

# IMPACT OF STRESS FACTORS ON COLLEGE STUDENTS ACADEMIC PERFORMANCE

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*Stress can have an impact on a student's academic performance. Knowing that, is there is a correlation between a student's amount of perceived stress in a given semester and that same semester's GPA? Twenty-five college students participated in the study. The students were asked to complete a survey, including the perceived stress scale. Along with this test the students were asked to complete a demographic data sheet, that asked questions such as age and gender, and also their classes and grades the prior semester. Finally the students were asked to read a list of possible stress factors, for example not getting enough sleep, and rank them in order of importance. The present study was unable to find a correlation between the score on the perceived stress scale, and GPA. Still the stress factors that most contributed to the student's GPA, mainly sleep and social, activities were consistent with other research. A much larger survey would need to be conducted in order to provide an appropriate sample size.*

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College students have many obstacles to overcome in order to achieve their optimal academic performance. It takes a lot more than just studying to achieve a successful college career. Different stressors such as time management, financial problems, sleep deprivation, social activities, and for some students even having children, can all pose their own threat to a student's academic performance. The way that academic performance is measured is through the ordinal scale of grade point average (GPA). A student's GPA determines many things such as class rank and entrance to graduate school. Much research has been done looking at the correlation of many stress factors that college students' experience and the effects of stress on their GPA. A name given to such stress factors by Hatcher and Prus (1991) referred to these stress factors as academic situational constraints. Their study took into account a variety of factors that can diminish a student's academic performance. Factors such as fraternity and sorority activities, job responsibilities, or having a boyfriend or girlfriend taking away from valuable time. One extraneous variable that was taken into account was that at most universities students involved in activities such as fraternities or sororities, and also athletics, must maintain an acceptable GPA to participate. This factor by itself could attribute to these students GPAs being higher than the average college student.

This study did not take into account a main factor that a lot of college students have to deal with, having children and families to care for. Today more and more people are deciding to return to college after being out in the work force. Coming back to college puts high demands on older people, who sometimes have family already. This factor of having a family could itself contribute to a lower GPA, but one study looked at this factor of family and found the contrary. What helped these students was the support they found within the University, support such as childcare services, and also courses in how to hone superior studying skills (Hammer, Grigsby, & Woods, 1998). One extraneous factor in the study of family and school demands was that most of the students surveyed were only part-time students and therefore not a representative sample of the general college population.

There are also a number of health-related factors that can contribute to a student's academic performance, and therefore have an effect on his or her GPA. The amount of exercise, nutritional routines, and also the amount of social support the student perceives all can contribute to how a student academically performs (Hammer et al, 1998). Exercising too much or not at all can influence academic performance. Taking time out of frequent study hours to work out pulls away from grades. A frequent occurrence on college campuses is students becoming almost addicted to exercise, turning a healthy behavior into one that is psychologically unhealthy. In a study in 2000 Trockel, Barnes, and Egget found

“That students who exercised seven or more hours a week obtained significantly lower grades than students who exercised six or fewer hours weekly or not at all ” (p. 126).

Nutrition is also a problem with college students. Students may have difficulty finding the time to cook adequate meals. Most students are just learning to live on their own, and learning to cook can prove to be a challenge. Finding time to go to the grocery store once every couple of weeks can be a demanding task. Little storage space is available in the average dorm room, and food storage may not be possible at all (Trockel et al, 2000).

The effects of perceived social support are mixed. Some studies have shown that the amount of social support from the university and outside contributors like family, friends and mentors can make a huge impact on a student’s success. Support such as emotional, academic, and financial are tremendous factors in the success of a college student. The years spent at college can be a stressful and life-changing experience, having your family and friends, along with the university all be there is crucial. If the student has a family that involves his or her own children, the support of everyone is needed even more, to achieve the goal of graduation. (Trockel et al., 2000).

The correlation between hours worked in a week and GPA seems obvious. The more time spent at work, the less time a student spends studying. Having to hold down a job and still be a college student is a constant source of stress (Calderon, Hey, & Seabert, 2001). Also, mentally juggling the two roles of workplace and college student can itself be stressful. Finding the time to work a full or part time job and take it as seriously, and also maintain focus on academic studies can be perceived as stressful. Being exhausted from working the night before can cause a poor attendance record and also give a student less time to study, resulting in a poor academic performance.

The most important contribution that was found was the effects of sleep on students’ GPA. One study took into account previous research that had been done in the area of sleep, not just on college students but also on the general population. Kelly, Kelly, and Clanton (2001) “classified sleepers into three categories. 1) Short sleepers, individuals who, when left to set their own schedule, slept six or fewer hours. 2) Average sleepers, individuals who slept seven or eight hours, and 3) long sleepers, individuals who slept nine or more hours out of twenty-four ” (p. 84). The study found that people who were considered to be long sleepers reported higher GPAs.

One thing that this study did not take into account was that some past research on sleep suggests that people who sleep fewer hours a night may have psychological maladjustment. Sleeping shorter amounts of time has shown to increase factors such as anxiety and stress, which have been associated with academic performance (Kelly et al, 2001). These factors cause students problems by causing shortened attention span and also increasing the number of errors students make on tests.

Another study took the hours of sleep correlation with GPA to another level by taking factors into account like amount of sleep a student gets on the weekends versus during the week, the average time a student gets up in the morning during the week, and waking time on the weekends. Trockel, Barnes, and Egget (2000) found that variables such as later weekday wake-up and later weekend wake-up times were associated with a lower GPA. This study seems to take the research from previous study further, by asking questions specifically related to when the sleep is obtained and what time of the morning a student wakes up.

Another health-related factor that can influence student’s GPA is class attendance. Attendance itself can be related to stress factors like insufficient sleep, job responsibility, illness and also having a family or children to care for. Having a class at seven in the morning can be a huge problem for students deprived of sleep, especially for those students who attend classes during the day and work at night.

Students who have children to take care of can often find themselves being held out of class for reasons like their children being ill or not having the proper child care readily available. Grades, motivation and prior GPA can also be reasons for class attendance (Devadoss & Foltz, 1996). With attendance having a major influence on academic performance, even to the point of some professors using it as a requirement to pass a course, it is a great indicator of a student's overall GPA. One major prediction of class attendance is a student's GPA prior to enrolling in the class. Students who have done better in previous classes are likely to attend classes more frequently. Other factors in class attendance include the level of courses the student is taking. On average, junior and senior level courses have a higher attendance record than freshman and sophomore courses (Devadoss & Foltz, 1996). One finding that is contradictory to that of other studies is that students who work and are financially independent are more likely to attend classes and take their education more seriously. This is maybe due to the fact that paying for their education themselves makes them value their college careers more than students who do not pay for it themselves.

There are many factors that can cause stress and influence a student's academic performance and therefore affect his or her overall GPA. The factors include exercise, nutrition, sleep, work and class attendance. A college student may find him or herself in a juggling act, trying to support a family, taking care of job responsibilities, and at the same time trying to make the most of the college career. All of these factors can affect the grades of students, which ultimately affect the rest of their lives.

All of the factors that have been reviewed in the literature can contribute to a college student's level of stress. By themselves these constraints may have no effect at all on a student, but when combined, a student could perceive them as stressful, and the stress factors could have a dramatic effect on a student's academic performance. With too many stress factors present and with limited resources of time and energy, a student could easily become overwhelmed.

What one student perceives as stressful may not be a factor of stress at all for another student. The Perceived Stress Scale was developed by Cohen and Mermeistein (as cited in Calderon et al, 2001) to measure the amount of stress that a person perceived during past semesters. The Perceived Stress Scale is a 14-item scale designed to measure the degree to which situations in one's life are appraised as being stressful.

Some students may perceive factors such as nutrition, exercise routines, sleep patterns, social activities, and work as stressors that they need to overcome in order to achieve a higher academic standing. On the other hand, other students may not perceive these life situations as factors of stress at all. Stress itself has been proven to be a factor affecting a college student's GPA. Moreover the way the student perceives his or her stress can determine how much stress the student is actually under.

A student who has a high score on the Perceived Stress Scale has experienced high levels of stress, and his or her GPA at that time should show that negative effect. The purpose of this present study is to determine if there is a negative correlation between perceived stress in a given semester and that semester's GPA. Perceived stress will be measured by the Perceived Stress Scale, and GPA by the grades obtained that semester (Fall of 2001). I hypothesize that a higher score on the Perceived Stress Scale resulting in a higher level of stress, the correlated GPA should be lower during that specific semester.

## **Method**

### ***Participants***

Twenty-five undergraduate students at the University of North Carolina at Charlotte were asked to complete a survey. Participants were recruited by asking professors in my different classes if I would be able to pass the surveys out to the students. Seven males and eighteen females all completed the survey.

Of these students, 18 were Caucasians, 2 Asian or Pacific Islanders, 1 American Indian or Alaska Native, 2 African Americans, 1 Hispanic, and 1 other. The class standing of the 25 students' was equally distributed, 7 sophomores, 9 juniors, and 8 seniors, with the exception of only surveying 1 freshman. Students ranged in age from 18 to 35. Fifteen students were of the ages 18 to 21, 7 were 22 to 26, 2 were 27 to 30, and 2 were 31 to 35 years of age. The course load of the students surveyed was classified in the routine way; a part-time student is one who takes less than 12 hours a semester, and only 1 was surveyed. The majority of students, 24, classified themselves as full-time students, those who take from 12 to 18 hours in a normal semester. The students who completed the survey were not given credit to apply towards any class.

## Design

The purpose of this study is to detect if there is a correlation between the stress that students perceive that they are under, and their GPA's. Given that students may not be under the same amount of stress every single semester, the survey is designed to be answered as it pertained to them the previous semester of school, Fall 2001. If my hypothesis is correct, there will be a negative correlation between the amount of stress perceived by the student and that student's GPA that same semester at school. To add another factor to the stress that a student perceives, I want to find out what the three main reasons they perceive themselves to be under either a lot of stress, or little at all.

## Materials

**Perceived Stress Scale.** In order to evaluate the amount of stress that students perceive to be under, I used the Perceived Stress Scale, developed by Cohen and Mermeistein in 1983 (see Appendix A for Perceived Stress Scale). The Perceived Stress Scale is a fourteen-item scale that asks the respondents to answer a series of questions as they pertained to them in the last month. I filled in the words, during last semester, to be able to evaluate their level of perceived stress at that point in time. The method of answering the questions is a likert scale format with answers ranging from 0 being an answer of never to 4 being an answer of very often. The scale yields a single score and a higher score is indicative of greater levels of perceived stress, with items 4, 5, 6, 7, 9, 10, 13, being reversed scored. The Perceived Stress Scale has been shown to be reliable and to measure only the amount of stress, independent of other constructs like depression.

**Demographic Data.** Students were asked to report data about themselves to control for extraneous variables. Questions were asked such as their genders, ages, races. Students were also asked to answer questions about their course load, and class standing. (see Appendix B for demographic data sheet).

**Stress Factors Survey.** The students were asked to report the classes that they took over the Fall 2001 semester and any grades that they received. There is a list of reasons that could have contributed to their GPA; these reasons were be pulled out from what was reviewed in the literature (see Appendix C for stress factors survey). The students will be asked to report their top three reasons, that they received the grades that they earlier reported.

## Procedures

Twenty-five students at the University of North Carolina at Charlotte were asked if they could take ten minutes and fill out a survey. The students were first asked to read and sign a consent form (see Appendix D for informed consent form). The signed consent forms were then placed into a manila envelope so the names of each of the students would remain confidential. The students were given sheets of paper stapled together, the first paper being the Perceived Stress Scale. The next sheet of paper was a series of questions pertaining to there gender, age, race, and class standing. Following that they were asked to list every single class that they took and the grades that they recieved. Lastly, the students were

presented with a list of possible stressors or reasons that they obtained those grades last semester. They were asked to read the directions and answer the questions as honestly as they possibly could. It was brought to their attention again that their answers will be kept completely confidential and their names could not be matched with their answers.

All of the participants were tested under the same basic conditions. They were asked to complete the survey in a classroom that they are familiar with, since they have their regular classes in these rooms. The lighting in all of these classrooms is overhead fluorescent bulbs, and the temperature is basically kept comfortable, around 70-72 degrees fahrenheit. The noise levels in the classrooms is one extraneous variable that I was not able to control. Since the noise level in a normal classroom setting rarely exceeds normal conversation levels, this should not have an impact on the results.

After the students finished the Perceived Stress Scale and fill out the rest of the survey, they were all thanked for helping me with my project. I asked them what they thought of the process. Students said that it took too long and it was hard to remember the classes that they took last semester. I then again assured them that the information that I collected would remain confidential, so they should not worry about the grades being used for something else.

## **Results**

A correlation was run on the scores from the Perceived Stress Scale and the student's GPA. The results showed that the stress the surveyed students were under was not significantly correlated with the student's GPA,  $r = -.030$ ,  $p = .885$ . The qualitative data was "eyeballed" to see in what order the students ranked their stress factors. Not getting enough sleep ranked number 1 with 12 students, followed by having problems with roommates, and social activities tied for number 2 with 8 responses. Lastly, working a part-time job came in at number 3 with 7 responses, close to the number 2 spot.

## **Discussion**

If a student is under a large amount of perceived stress, one would tend to think that the student's GPA would suffer. In the review of the literature many studies found that certain factors could greatly influence a student's GPA. Health-related factors like, nutrition, and amounts of sleep were found to have a great influence on students (Trockel et al, 2000). Other factors like having a full or part-time job have been thought to take away from a student's academic performance (Calderon et al, 2001). Social activities such as, being in a fraternity or sorority, or having problems with boyfriends or girlfriends have shown to also have a negative effect on academic performance (Hatcher & Prus, 1991).

With all this taken into consideration the purpose of this study was to examine the correlation between students' amounts of perceived stress in a given semester and their GPA's. The present study was unable to show a significant correlation between the two factors. Scores ranged across the board, from a high score on the perceived stress scale with a high GPA, and a low score on the perceived stress scale and a high GPA.

There could be many reasons for these findings. The small amount of surveys that were collected may not have been a great enough number to examine the correlation closely. The student's themselves could have in some way served as an extraneous variable, with a great deal of them having problems remembering the courses that they during in the last semester. The grades that they reported may not have been completely accurate. The fact that the students had a hard time referring to their thoughts and feelings that previous semester may have also affected their stress scale score.

The qualitative data that was examined at the end of the survey does run parallel to what was found in the review of the literature. Most students ranked not getting enough sleep as their number one factor in their level of stress, followed by problems with roommates, and social activities, which in the literature was proven to be a stress factor that a majority of students had to deal with. Finding a good middle-ground between what is almost expected of you as a college student in the social area, and what is definitely expected of you in the academic area, can be a constant uphill battle for a great deal of students. Too much activity in the social area can have detrimental effects on a student's GPA, with poor class attendance, and inadequate sleep leading to a downfall in the area of grades. The third ranking stress factor was working a part-time job, each hour a student spends at work that he or she could be studying, can take away from obtaining the students' full academic potential.

This study had many limitations that might have had an effect on the results. Not having an adequate number of students who were willing to take the time to fill out the survey was a constant problem. The subject-pool could have been used in order to have access to more students, but those enrolled in the general psychology lab are usually in their first year in college and therefore have different stress factors like adjusting to the different atmosphere of college life. Another limitation of this study was the fact that a majority of students were clueless about the grades that they received the prior semester, much less they knew about the classes they even took.

The main strength of this study was the point-of-view of the author. Being a college student myself and dealing with this stress on a daily basis gave me a great deal of insight on the subject researched. I am completely aware of the impact of things like work and sleep deprivation can have on a student's academic performance. Also, having family and financial obligations can somehow take away from the ability to always perform your best.

This study was unable to show a correlation between a student's amount of perceived stress, and that student's academic performance, measured by GPA, though prior research showed there was a connection between the two. Some data suggested that those factors reviewed in the literature, like sleep and work, do somewhat contribute to a student's academic performance.

## References

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- Appendix A

### Perceived Stress Scale

The questions in this scale ask you about your feelings and thoughts during last semester, fall 2001. In each case you will be asked to indicate how often you felt or thought a certain way. Although some of the questions are similar, there are differences between them and you should treat each one as a separate question. The best approach is to answer each question fairly quickly. That is, don't try to count up the number of times you felt a particular way, but rather indicate the alternative that seems like a reasonable estimate. Remember that your answers can never be matched up with your name, so please try to answer the question as honest as possible.

For each question choose one of the following alternatives:

0 = never    1 = almost never    2 = sometimes    3 = fairly often    4 = very often

1. During last semester, how often had you been upset because of something that happened unexpectedly?  
0    1    2    3    4
2. During last semester, how often have you felt that you were unable to control the important things in your life.  
0    1    2    3    4
3. During last semester, how often have you felt nervous and stressed?

0 1 2 3 4

4. During last semester, how often have you dealt successfully with irritating life hassles?

0 1 2 3 4

5. During last semester, how often have you felt that you were effectively coping with important changes that were occurring in your life?

0 1 2 3 4

6. During last semester, how often have you felt confident about your ability to handle personal problems?

0 1 2 3 4

7. During last semester, how often have you felt that things were going your way?

0 1 2 3 4

8. During last semester, how often have you found that you could not cope with all things that you had to do?

0 1 2 3 4

9. During last semester, how often have you been able to control irritations in your life?

0 1 2 3 4

10. During last semester, how often have you felt that you were on top of things?

0 1 2 3 4

11. During last semester, how often have you been angered because of things that happened that were outside of your control?

0 1 2 3 4

12. During last semester, how often have you found yourself thinking about things that you have to accomplish?

0 1 2 3 4

13. During last semester, how often have you been able to control the way you spend your time?

0 1 2 3 4

14. During last semester, how often have you felt difficulties were piling up so high that you could not overcome them?

0 1 2 3 4



## Appendix B

### Demographic Data

Please circle one:

Gender:    M       F

Age:        18 – 21      22 – 26      27– 30      31 – 35      over 35

Race:       American Indian or Alaska Native      African American      Hispanic

             Caucasian      Asian or Pacific Islander      Other

Class Standing:    Freshman      Sophomore      Junior      Senior

Course Load:      part-time      full-time      more than 18 hours

## Appendix C

### Stress Factors Survey

Please list all of the classes that you took last semester (fall 2001), the credit hours each class is worth and the grades you received in each. (Please remember that this survey is completely anonymous)

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.

Read this list of possible sources of stress. Then list in ranking order, if you believe that any of these sources of stress contributed to your grades last semester.

- Working a part-time job
- Working a full-time job
- Nutrition
- Sleeping too much
- Not getting enough sleep
- Problems with boyfriend / girlfriend
- Class Attendance
- Problems with roommate
- Over exercising
- Not exercising enough
- Social Activities
- Being a member of a fraternity or sorority

- Having children
- Being married
- Finances
- Course load

Please rank in the space provided:

1.

2.

3.

THANK YOU FOR PARTICIPATING IN THIS STUDY.

## Appendix D

### Informed Consent Form

This experiment is being conducted by Laura Womble as a class project for Research Methods at the University of North Carolina at Charlotte. The experiment is under the supervision of Dr. Jane Gaultney in the Department of Psychology. It deals with the effects of stress on a college student's academic performance. If you agree to participate then I will ask you to fill out a simple survey about yourself. Included in the survey will be some general questions about your stress level, and the sources of your stress, along with more specific information about your last semester grades. The survey should only take about ten minutes.

Your participation in this experiment is voluntary and you are free to not complete the survey without any penalty, and remove any data that you have contributed.

Please be assured that at no time will you name be reported along with any responses. In fact, this informed consent will be kept separate from your responses. Also your participation in this study will be kept confidential, as are any responses you will give. The responses that you provide will be used by this student for the purpose of learning about research and methodology, and will not be reported outside of class.

I acknowledge that I am at least 18 years old and that the purposes and procedures of this experiment have been explained to my satisfaction. I understand that my participation is totally voluntary and that I am free to withdraw at any time with no penalty.

Signed\_\_\_\_\_

Date\_\_\_\_\_