

American College Health Association  
National College Health Assessment

(Self report survey)

Secondary Analysis - Impact of health and  
mental health issues on GPA

UW-River Falls Survey Research Center

Administered to UW-River Falls Students  
Spring 2015

This summarizes selected portions of the 2015 National Collegiate Health Assessment (NCHA) survey that was administered on the UW-River Falls campus in 2015. This presentation will:

- Summarize selected portions of the 2015 results
- Identify any statistically significant changes since the same survey was administered in 2009
- Determine if a given variable is correlated with student academic performance as measured by grade point average (GPA).

The Survey Research Center (SRC) tested for significant changes between 2009 and 2015 using the standard T-Test and reported differences that were significant at the 5% or better level.

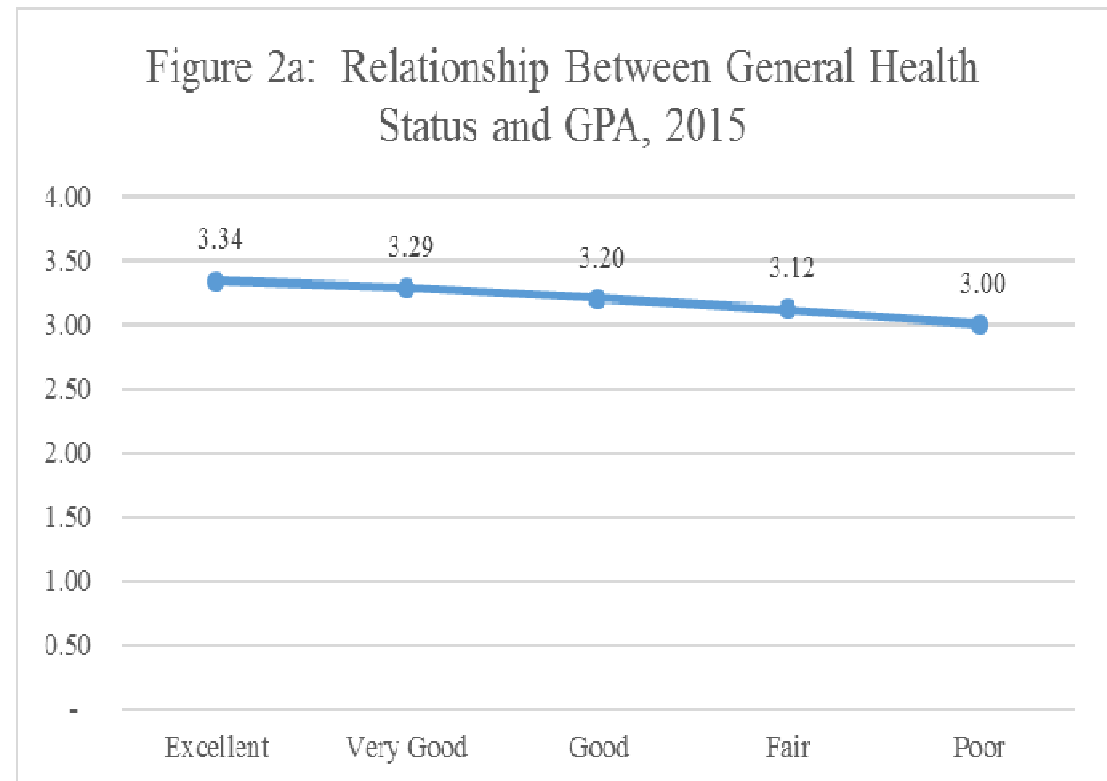
To test for a relationship between a given behavior or condition and GPA, the SRC used Pearson's correlation coefficient.

**Response patterns that vary at statistically significant levels ( $p < .05$ ) will be noted in the report. If the significance level is less than .01, we will say it is highly significant.**

- **The average self-reported general health assessment in 2015 was significantly lower than in 2009.** Fewer than half the 2015 NCHA respondents said their general health was very good or excellent.
- Given the age of this population, this is a somewhat surprisingly low proportion.
- **There is a high correlation between general health and GPA** – the better their health, the higher their GPA (**Figure 2a**).

## General Health and GPA

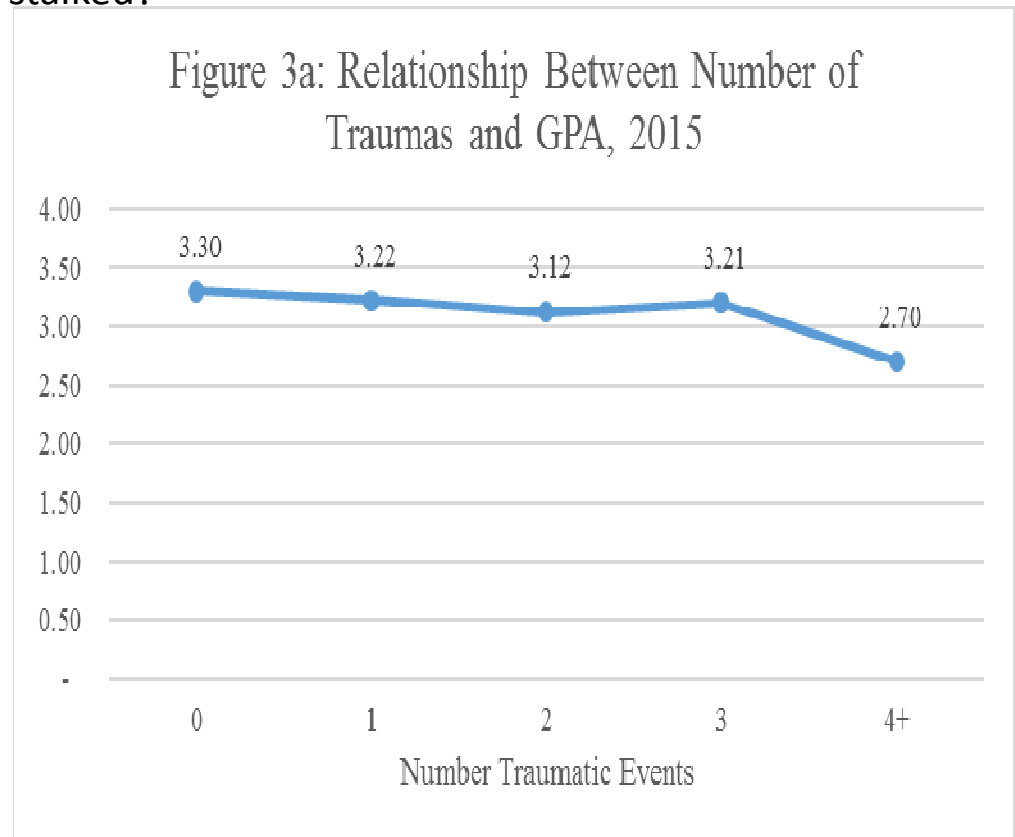
How would you describe your general health?



## Trauma and GPA

Within the last 12 months were you in a physical fight, or been assaulted, verbally threatened, sexually touched without their consent, or experienced an attempt to penetrate them sexually without consent, experienced sexual penetration without consent, or stalked?

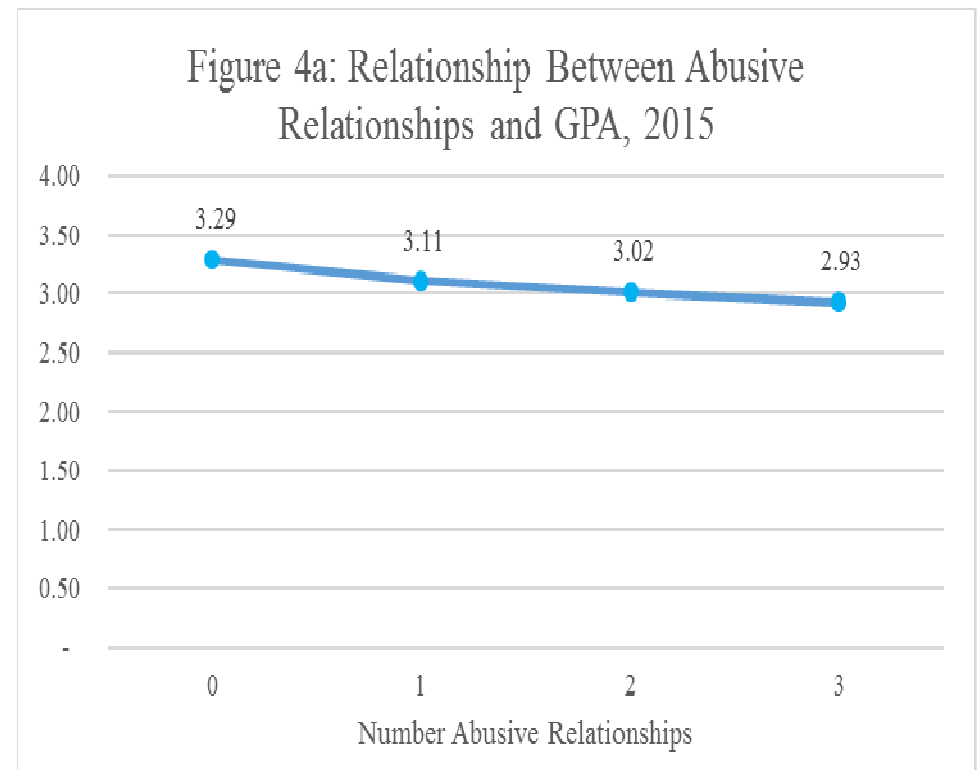
- Figure 3a highlights a negative relationship between the number of these traumas experienced and the average GPA of students.
- **The negative correlation between the number of these traumas and GPA is highly statistically significant.**



## Abusive Relationships and GPA

Within the last 12 months, have you been in an intimate relationship that was emotionally, physically or sexually abusive?

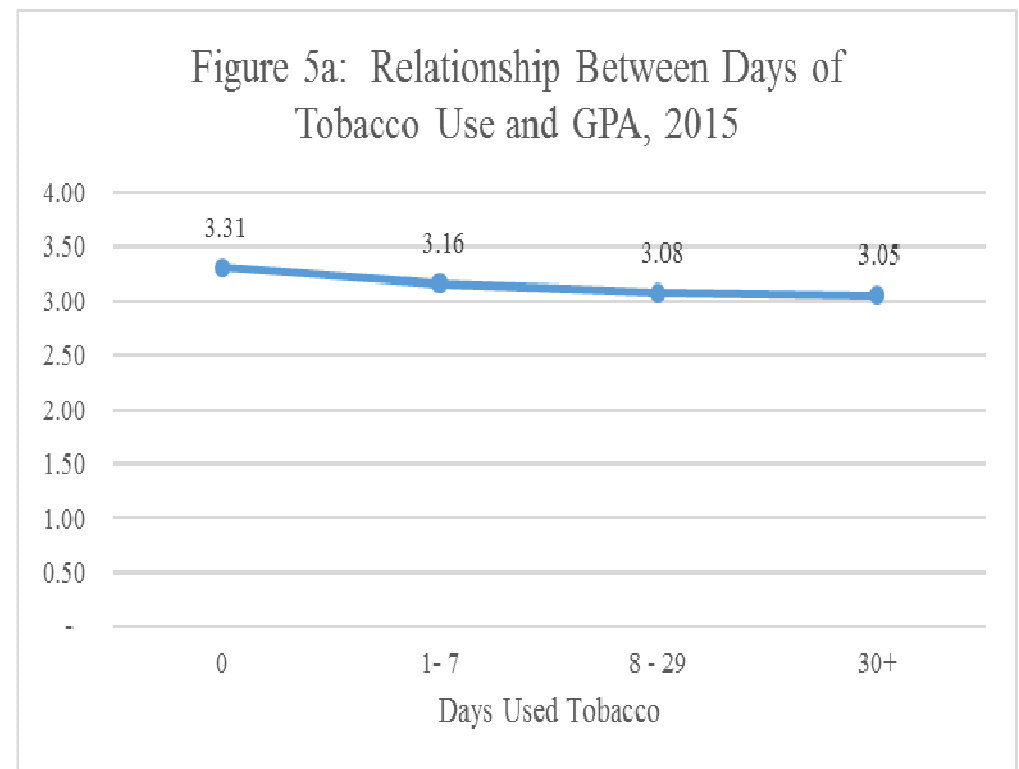
- There is a negative relationship between the number of abusive relationships experienced and average GPA (**Figure 4a**).
- **The negative correlation between GPA and number of abusive relationships is highly significant.**



## Days Using Tobacco and GPA

Within the last 30 days, on how many days did you use tobacco?

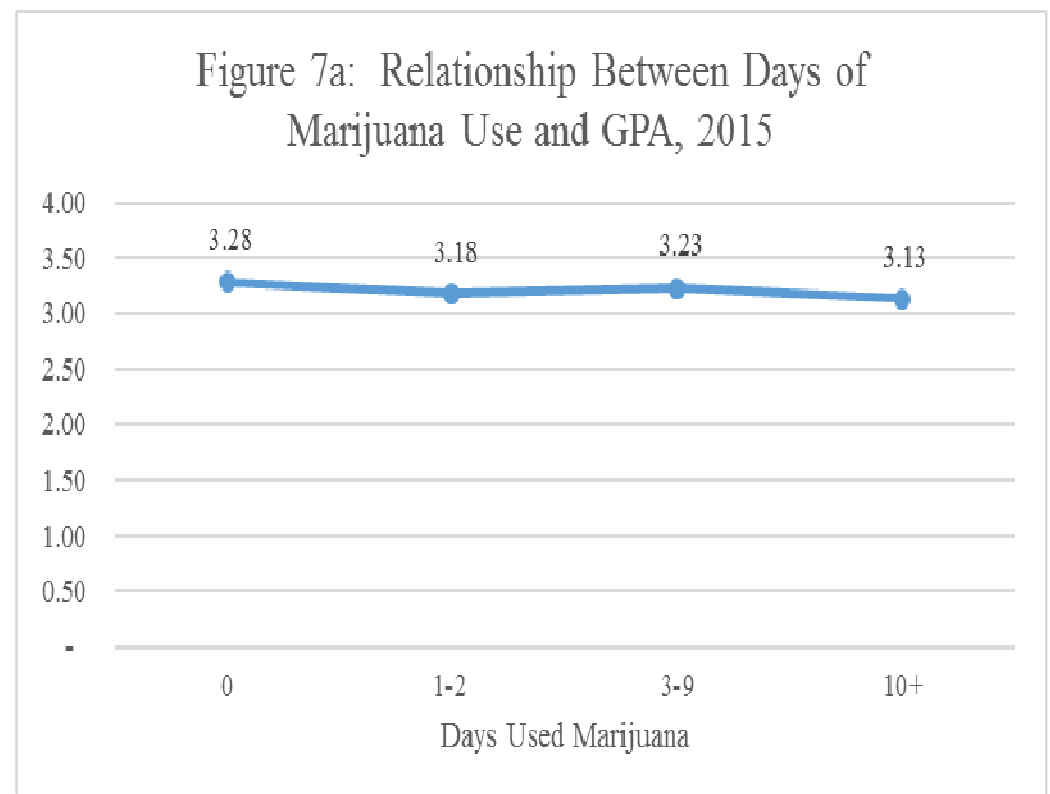
- Fewer than 10% used tobacco in any form in the 2015 NCHA survey.
- There is a clear, negative relationship between tobacco use and average GPA.
- **The negative correlation is highly, statistically significant (Figure 5a).**



## Days Using Marijuana and GPA

Within the last 30 days, on how many days did you use marijuana?

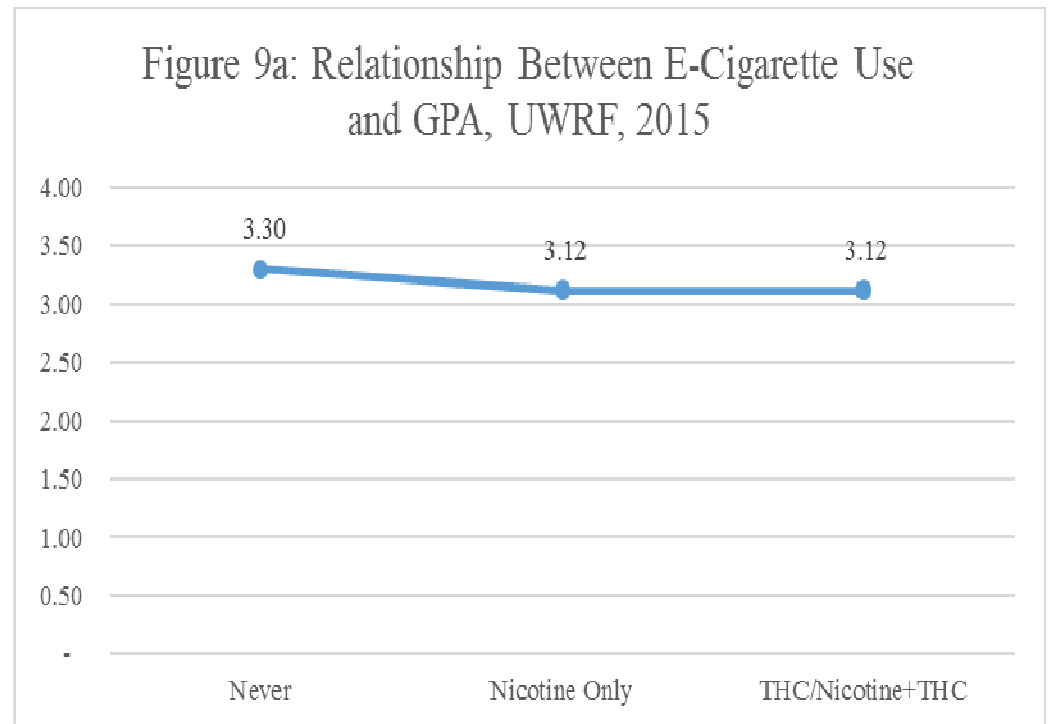
- Fewer than 10% used marijuana in the 2015 NCHA survey.
- **Figure 7a shows a slightly downward relationship between frequency of use of marijuana and average GPA.**
- Though this negative relationship is not pronounced, the correlation is statistically significant.



## E-Cigarettes and GPA

Which of the following statements is most true for you regarding e-cigarette use in the past 12 months?

- 17% of UWRF students had used an e-cigarette in the previous 12 months.
- Though not conclusive, these data suggest that it doesn't matter what is being vaped in terms of the negative impact on academic performance.
- **The negative relationship between e-cigarette use and GPA is highly statistically significant (Figure 9a).**

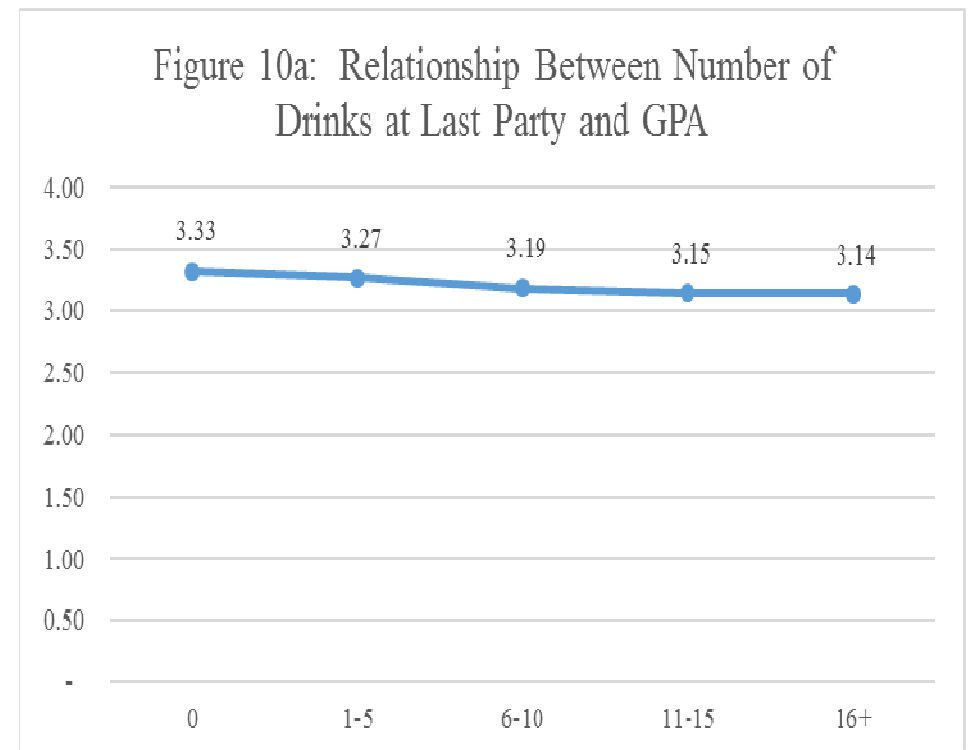




## Number of Drinks and GPA

The last time you partied/socialized how many drinks of alcohol did you have?

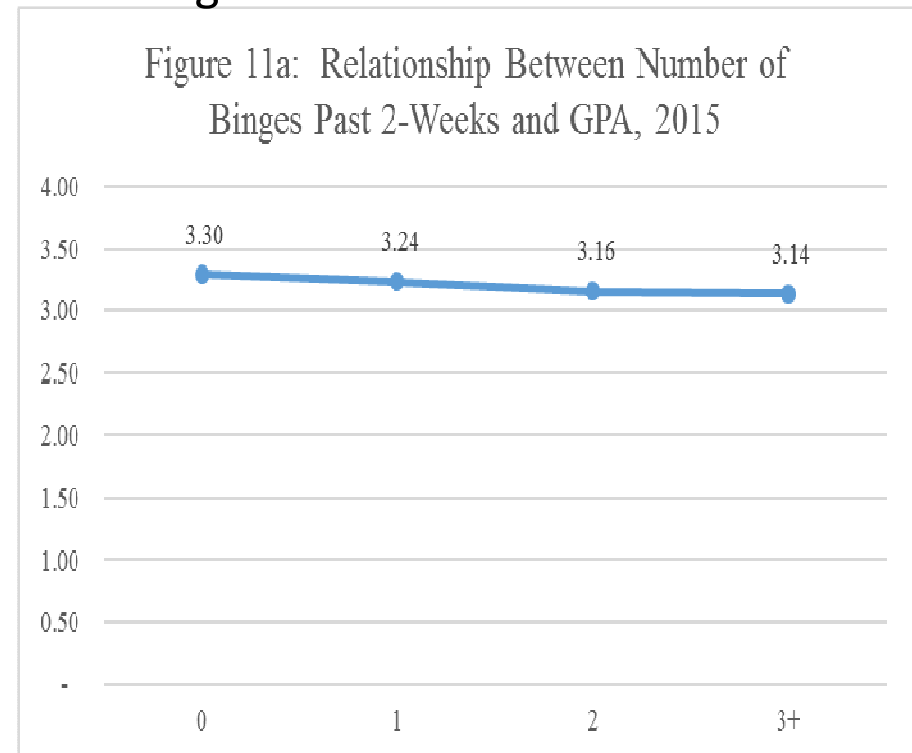
- **Compared to 2009 (5.23), the number of drinks consumed at the last party is down significantly in 2015 (4.8).**
- 38% of UWRF students had not consumed any alcohol in the previous 30 days compared to 35.5% in 2009.
- There is a significant negative correlation between the number of alcoholic drinks consumed at the last party and the student's GPA (**Figure 10a**).
- Frequency of alcohol consumption did not, surprisingly, have a statistically significant relationship with GPA.



## Binge Drinking and GPA

Over the last two weeks, how many times did you have five or more drinks of alcohol at a sitting?

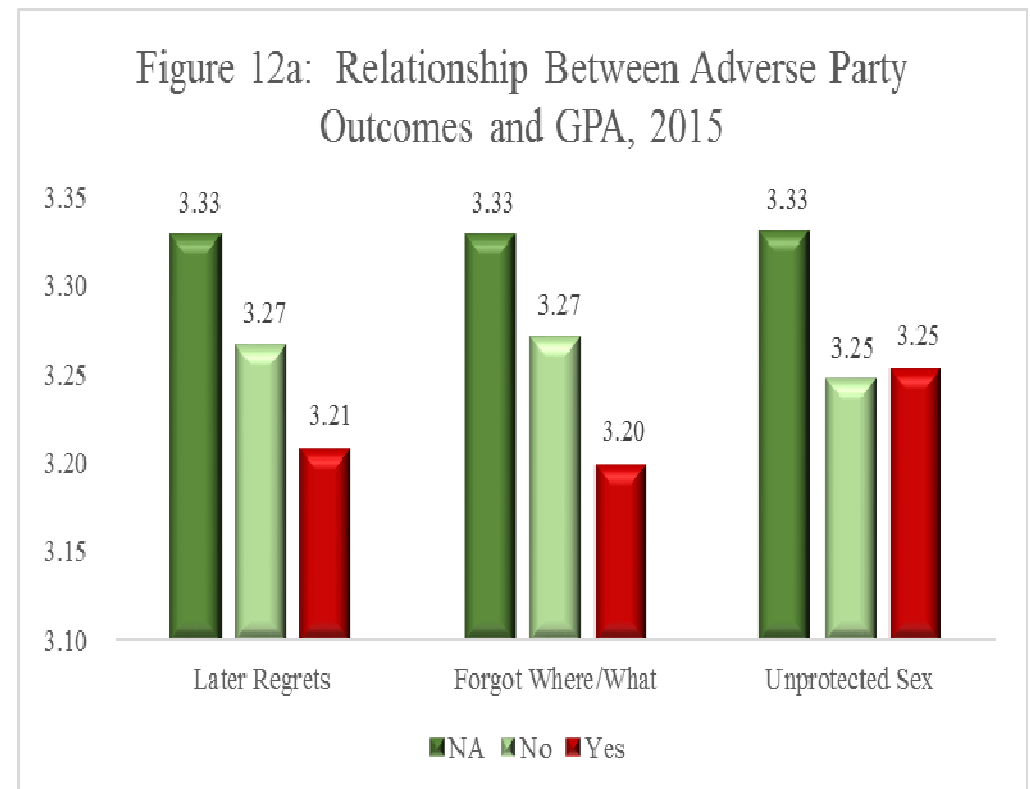
- Binge drinking is defined as having five or more drinks in one sitting in the previous two weeks.
- **Binge drinking rates are declining, in 2009 36.2% of UWRF students binge drank compared to 28.2% in 2015.**
- **The negative correlation between the number of binge drinking episodes and GPA is highly statistically significant (Figure 11a).**



## Alcohol Adverse Outcomes and GPA

Within the last 12 months, have you experienced any of the following when drinking alcohol?

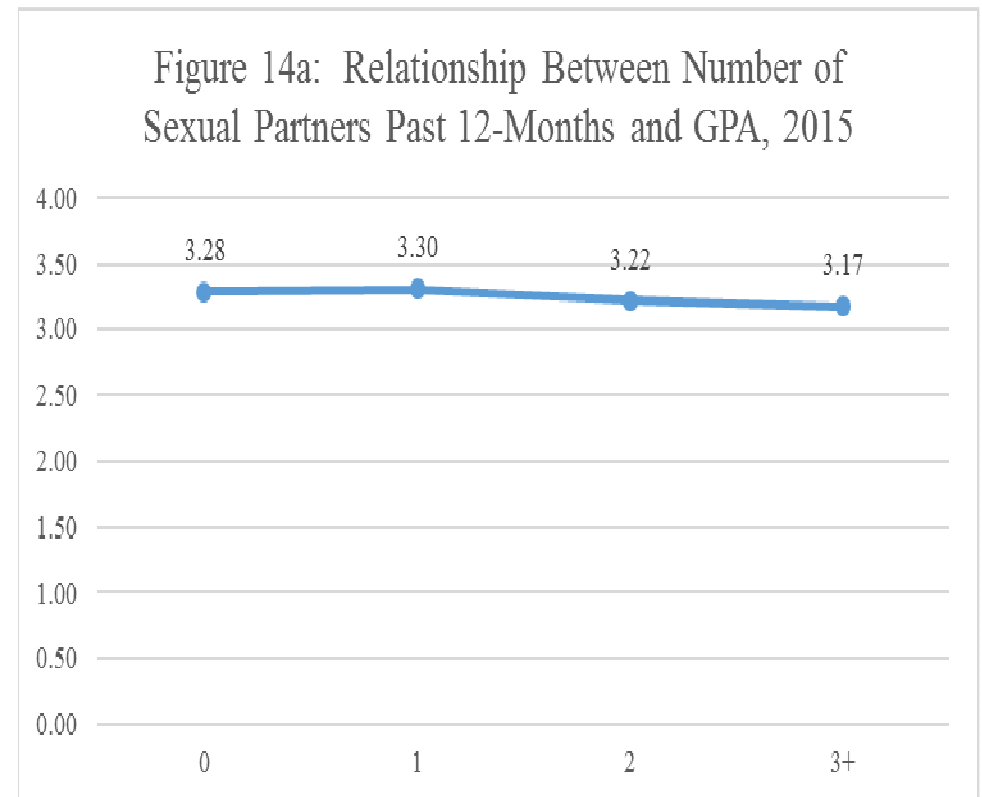
- There have been no significant changes in the proportion of students who experienced these adverse partying outcomes between 2009 and 2015.
- **There is a statistically significant decline in GPA among students who did something they later regretted or forgot where they were or what they did (Figure 12a).**



## Number of Partners and GPA

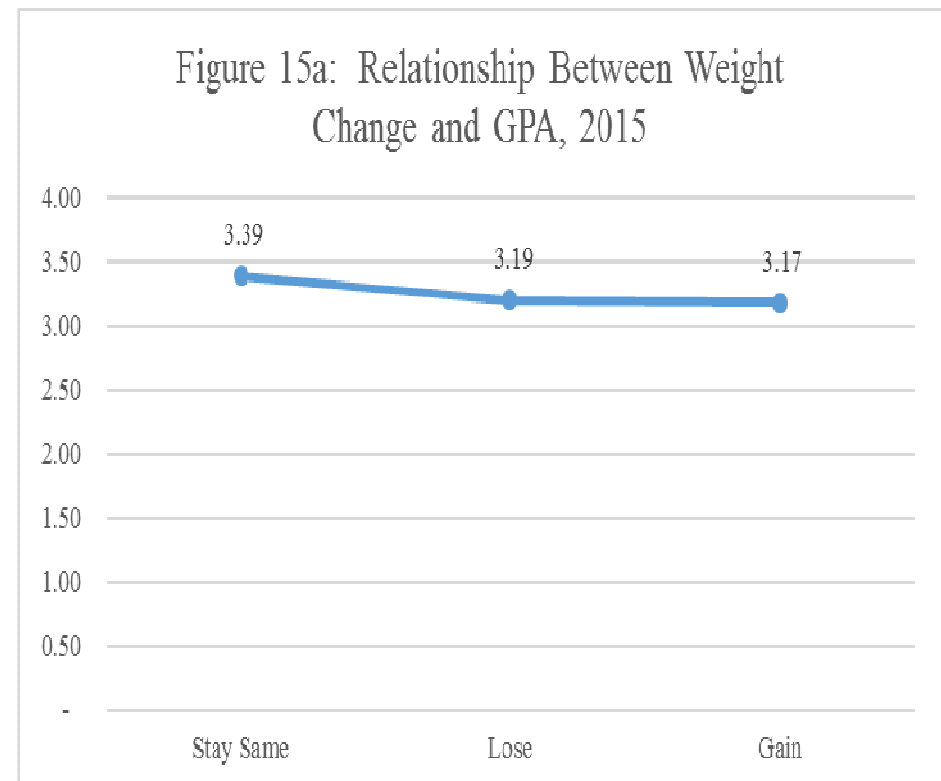
With in the last 12 months, with how many partners have you had oral sex, vaginal intercourse, or anal intercourse?

- 75% of UWRF students had 0 or 1 sexual partners in the past 12 months compared to 79.1% in 2009.
- Though not quite statistically significant at the 5% level, the data suggest a slight increase in the number of sexual partners the average UWRF student had in 2015 compared to 2009.
- **The correlation between GPA and number of sexual partners is significant and negative (Figure 14a).**



## Weight Change and GPA

- If a student is not trying to change their weight, they tend to have a higher GPA on average.
- The negative correlation between GPA and desired weight change is significant (**Figure 15a**).

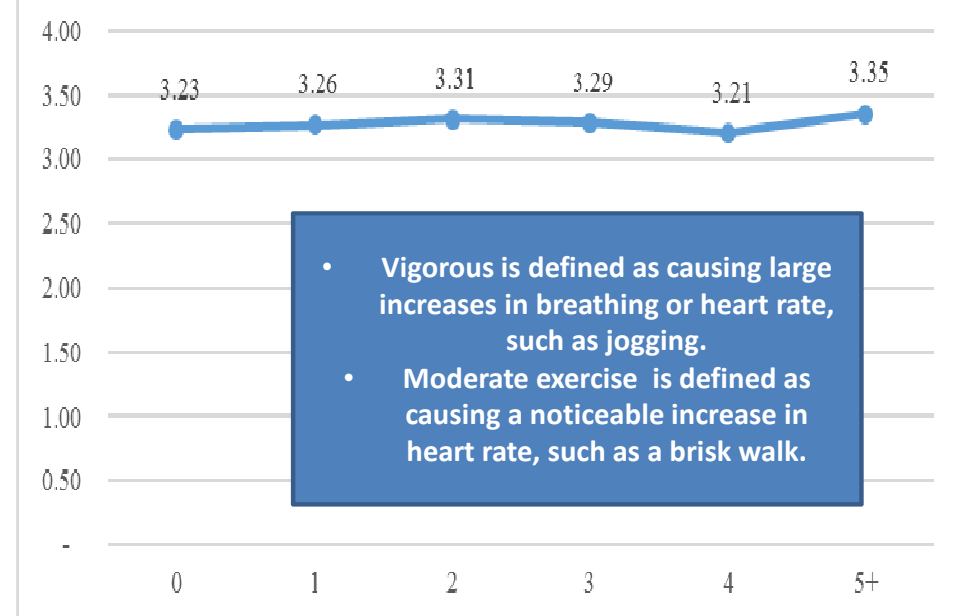


## Vigorous Exercise and GPA

- The positive slope is significant, indicating that the more students engage in vigorous physical activity, the higher their GPA is expected to be.
- There were no statistically significant relationships between moderate exercise or strength training and GPA (Figure 16a).

Less than half (45.8%) of students met guidelines for moderate (30 min 5 or more days/week), vigorous (20 min 3 or more days per week), or a combination of the two.

Figure 16a: Relationship Between Days of Vigorous Exercise Past 7 Days and GPA, 2015



# Mental Health and GPA

- Students diagnosed with ADHD or depression had significantly lower GPAs than students without these conditions (Table 2).
- **The results of this section suggest that depression that is current or in a student’s recent experience, has a deleterious impact on GPA, but that, once recovered, academic performance also rebounds.**
- We found no correlation between other mental health issues or disabilities, or the number of mental health issues a student reported and their GPA.

Table 2: Relationship Between Mental Health Diagnoses and GPA, UWRF, 2015

	GPA With	GPA Without	Significance Level
Anorexia	3.21	3.27	
Anxiety	3.22	3.28	
ADHD	3.12	3.28	5%
Bipolar	3.25	3.27	
Bulimia	3.18	3.27	
Depression	3.17	3.29	5%
Insomnia	3.20	3.27	
Sleep Disorder	3.41	3.27	
OCD	3.43	3.26	
Panic Attacks	3.25	3.27	
Phobia	3.05	3.27	
Schizophrenia	3.05	3.27	
Addiction	3.03	3.27	

## Difficulty and GPA

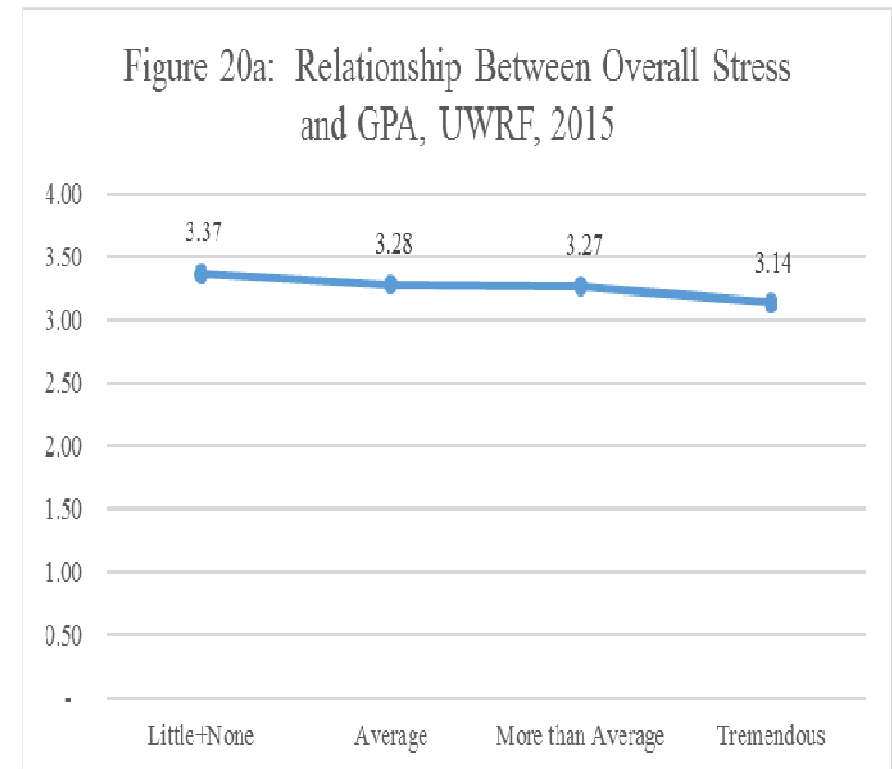
- If a student said they'd had any of the following during the prior 12 months, their GPAs suffered:
  - difficulty handling academics
  - death of a friend or family member
  - problems with significant others or friends
  - financial problems
  - concerns about their personal appearance or health
  - sleep disturbances

Relationship Between Difficulty and GPA, UWRf, 2015			
	GPA No	GPA Yes	Significance Level
Academics	3.36	3.14	1%
Career-Related	3.29	3.20	
Death of Family/Friend	3.30	3.14	1%
Family Problems	3.29	3.21	
Intimate Relations Problem	3.30	3.19	1%
Problem with Friends	3.29	3.20	4%
Financial Issues	3.32	3.17	1%
Health Problem Family/Partner	3.29	3.20	
Personal Appearance	3.30	3.19	2%
Personal Health	3.29	3.18	3%
Sleep	3.30	3.19	1%



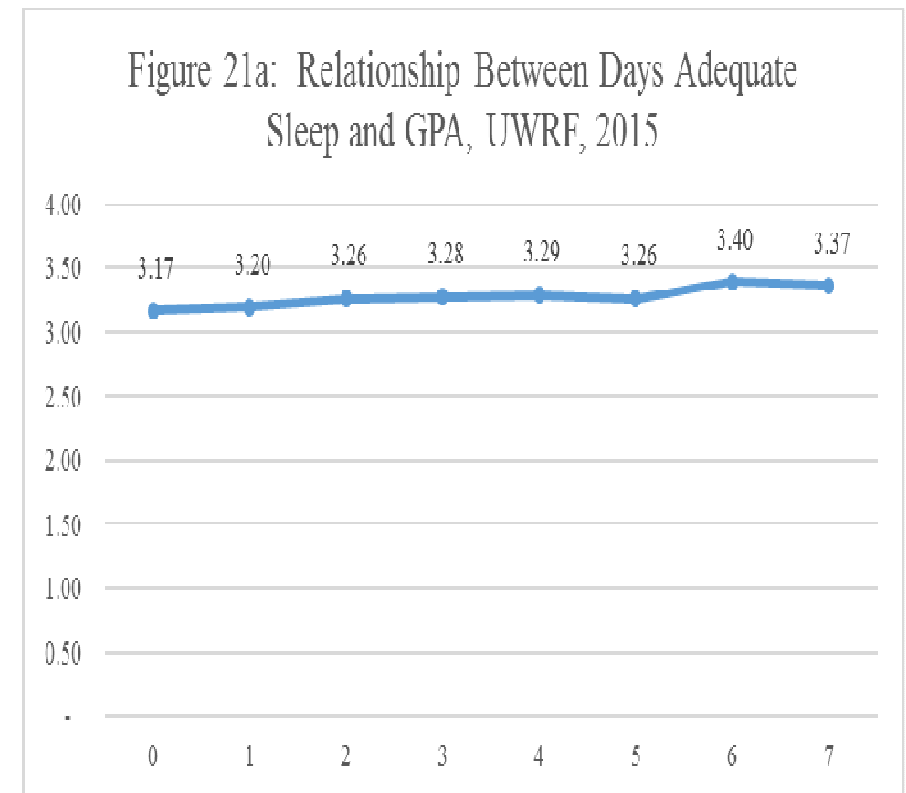
## Stress and GPA

- **There is a significant negative relationship between GPA and stress levels.**
- Interestingly, the students who said they'd had no stress also had the lowest average GPA (not statistically significant due to the small number of students). **(Figure 20a).**



- The more days of adequate sleep, the higher the average GPA.
- 55% of students said they had enough sleep to awaken refreshed on three or fewer days per week.
- **The correlation between days of adequate sleep and GPA is positive and highly statistically significant (Figure 21a).**

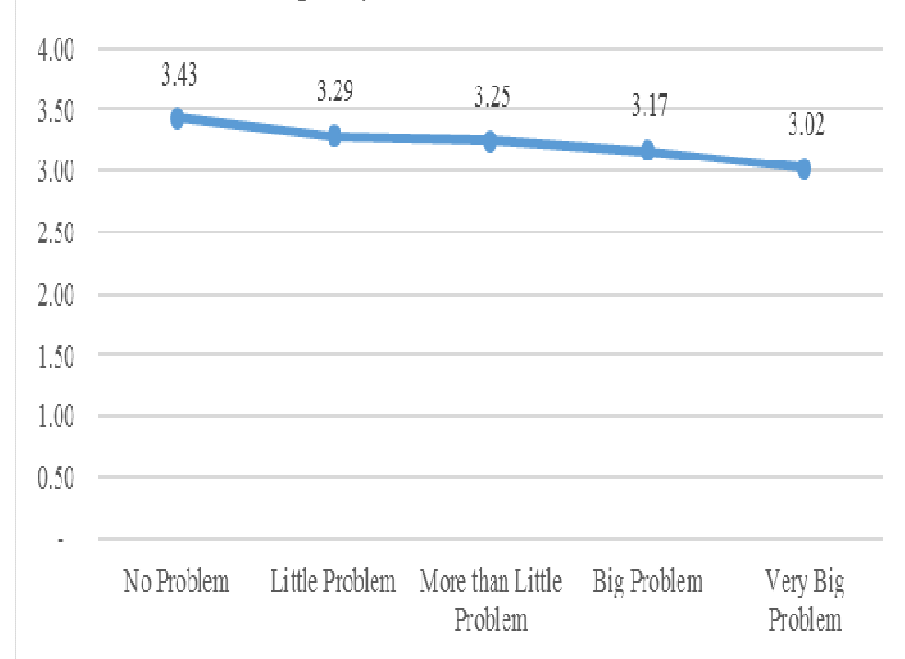
## Sleep and GPA



## Sleep and GPA

- 40% of students said that feeling sleepy during the day was at least “more than a little problem”.
- **Feeling sleepy during the day correlates highly significantly with declining academic performance (Figure 22a).**

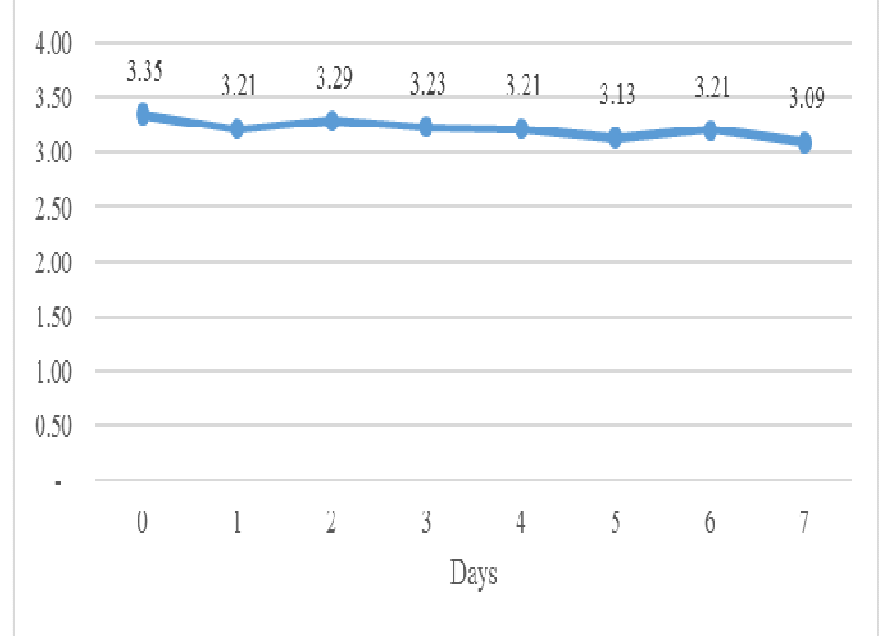
Figure 22a: Relationship Between Feeling Sleepy During Day and GPA, UWRF, 2015



## Sleep and GPA

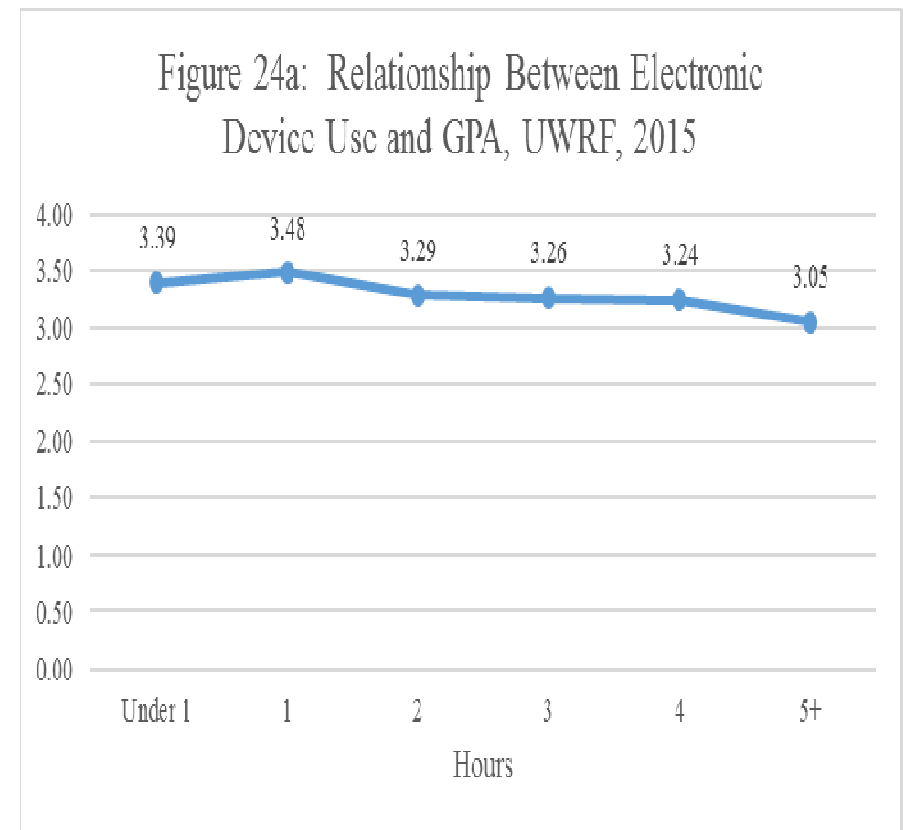
- Sleep disturbances (except waking too early) are significantly and negatively correlated with academic performance:
  - sleepy during the day
  - can't fall asleep
  - go to bed because can't stay awake any longer
- **As the number of days during which students have difficulty falling asleep goes up, GPA trends downward. (Figure 23a).**

Figure 23a: Relationship Between Difficulty Falling Asleep and GPA, UWRF, 2015



## Electronic Devices and GPA

- More than 80% of students said they spend at least 2 hours per day on their electronic devices
- **There is a highly significant negative correlation between time spent on electronic devices for leisure and average GPA (Figure 24a).**



Increased time on Computers/Electronics for  
Non-Academics Associated with Lower GPA

- 2009 NCHA added question UWRF: On an average day, how many hours do you spend playing video or computer games or using a computer for something that is not for work or school?
  - **28.9% of females and 31.6% of males indicated they spent an average of three or more hours per day.**
  - **Hours spent using the computer for non-academic purposes was statistically significantly associated with lower GPA, specifically for those spending 3 or more hours.**
- 2015 NCHA added question UWRF: On an average day, how many hours do you spend on electronic devices for leisure purposes (not school or work related)?
  - **59% of females and 50% of males indicated they spent 3 or more hours per day.**
  - **There is a highly significant negative correlation between time spent on electronic devices for leisure and average GPA.**

Impact of stressors on Academic Performance in the last 12 months: Either Did not experience/did not affect academics or one of the following: Received a lower grade on an exam or important project, Received a lower grade in a course, Received and incomplete or dropped a course, or Significant disruption in thesis/dissertation/research/practicum work

The following factors were found to be statistically and negatively correlated with GPA:

- alcohol use
- anxiety
- sexual assault
- having ADHD
- coming down with a cold or the flu
- having a chronic illness
- experiencing the death of a friend or family member
- depression
- drug use
- financial worries
- gambling
- Internet use/computer games
- having a learning disability
- having roommate difficulties
- having an infection (e.g. inner ear, bronchitis, etc.)
- having sleep difficulties (sleepy during the day, can't fall asleep, and go to bed because can't stay awake any longer)
- stress
- work issues

- General student health and GPA - the better their health (self-report) the higher the GPA. Significantly fewer students rated their health as very good or excellent compared to 2009.
- Physical traumas and GPA - the more traumas (such as an assault, non-consensual sex, being threatened, etc.) a student has experienced in the last 12 months, the lower their GPA.
- Abusive relationships and GPA - there is a highly significant negative relationship between the number of abusive relationships (emotionally, physically, or sexually) experienced and GPA.
- Tobacco use and GPA - there is a highly statistically significant negative correlation between tobacco use and GPA. There is also a highly statistically significant negative relationship between e-cigarette use and GPA.
- Alcohol use and GPA - there is a significant negative correlation between the number of alcoholic drinks consumed at the last party and the student's GPA.
  - Compared to 2009, the number of drinks consumed at the last party is down significantly.
  - The negative correlation between the number of binge drinking episodes (five or more drinks at a sitting) and GPA is highly significant. Nearly 3/4 of UWRF students did not binge drinks in the prior two weeks.
  - UWRF Binge drinking rates have been declining since 2000.
  - There is a significant negative correlation between the number of alcoholic drinks consumed at the last party and the student's GPA
  - Adverse partying outcomes- there is a statistically significant decline in GPA among students having later regrets and forgetting where they were or what they had done while consuming alcohol. 23% of students forgot where they were or what they had been doing, 22% regretted things they had done, and 16% had unprotected sex after consuming alcohol.
- Marijuana and GPA - There is a statistically significant negative correlation between smoking marijuana and GPA.
- Mental health and disabilities – Students diagnosed with depression or ADHD had significantly lower GPAs than those who had not
- Stress - There is a significant negative relationship between GPA and stress levels
- Sleep and GPA - The correlation between days of adequate sleep and GPA is positive and highly statistically significant, whereas feeling sleepy during the day correlates very significantly with declining GPA.
- Electronics and GPA - There is a highly significant negative correlation between time spent on electronic devices for leisure and average GPA.
- Sexual Activity and GPA - the correlation between GPA and number of sexual partners is significant and negative. More sexual partners = lower GPA. In 2015, 75% of UWRF students said they had no (32%) or one (43%) sexual partner over the previous 12 months.