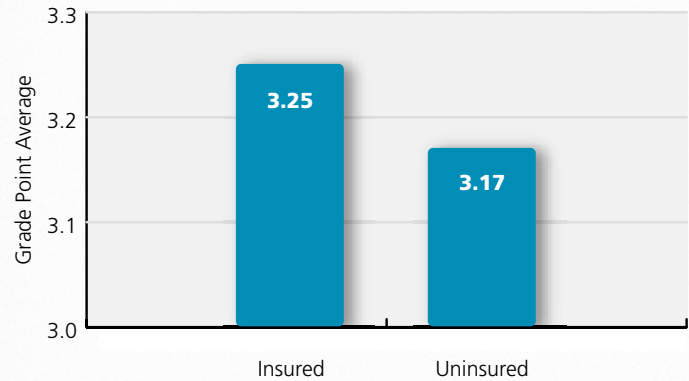
Percent of Students by Health Insurance Status
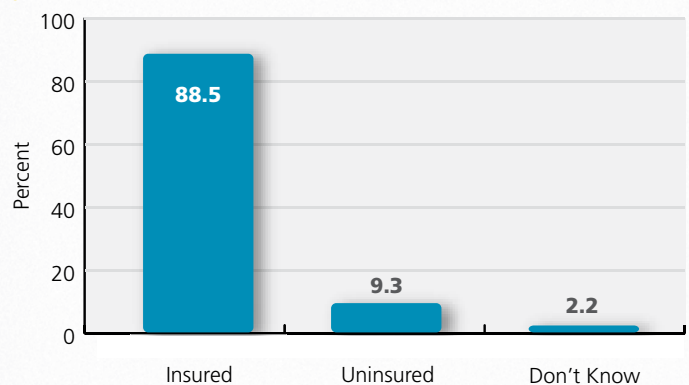
Results

Impact of Health and Personal Issues on Academic Performance

In addition to examining some broad measures of health and their impact on grade point average, the survey looked at specific health and personal issues that may affect students' academic performance.

The following survey question related to conditions affecting academic performance:

During the past 12 months, how have the following affected your academic performance? (Please select the most serious outcome for each issue)

Response options:

- I do not have this issue/not applicable
- I have this issue–my academics have not been affected
- Received a lower grade on an exam or important project
- Received a lower grade in the course
- Received an incomplete in the course
- Dropped the course
- Dropped out of school/took a leave of absence

The graph displays the percentage of all students who report having each health or personal issue (bar on the left side) and the percentage of all students who report the issue affected their academic performance (bar on the right side) within the past 12 months. The percentages are based on all students who responded to the survey question.

The condition impacting academic performance most frequently is stress, with approximately one-third (**32.9%**) of students reporting it affected their academic performance. The condition with the second highest frequency is sleep difficulties, with one-fifth (**20.0%**) of students indicating it affected their academic performance. The results demonstrate the magnitude of the impact health and personal issues have on the academic performance of the entire student population.

Prevalence of Health and Personal Issues

Health and Personal Issues–Past 12 Months	Percent of All Students Who Report They Have Issue	Percent of All Students Who Report Issue Affected Their Academics
Stress	69.9	32.9
Sleep Difficulties	40.8	20.0
Concern for Troubled Friend/Family Member	42.4	15.8
Relationship Issues	34.8	14.1
Excessive Computer/Internet Use	30.4	13.0
Financial Difficulties	44.0	12.8
Mental Health Issues	21.5	12.3
Upper Respiratory Infection	36.5	11.5
Alcohol Use	32.8	7.5
Learning Disability/ADD	7.2	4.3
Moved/Changed Residence	21.5	3.8
Drug Use (Other Than Alcohol)	6.5	2.2
Serious Injury	4.6	2.0
Allergies	29.7	1.8
Chronic Conditions	10.3	1.8
Mononucleosis	3.1	1.6
Pregnancy (Yours/Partner's)	3.4	1.5
Eating Disorder/Problems	4.6	1.2
Urinary Tract Infection	7.6	1.0
Sexual Assault	1.7	0.9
Sexually Transmitted Infection	2.2	0.4

Percent

- Percent of All Students Who Report They Have Issue
- Percent of All Students Who Report Issue Affected Their Academics

Impact of Health and Personal Issues on Academic Performance

The graph displays the percentage of impact a given health or personal behavior had on academic performance among students who experienced each issue within the past 12 months. Among students who report having a learning disability, for example, **59.4%** indicate the issue affected their academic performance. Among students who report they have allergies, only **6.0%** report the issue affected their academic performance.

The findings demonstrate the profound impact health and personal issues have on academic performance.

Health and Personal Issues–Past 12 Months	Percent
Learning Disability/ADD	59.4
Mental Health Issues	57.2
Mononucleosis	51.9
Sexual Assault	49.3
Sleep Difficulties	49.1
Stress	47.0
Pregnancy (Yours/Partner's)	43.9
Serious Injury	43.4
Excessive Computer/Internet Use	42.9
Relationship Issues	40.5
Concern for Troubled Friend/Family Member	37.2
Drug Use (Other Than Alcohol)	34.1
Upper Respiratory Infection	31.6
Financial Difficulties	29.1
Eating Disorder/Problems	24.9
Alcohol Use	23.0
Sexually Transmitted Infection	18.3
Moved/Changed Residence	17.7
Chronic Conditions	17.4
Urinary Tract Infection	12.8
Allergies	6.0

0.0 — 100.0

Among Students With Issue–Percent Who Report Issue Affected Their Academics

Among Students With Issue–Percent Who Report Issue Did Not Affect Their Academics

Students who report a specific health or personal issue affected their academic performance within the past 12 months usually have lower mean grade point averages than students who report not having the issue within the past 12 months. There appears to be a consistent relationship between students' perception that their academic performance has been affected and a lower mean grade point average.

Further analysis reveals that the mean grade point averages of students who report having an issue but that the issue did not affect their academic performance are similar to the mean GPAs of students who report they do not have the issue.

The only exceptions are for the following issues: financial difficulties, alcohol use, learning disability/ADD, and drug use. For these four issues, students who report having the issue but that it did not affect their academic performance have lower mean GPAs than students who report they do not have the issue (p<0.05).

Health and Personal Issues and Grade Point Average

Health or Personal Issue*	Grade Point Average	
	Do Not Have Issue	Have Issue and Issue Affected Academics
Stress	3.23	3.12
Sleep Difficulties	3.27	3.08
Concern for Troubled Friend/Family Member	3.25	3.08
Relationship Issues	3.25	3.10
Excessive Computer/Internet Use	3.27	3.04
Financial Difficulties	3.28	3.03
Mental Health Issues	3.25	3.08
Upper Respiratory Infection	3.23	3.12
Alcohol Use	3.28	2.92
Learning Disability/ADD	3.26	2.93
Moved/Changed Residence	3.24	3.05
Drug Use (Other Than Alcohol)	3.25	2.94
Serious Injury	3.25	3.01
Allergies	3.24	3.04
Chronic Conditions	3.24	3.17
Mononucleosis	3.24	3.19
Involvement in Pregnancy–Male	3.14	3.03
Involvement in Pregnancy–Female	3.30	3.01
Eating Disorder/Problems	3.24	3.13
Urinary Tract Infection	3.24	3.08
Sexual Assault–Male	3.15	3.22
Sexual Assault–Female	3.30	3.17
Sexually Transmitted Infection	3.24	3.23

Difference p<0.05 Compared to Having the Issue vs. Not Having the Issue
Difference p<0.0001 Compared to Having the Issue vs. Not Having the Issue
Difference Is Not Statistically Significant

*Note: Order of issues is based on their prevalence among students.

Results

Stress

Approximately one-third (**32.8%**) of students report stress affected their academic performance.

Three questions in the survey addressed the issue of stress. Two questions specifically assessed students' perception of the level of stress in their life and of their ability to manage the stress they were experiencing. Students were asked to rate their perceived stress level in the past 30 days on a scale of 1 to 10, with 1 representing low stress and 10 representing high stress. Students were also asked to rate their ability to manage the stress they experienced in the past 30 days on a scale of 1 to 10, with 1 indicating ineffective stress management and 10 indicating effective stress management.

Students were also asked if they had experienced various mental health stressors within the past 12 months. From a selection of 18 stressors (see list on page 18), they were asked to mark all that apply.
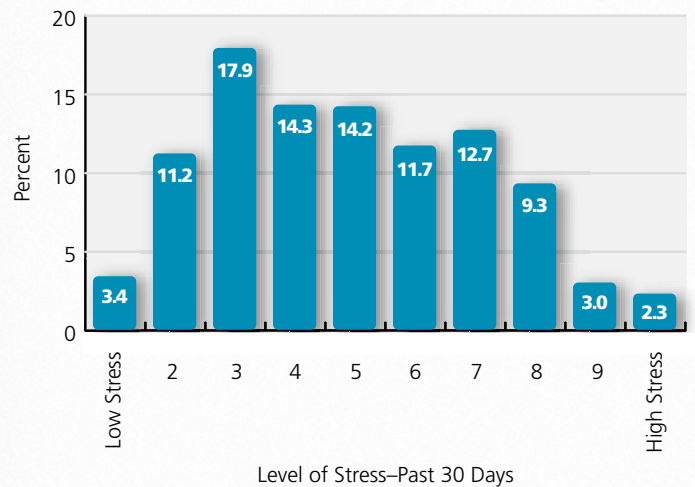
Survey results revealed no documented relationship between students' reported stress level and their mean grade point averages.
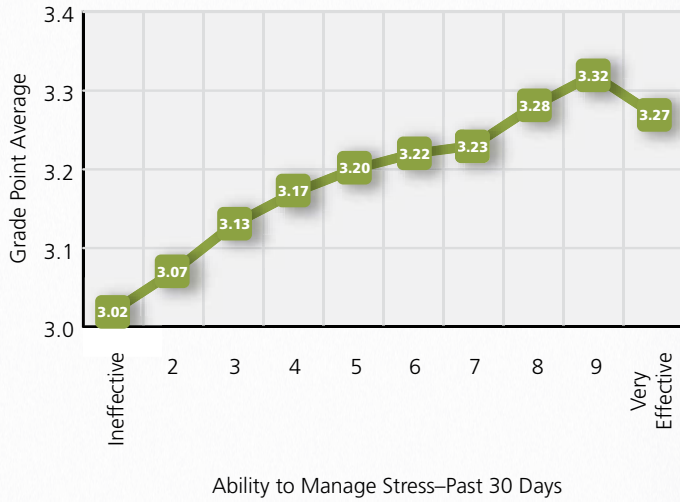
Perceived Stress Level and Grade Point Average

One a scale of 1 to 10, approximately three out of five (**61.0%**) students rate their stress level within the past 30 days as 5 or less.
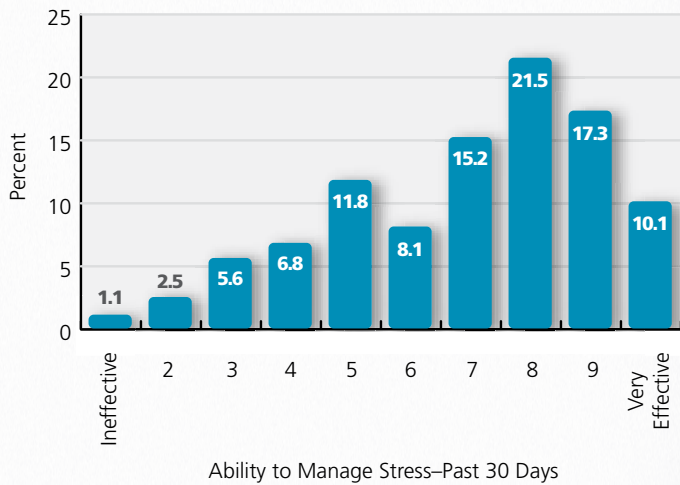
Percent of Students by Perceived Stress Level

Perceived Ability to Manage Stress and Grade Point Average

Grade Point Average vs. Ability to Manage Stress–Past 30 Days (Ineffective to Very Effective):
- Ineffective: 3.02
- 2: 3.07
- 3: 3.13
- 4: 3.17
- 5: 3.20
- 6: 3.22
- 7: 3.23
- 8: 3.28
- 9: 3.32
- Very Effective: 3.27

Students who rate their ability to manage the stress they experienced in the past 30 days higher on the effectiveness scale also have higher mean grade point averages ($p < 0.0001$).

Percent of Students by Perceived Ability to Manage Stress

Percent of students vs. Ability to Manage Stress–Past 30 Days (Ineffective to Very Effective):
- Ineffective: 1.1
- 2: 2.5
- 3: 5.6
- 4: 6.8
- 5: 11.8
- 6: 8.1
- 7: 15.2
- 8: 21.5
- 9: 17.3
- Very Effective: 10.1

On a scale of 1 to 10, almost one-half (**48.9%**) of students rate their ability to manage their stress in the past 30 days as an 8 or above, indicating they perceive their ability to manage their stress as quite effective.
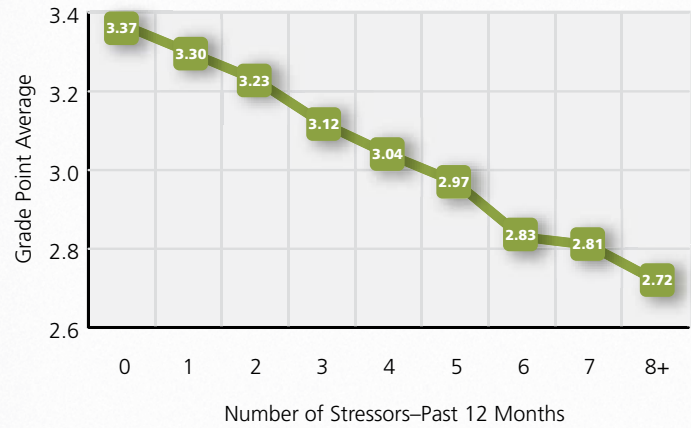
As the number of mental health stressors experienced over the past 12 months increases, mean grade point average decreases (p≤ 0.0001).

Number of Mental Health Stressors and Grade Point Average

Almost three-fourths (**74.8%**) of students report experiencing two or fewer mental health stressors within the past 12 months.
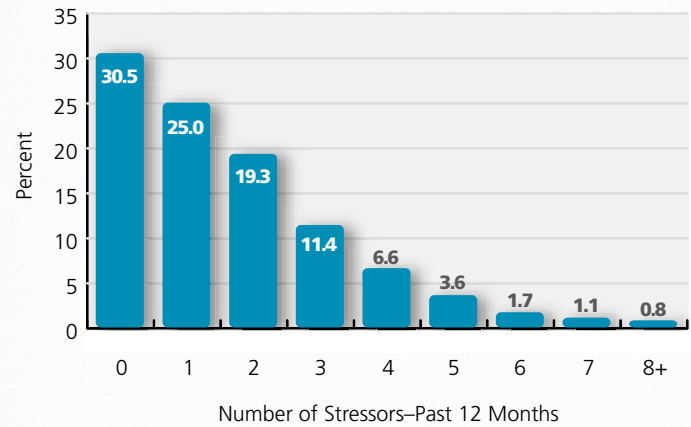
Percent of Students by Reported Mental Health Stressors

Mental Health Stressor List

Getting Married

Failing a Class

Serious Physical Illness of Someone Close to You

Death of Someone Close to You

Being Diagnosed as Having a Serious Physical Illness

Being Diagnosed as Having a Mental Illness

Divorce or Separation From Your Spouse

Termination of a Personal Relationship
(Not Including Marriage)

Attempted Suicide

Being Put on Academic Probation

Excessive Credit Card Debt

Excessive Debt Other Than Credit Card

Being Arrested

Being Fired or Laid Off From a Job

Roommate/Housemate Conflict

Parental Conflict

Lack of Health Care Coverage

Issues Related to Sexual Orientation

Results

Sleep

One-fifth (**20.0%**) of students report that sleep difficulties affected their academic performance. Students who do not experience sleep difficulties have a mean GPA of **3.27**, whereas students who do experience the problem and say that it affected their academic work have a mean GPA of **3.08**.

The following survey question related to sleep:

On how many of the past seven days did you get enough sleep so that you feel rested when you wake up in the morning?

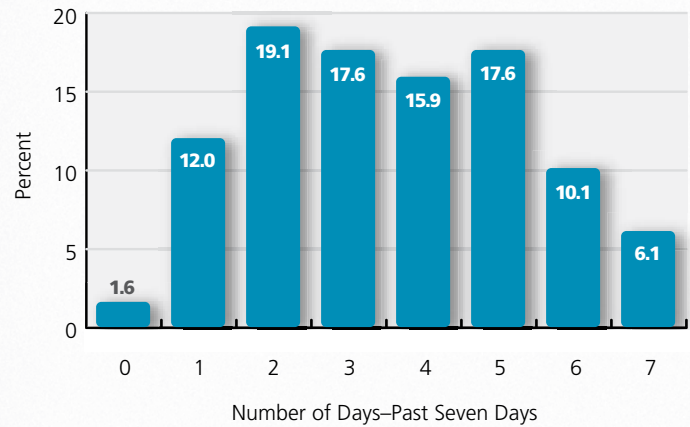Response options ranged from 0 to 7 days.

Students who report receiving adequate sleep on three or fewer days over the past seven days have lower mean grade point averages than those who report receiving adequate sleep on four or more days over the past seven days (**3.22** vs. **3.26**, respectively, p=0.0005). Students who report receiving adequate sleep on six or seven days within the previous week report the highest mean GPAs. These students have higher mean GPAs than students who report receiving adequate sleep on only four or five days within the previous week (**3.29** vs. **3.25**, respectively, p=0.0001).

Approximately one-half (**50.3%**) of students report they received adequate sleep on three or fewer days over the previous seven-day period. Only **16.2%** of students indicate they received adequate sleep on six or seven days during the week prior to taking the survey.

Days of Adequate Sleep and Grade Point Average

Grade Point Average

3.23 3.22 3.22 3.22 3.25 3.25 3.30 3.29

Number of Days–Past Seven Days
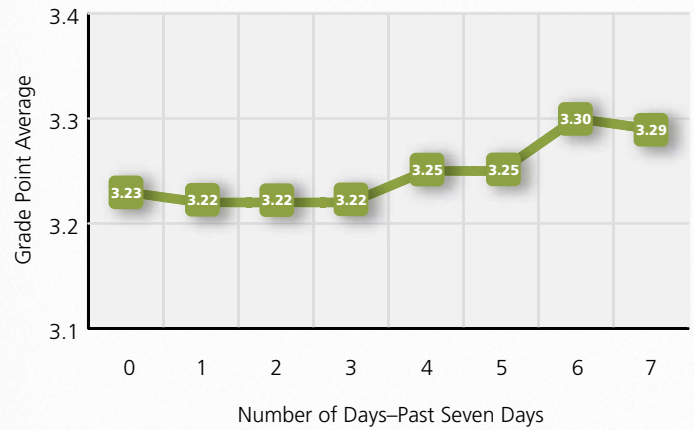
Percent of Students by Reported Days of Adequate Sleep

Percent

1.6 12.0 19.1 17.6 15.9 17.6 10.1 6.1

Number of Days–Past Seven Days

Results

Gambling

Students' gambling behavior affects their academic performance.

The following survey question pertained to engagement in gambling behavior:

Over the past 12 months, how often have you engaged in any form of gambling (online, casino, poker, slot machine, lottery, etc.)?

Response options:

- Never
- Once a Year
- 2-6 Times a Year
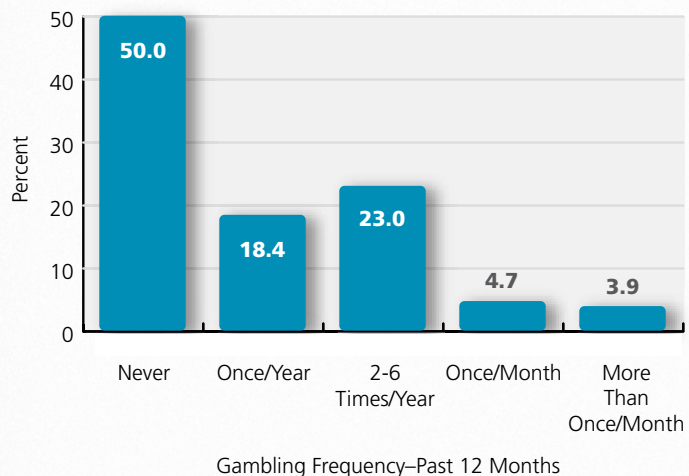- Once a Month
- More Than Once per Month

Students who report they engaged in gambling within the past 12 months have lower mean grade point averages than students who indicate they did not engage in the activity within the past 12 months (**3.19** vs. **3.29**, respectively, p<0.0001). Grade point average decreases as gambling frequency increases.

Gambling and Grade Point Average

Grade Point Average

- Never: 3.29
- Once/Year: 3.25
- 2-6 Times/Year: 3.18
- Once/Month: 3.12
- More Than Once/Month: 3.02

Gambling Frequency–Past 12 Months

Half of students (**50.0%**) report engaging in gambling within the past 12 months. Fewer than one in ten (**8.6%**) students engage in gambling one time per month or more.

Percent of Students by Gambling Frequency

Percent

- Never: 50.0
- Once/Year: 18.4
- 2-6 Times/Year: 23.0
- Once/Month: 4.7
- More Than Once/Month: 3.9

Gambling Frequency–Past 12 Months

Results

Injury

Students who report that a serious injury within the past 12 months affected their academic performance have a mean grade point average of **3.01**, compared to a mean grade point average of **3.25** among students who did not experience a serious injury.

In the 2007 College Student Health Survey, participants were asked to report if they have sustained any of the following types of injuries: assaulted by another person (nonsexual), burned by fire or a hot substance, motor vehicle related, team sports, individual sports, bicycle related, in-line skating, skate boarding, falls, or other. The table on page 24 shows the percentage of students who reported a particular type of injury and the mean GPA among those students.

The data presented in the table demonstrate the association of a given type of injury with academic performance. Individuals who report experiencing within the past 12 months any of the injuries listed, except injuries that are bicycle related, have lower mean grade point averages than students who have not experienced any of those injuries.

Injury and Grade Point Average

Type of Injury–Past 12 Months	Percent Reported	Grade Point Average
No Injury	59.3	3.27
Falls	14.5	3.16
Team Sports	11.0	3.18
Burned by Fire or a Hot Substance	8.5	3.18
Individual Sports	8.3	3.21
Motor Vehicle Related	2.6	3.13
Assaulted by Another Person (Nonsexual)	1.9	3.04
Bicycle Related	1.8	3.22
In-line Skating	0.6	3.10
Skate Boarding	0.6	3.09
Other	13.1	3.16

Difference $p<0.05$ Compared to No Injury Reported
Difference $p<0.0001$ Compared to No Injury Reported
Difference Is Not Statistically Significant

Results

Sexual Assault and Domestic Violence

Sexual assault and domestic violence are two important issues involving personal safety that influence grade point average.

Students were asked to answer the following two questions relating to sexual assault:

Within your lifetime or during the past 12 months, have you:
- Experienced actual or attempted sexual intercourse without your consent or against your will?
- Experienced actual or attempted sexual touching without your consent or against your will?

Students were asked to answer the following two questions relating to domestic violence:

Within your lifetime or during the past 12 months, have you:
- Been slapped, kicked, or pushed by your significant other or spouse/partner?
- Been hurt by threats, "put-downs," or yelling by your significant other or spouse/partner?

Female students who report experiencing a sexual assault within the past 12 months have lower mean grade point averages than female students who do not report having that experience (p<0.001). However, female students who report experiencing a sexual assault within their lifetime report mean grade point averages similar to those of their peers who do not report experiencing the trauma.
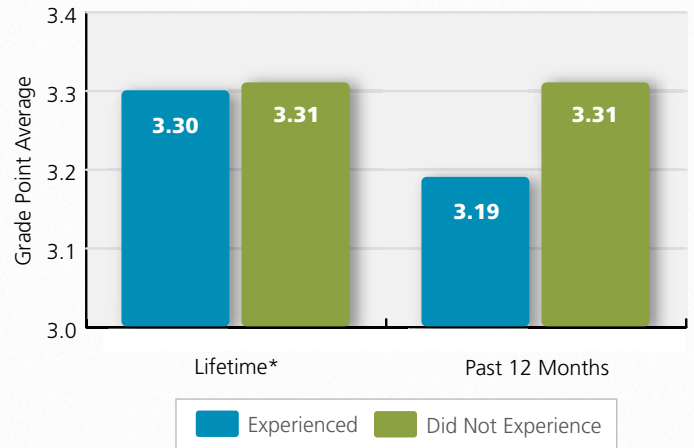
Among female survey respondents, **22.2%** indicate they experienced a sexual assault within their lifetime and **7.3%** say they experienced a sexual assault within the past 12 months.

Sexual Assault and Grade Point Average
(Females Only)

*Note: The mean grade point average for female students who experienced sexual assault within their lifetime excludes those who report they experienced sexual assault within the past 12 months.

Female students who report experiencing domestic violence within the past 12 months have lower mean grade point averages than female students who do not report having that experience (p<0.001). Similar to the sexual assault findings, female students who report experiencing domestic violence within their lifetime and female students who do not report experiencing the trauma have similar mean grade point averages.

Among female students, **26.3%** say they experienced domestic violence within their lifetime and **17.2%** indicate they experienced domestic violence within the past 12 months.

Domestic Violence and Grade Point Average
(Females Only)

*Note: The mean grade point average for female students who experienced domestic violence within their lifetime excludes those who report they experienced domestic violence within the past 12 months.
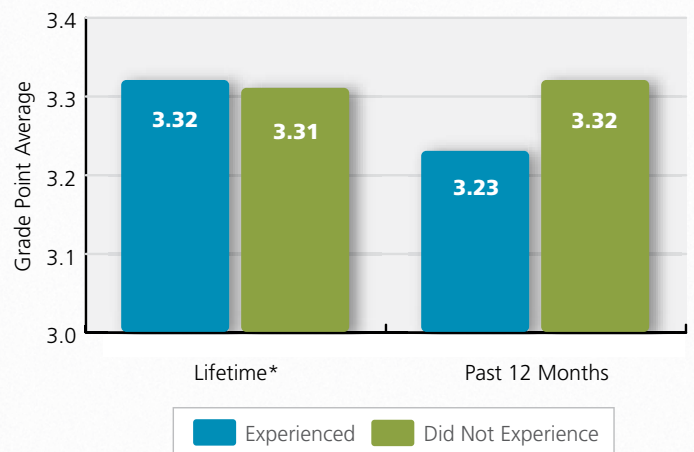
Male students who report they experienced sexual assault or domestic violence within their lifetime or within the past 12 months show mean grade point averages similar to males who do not report having experienced these traumas. Male students report rates of **4.8%** for sexual assault within their lifetime, **2.0%** for sexual assault within the past 12 months, **14.9%** for domestic violence within their lifetime, and **11.0%** for domestic violence within the past 12 months.

Results

Physical Activity

Any level of physical activity appears to be associated with higher academic performance.

Two questions in the 2007 College Student Health Survey related to recommendations outlined by the Centers for Disease Control and Prevention for physical activity among adults.[2] Based on their responses, students were classified into four physical activity levels: zero physical activity, low level, moderate level, or high level.

In the past seven days, how many hours did you spend doing the following activities?
- Strenuous exercise (heart beats rapidly)
- Moderate exercise (not exhausting)

The CDC's recommendations for adults are to:
- Engage in moderate-intensity physical activity for at least 30 minutes on most days of the week OR
- Engage in vigorous-intensity physical activity for at least 20 minutes on three or more days per week.

Students who report they did not engage in any physical activity within the past seven days have significantly lower mean grade point averages than students who did engage in some level of physical activity within that time period (p=0.001).

Further analysis of data shows that **22.4%** of students who did not engage in any physical activity within the past seven days report six or more days of poor physical health compared to only **17.9%** of students who engaged in some level of physical activity within the past seven days.

Among survey respondents, **9.9%** report they did not engage in any physical activity within the past seven days, whereas **73.9%** indicate they engaged in a moderate or high level of physical activity within the past seven days. The moderate and high level categories meet the CDC's recommended level of physical activity as outlined on the previous page.

Physical Activity and Grade Point Average

Grade Point Average

| Zero | Low | Moderate | High |
3.18 — 3.24 — 3.25 — 3.24

Physical Activity Level–Past Seven Days
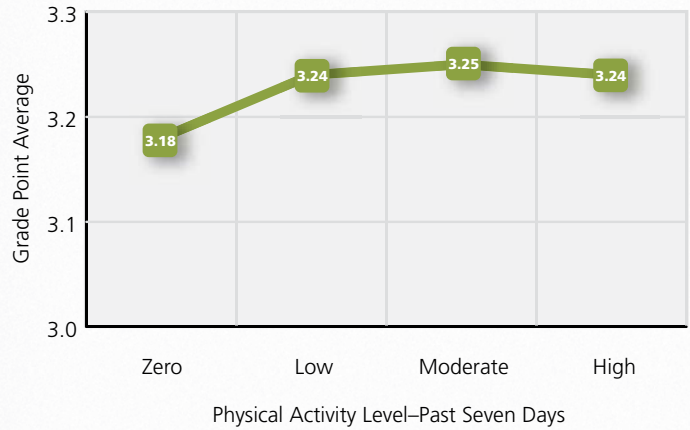
Percent of Students by Physical Activity Level

Percent

Zero: 10.0
Low: 16.1
Moderate: 34.7
High: 39.2

Physical Activity Level–Past Seven Days
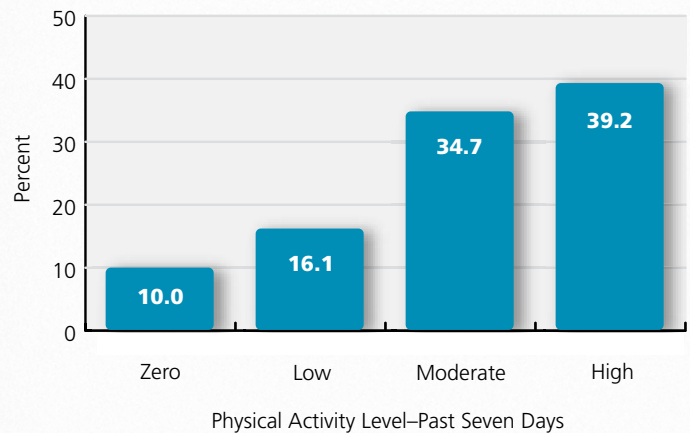
Results

Television and Computer Screen Time: Outside of School or Work Time

The impact of television and computer screen time on academic performance was also examined.

___

Two questions related to the amount of time students spent watching television or using a computer:

On an average day, how many hours do you spend doing the following activities?

- Watching television
- Playing video or computer games or using a computer for something that is not for work or school work (includes activities such as Xbox, computer games, and the Internet)

Survey findings reveal strong relationships between students' mean grade point averages and hours per day of watching television (p≤ 0.0001) and between students' mean grade point averages and hours per day playing video games or using the computer for purposes other than work or school (p≤ 0.0001).

Hours of Television and Computer Screen Time per Day and Grade Point Average

Almost one-half (**48.4%**) of students report watching television two or more hours per day, and nearly two-fifths (**38.0%**) of students report playing video games or using the computer for reasons other than work or school for two or more hours per day.
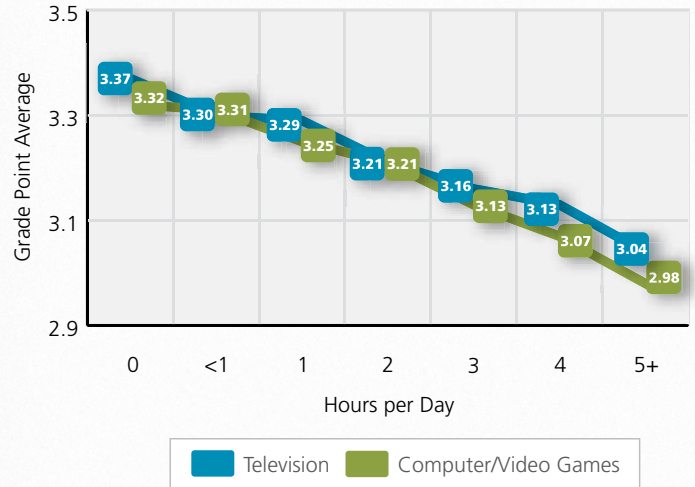
Percent of Students by Hours of Television and Computer Screen Time per Day
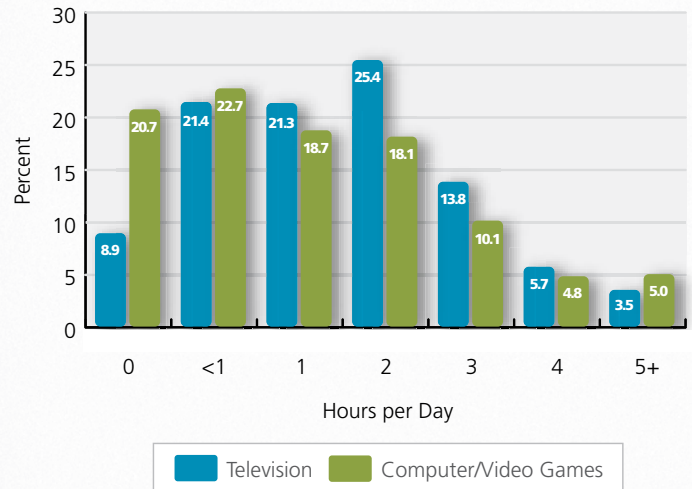
Results

Tobacco Use

The survey examined student tobacco use and its association with grade point average.

Students were asked the following survey question relating to tobacco use:

Current Tobacco Use

During the past 30 days, on how many days did you use smoking tobacco and/or smokeless tobacco?

Students who report using smoking tobacco within the past 30 days have lower mean grade point averages than students who report not using smoking tobacco within the past 30 days (**3.12** vs. **3.28**, respectively, p<0.001). Even students who report using smoking tobacco on only one or two of the past 30 days have lower mean GPAs than students who report not using smoking tobacco within the past 30 days (p<0.0001).

Examination of additional data reveals a relationship also exists between the use of smokeless tobacco and grade point average. Students who report using smokeless tobacco within the past 30 days have lower mean GPAs than students who report not using smokeless tobacco within the past 30 days (**3.02** vs. **3.25**, respectively, p<0.001).

Approximately three-fourths (**75.4%**) of survey respondents report they did not use smoking tobacco within the past 30 days.

Smoking Tobacco Use and Grade Point Average

Grade Point Average vs. Number of Days–Past 30 Days:
- 0: 3.28
- 1-2: 3.16
- 3-5: 3.15
- 6-9: 3.03
- 10-19: 3.11
- 20-30: 3.09
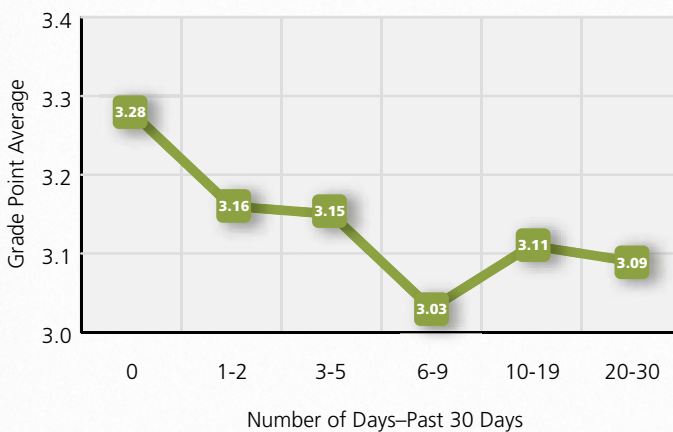
Percent of Students by Days of Smoking Tobacco Use

Percent vs. Number of Days–Past 30 Days:
- 0: 75.4
- 1-2: 7.8
- 3-5: 2.2
- 6-9: 1.5
- 10-19: 2.6
- 20-30: 10.5
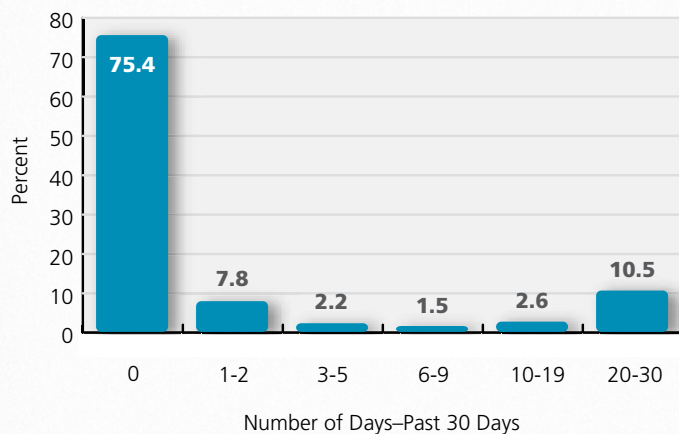
Results

Alcohol Use

The next series of graphs demonstrates an association between student alcohol use and grade point average.

The following survey questions addressed student alcohol use:

Current Alcohol Use
During the past 30 days, on how many days did you use alcohol?

High-Risk Drinking
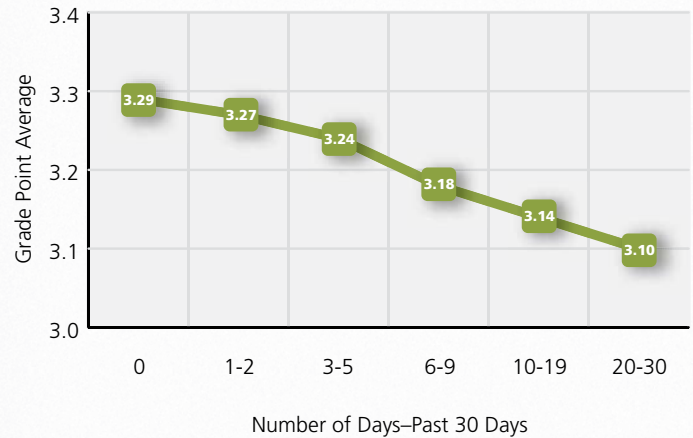Think back on the last two weeks. How many times have you had five or more drinks at a sitting?

Response options:

- I do not drink alcohol

- None
- Once
- Twice

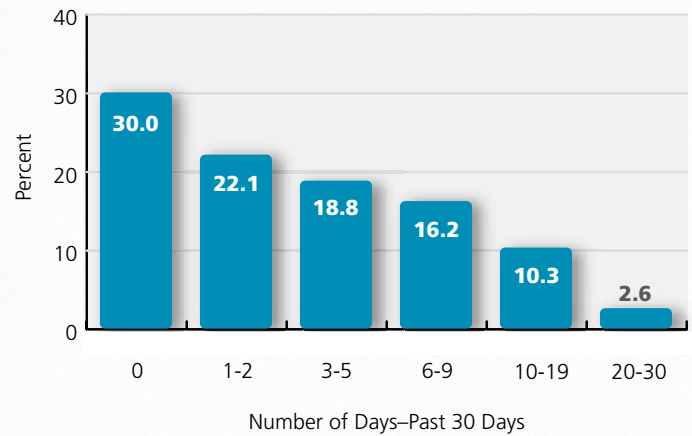- 3-5 Times
- 6-9 Times
- 10 or More Times

Similar to the relationship between student tobacco use and grade point average, as the number of days of student alcohol use increases, grade point average decreases. Students who report they did not consume alcohol within the past 30 days have a mean GPA of **3.29**, while students who report they consumed alcohol on at least 20 of the past 30 days have a mean GPA of **3.10** (p<0.0001).

Alcohol Use and Grade Point Average

Grade Point Average

3.29	0
3.27	1-2
3.24	3-5
3.18	6-9
3.14	10-19
3.10	20-30

Number of Days–Past 30 Days

A broad majority (**70.0%**) of students reports using alcohol on at least one day within the past 30 days.
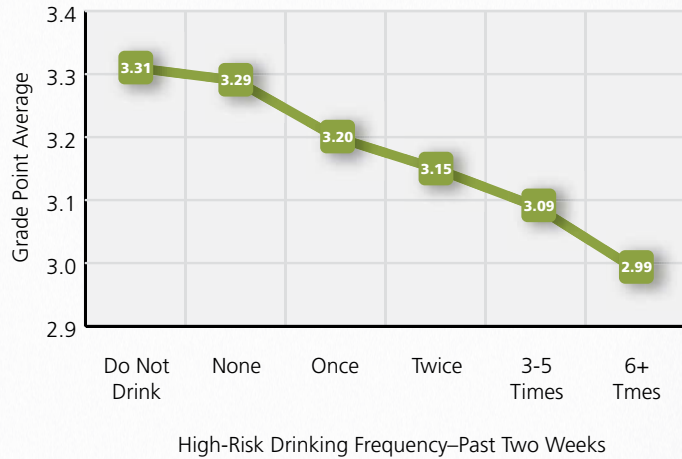
Percent of Students by Days of Alcohol Use

Percent

Number of Days	Percent
0	30.0
1-2	22.1
3-5	18.8
6-9	16.2
10-19	10.3
20-30	2.6

Number of Days–Past 30 Days

High-Risk Drinking and Grade Point Average

Students who report engaging in high-risk drinking at least one time within the past two weeks have lower mean grade point averages than students who report either not using alcohol or not engaging in high-risk drinking within the past two weeks (**3.15** vs. **3.30**, respectively, p<0.0001).

High-Risk Drinking Frequency–Past Two Weeks

Percent of Students by High-Risk Drinking Frequency
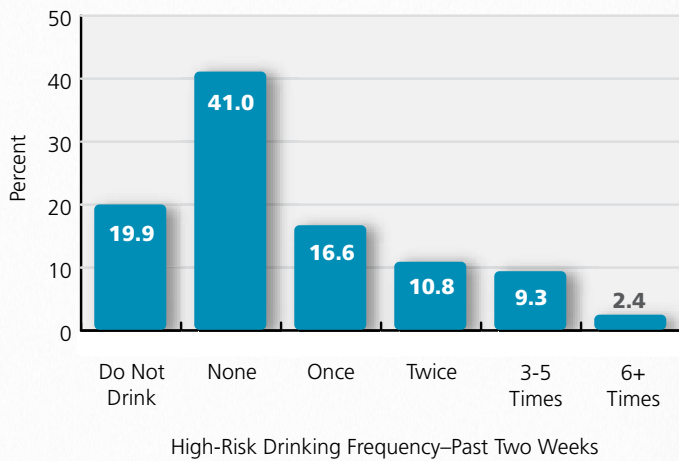
Nearly two out of five (**39.1%**) students report they engaged in high-risk drinking at least one time within the past two weeks.

High-Risk Drinking Frequency–Past Two Weeks

Results

Marijuana and Other Drug Use

This series of graphs presents survey findings on the association between students' use of marijuana and other drugs and grade point average.

The following survey questions related to marijuana and other drug use among students:

Current Marijuana Use
During the past 30 days, on how many days did you use marijuana?

Other Illicit Drug Use
During the past 12 months, how often have you used other drugs (cocaine, hallucinogens, etc.)?

Response options:

- I did not use
- Once a Year
- 6 Times a Year
- Once a Month
- More Than Once a Month

Students who report using marijuana within the past 30 days have lower mean grade point averages than students who report they did not use marijuana within that time period (**3.10** vs. **3.26**, respectively, p<0.0001). Even students who report using marijuana on only one or two of the past 30 days have lower mean GPAs than students who report not using marijuana within the past 30 days (p=0.0003).

Marijuana Use and Grade Point Average

Grade Point Average

- 3.26
- 3.16
- 3.07
- 3.05
- 3.06
- 3.05

Number of Days–Past 30 Days

Approximately one in eight students (**12.2%**) report using marijuana on at least one day within the past 30 days.
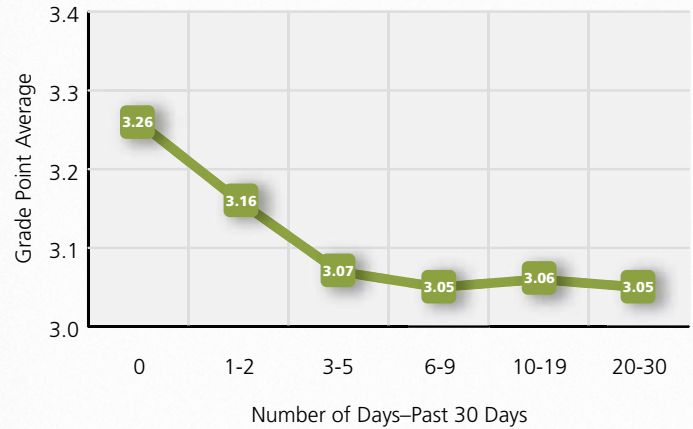
Percent of Students by Days of Marijuana Use

Percent

- 87.8
- 4.9
- 1.6
- 1.4
- 1.5
- 2.8

Number of Days–Past 30 Days
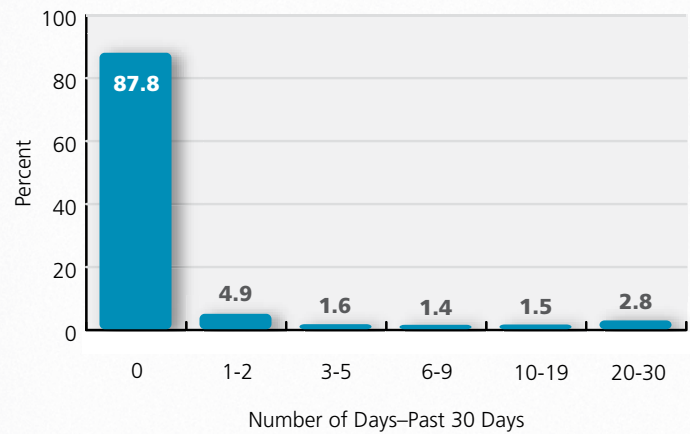
Other Illicit Drug Use and Grade Point Average
(Does Not Include Marijuana Use)

Other Illicit Drug Use–Past 12 Months

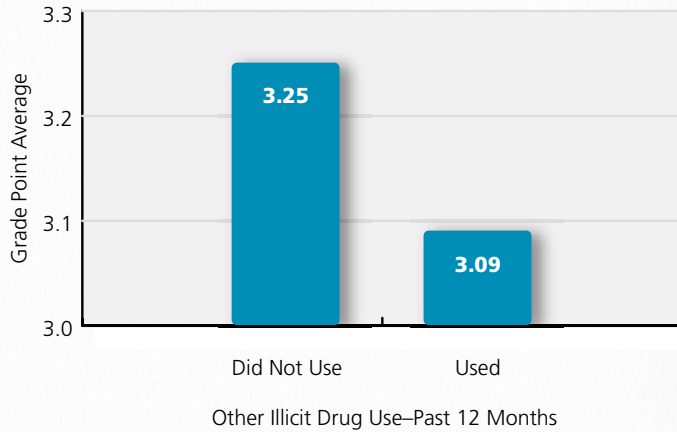The table below lists the drugs included in the survey question concerning students' use of various illicit drugs other than marijuana within the past 12 months.

As with the relationship seen between tobacco, alcohol, and marijuana use and grade point average, the use of illicit drugs other than marijuana also affects grade point average. Students who report not using an illicit drug within the past 12 months have a mean grade point average of **3.25** compared to a mean GPA of **3.09** among students who report using an illicit drug within the past 12 months (p<0.0001).

Fewer than one in ten (**7.2%**) students report using an illicit drug within the past 12 months.

Other Illicit Drugs
Amphetamines
Cocaine
Ecstasy
GHB/Rohypnol
Hallucinogens
Inhalants
Opiates
Performance-Enhancing Steroids
Sedatives

Results

Financial Health

The final area examined for its impact on academic performance was financial health, including the number of hours students work for pay and their credit card use.

Students were asked the following survey questions:

How many hours a week do you work for pay?

Last month, how much total credit card debt did you carry? That is, what was the total unpaid balance on all your credit cards?

No correlation was found between the number of hours per week students work for pay and their grade point average.

Hours per Week Worked for Pay and Grade Point Average

Nearly one-third (**32.0%**) of students report working 20 or more hours per week.
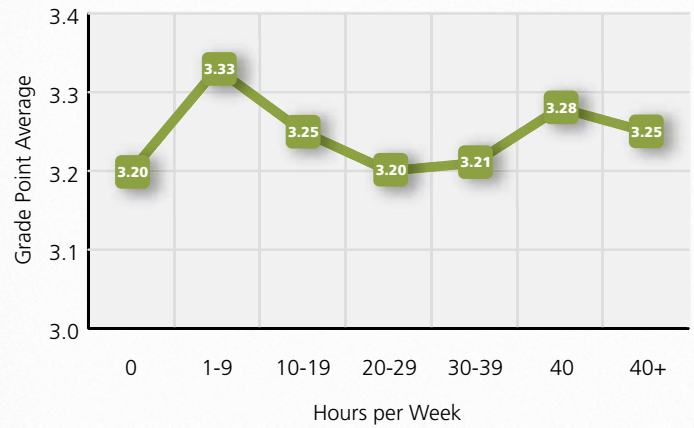
Percent of Students by Hours per Week Worked for Pay

Students who carry a monthly balance on their credit card(s) have lower mean grade point averages than students who either do not own a credit card or carry no monthly balance (**3.19** vs. **3.26**, respectively, p<0.0001).

In response to the survey, approximately one-third (**32.8%**) of students report they carry a monthly balance on their credit card(s).

Credit Card Debt and Grade Point Average

Implications

Healthy individuals make better students, and better students make healthier communities.

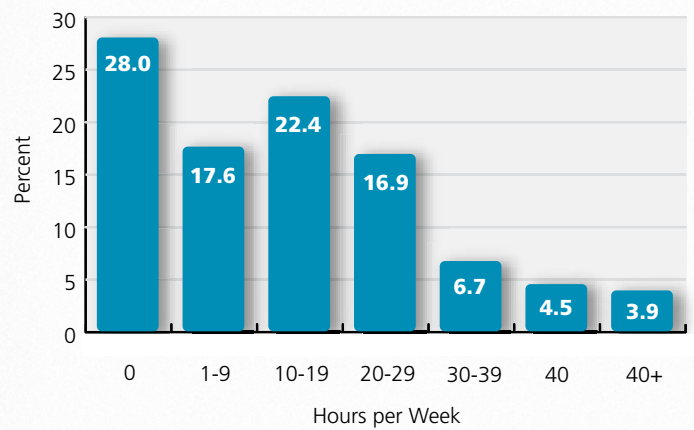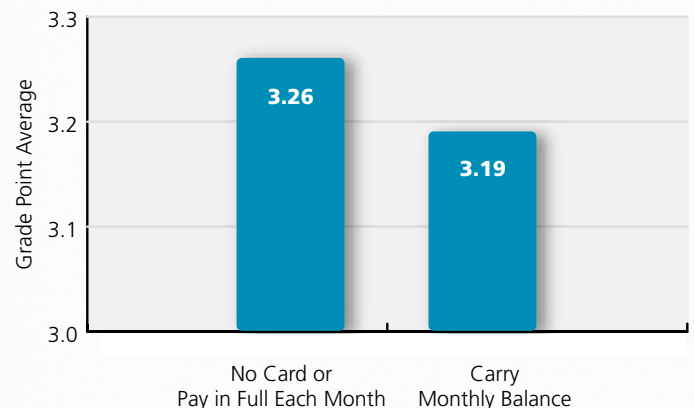Results from the 2007 College Student Health Survey presented in this report document the associations between students' academic achievement and their access to health care, mental health status, personal safety, substance use, and other health issues. Clearly students' academic success and their physical, emotional, behavioral, social, and financial health are interdependent.

Along with providing an excellent educational experience for their students, institutions of higher education must help students develop the skills and knowledge to function in a global environment, appreciate the value of community and civic engagement, and experience the benefits of living in a diverse world. For these missions to be realized, the schools must provide an environment that helps safeguard and improve student health so that students can fully participate in all aspects of academic life and also be prepared to become productive members of society once they graduate.

From these findings, it is obvious that policies, programs, and practices that address the health and developmental needs of young adults must be included in any comprehensive strategy for improving student academic performance and success. When students feel healthy, safe, and valued, they are more likely to be academically engaged and successful. Therefore, it is imperative that colleges and universities make the health, social, and environmental issues affecting student life a priority.

Appendix 1

Colologys and Universities Participating in the 2007 College Student Health Survey

Map of Minnesota showing county boundaries and locations of participating colleges:

- University of Minnesota–Crookston
- Bemidji State University
- Northwest Technical College
- Concordia College
- Minnesota State University Moorhead
- Lake Superior College
- University of Minnesota–Duluth
- Minnesota State Community and Technical College
- Alexandria Technical College
- Anoka-Ramsey Community College
- North Hennepin Community College
- University of Minnesota–Morris
- University of Minnesota–Twin Cities
- University of Minnesota–Rochester

Two-Year Schools
Alexandria Technical College
Anoka-Ramsey Community College
Lake Superior College
Minnesota State Community and Technical College
North Hennepin Community College
Northwest Technical College

Four-Year Schools
Bemidji State University
Concordia College
Minnesota State University Moorhead
University of Minnesota–Crookston
University of Minnesota–Duluth
University of Minnesota–Morris
University of Minnesota–Rochester
University of Minnesota–Twin Cities

Appendix 2

2007 College Student Health Survey Demographics
All Undergraduate and Graduate Students

	All Students (n=9,931)	Students Enrolled in Two-Year Schools (n=2,790)	Students Enrolled in Four-Year Schools (n=7,141)
Average Age (Years)	23.7	26.2	22.8
Age Range (Years)	18-83	18-83	18-65
18-24 Years	74.9%	59.8%	80.7%
25 Years or Older	25.1%	40.2%	19.3%
Average GPA	3.29	3.27	3.30
Class Status			
First-Year Undergraduate	23.8%	34.8%	19.2%
Second-Year Undergraduate	22.2%	35.4%	17.3%
Third-Year Undergraduate	18.5%	14.8%	20.1%
Fourth-Year Undergraduate	15.0%	6.6%	18.3%
Fifth-Year Undergraduate	7.1%	5.0%	8.0%
Graduate or Professional	13.4%	3.4%	17.1%
Gender			
Male	37.7%	32.3%	39.9%
Female	62.0%	67.5%	60.0%
Transgender/Other	0.1%	0.1%	0.1%
Unspecified	0.2%	0.1%	0.0%
Ethnic Origin			
African American/Black	2.2%	2.9%	1.9%
American Indian/Alaskan Native	2.4%	3.6%	2.0%
Asian/Pacific Islander	6.1%	2.6%	7.4%
Latino/Hispanic	1.5%	1.3%	1.6%
Middle Eastern	0.5%	0.4%	0.6%
Caucasian/White	89.0%	91.2%	88.5%
Other	1.5%	1.1%	1.6%

Appendix 3

2007 College Student Health Survey Demographics
All Undergraduate Students

	All Undergraduate Students (n=8,489)	Undergraduate Students Enrolled in Two-Year Schools (n=2,587)	Undergraduate Students Enrolled in Four-Year Schools (n=5,902)
Average Age (Years)	22.8	25.9	21.5
Age Range (Years)	18-83	18-83	18-65
18-24 Years	82.3%	61.2%	91.6%
25 Years or Older	17.7%	38.8%	8.4%
Average GPA	3.24	3.26	3.23
Class Status			
First-Year Undergraduate	27.1%	36.0%	23.1%
Second-Year Undergraduate	25.7%	36.7%	20.8%
Third-Year Undergraduate	21.6%	15.3%	24.3%
Fourth-Year Undergraduate	17.4%	6.8%	22.1%
Fifth-Year Undergraduate	8.2%	5.1%	9.7%
Gender			
Male	37.6%	32.4%	39.9%
Female	62.3%	67.5%	60.0%
Transgender/Other	0.1%	0.1%	0.1%
Ethnic Origin			
African American/Black	2.1%	2.9%	1.7%
American Indian/Alaskan Native	2.6%	3.6%	2.1%
Asian/Pacific Islander	5.0%	2.7%	6.1%
Latino/Hispanic	1.4%	1.4%	1.5%
Middle Eastern	0.5%	0.4%	0.5%
Caucasian/White	90.7%	91.5%	90.4%
Other	1.3%	1.0%	1.4%

Appendix 4

List of Health Conditions

Chronic Health Conditions

Alcohol Problem

Allergies

Asthma

Cancer

Diabetes Type I/Diabetes Type II

Drug Problems (Other Than Alcohol)

Genital Herpes

Genital Warts/Human Papilloma Virus

Hepatitis B/Hepatitis C

High Blood Pressure

High Cholesterol

HIV/AIDS

Obesity

Tuberculosis

Acute Health Conditions

Chlamydia

Gonorrhea

Hepatitis A

Lyme Disease

Mononucleosis

Pubic Lice

Strep Throat

Syphilis

Urinary Tract Infection

Mental Health Conditions

Anorexia

Anxiety

Attention Deficit Disorder

Autism

Bipolar Disorder

Bulimia

Depression

Obsessive-Compulsive Disorder

Panic Attacks

Post-Traumatic Stress Disorder

Seasonal Affective Disorder

Social Phobia/Performance Anxiety

References

1. Centers for Disease Control and Prevention. (2005). Health-related quality of life methods and measures. Atlanta, GA: U.S. Department of Health and Human Services. Retrieved April 28, 2008, from http://www.cdc.gov/hrqol/methods.htm.
2. Centers for Disease Control and Prevention. (2007). Physical activity recommendations for adults. Retrieved May 29, 2008, from http://www.cdc.gov/nccdphp/dnpa/physical/recommendations/index.htm.

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