EXTRACURRICULAR INVOLVEMENT IN COLLEGE:
ITS EFFECT ON ACADEMIC SUCCESS, MENTAL AND SOCIAL HEALTH,
AND PREPAREDNESS FOR LIFE AFTER GRADUATION

By

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Abstract

With many jobs, internships, and higher degree seeking programs requiring students to have some form of experience to be considered “well rounded,” many students are involved in extracurricular activities. However, previous studies report mixed findings regarding the impact of extracurricular involvement on student academic success. This study provides new data related to extracurricular involvement and its impact on various metrics, such as academic performance, mental and social health, and preparedness for life after graduation. The data in this study were collected using a Qualtrics survey that was sent to undergraduate students at the University of Arizona. Interestingly, students who reported 16–30 hours of extracurricular involvement each week were found to have higher GPAs (0.3125 points higher on average) compared to those who were not involved in extracurricular activities. However, students who were involved for less than 5 hours per week and those involved for 5 to 10 hours per week did not show a significant difference in GPA compared to those who were not involved. Furthermore, students involved in extracurriculars self-reported a stronger confidence in several transferable skills compared to their uninvolved peers, suggesting that involvement in extracurricular activities during undergraduate study may aid a student as they transition to postgraduate life (joining the workforce, continuing their education, etc). Many students also reported feeling stressed consistently throughout the semester, with stress levels reported at varying degrees. However, the survey data did not find a significant difference in the levels of stress experienced by involved students compared to their uninvolved peers. Taken together, the survey results suggest extracurricular involvement to any degree allows undergraduate students to feel better prepared for life after college and does not negatively impact academic success.
Preface

Ever since I was in middle school, I have been involved in extracurricular activities in some form, joining various after school activities ranging from academia to sports. Since then, I have continued to maintain some form of involvement and have found it to be extremely impactful in my life. I have had many enriching and life changing opportunities through my involvements, such as serving as a State Officer for a Career and Technical Student Organization (CTSO), serving as a peer mentor, and being a tour guide. Originally, I got involved to make friends and everlasting memories; however, these experiences also allowed me to grow exponentially as a person and provided me with an abundance of ways to succeed in other endeavors. My next endeavor is graduate school, and then medical school. Knowing that I was going to be applying to these various programs during my senior year of college, my undergraduate career was focused on finding ways to ensure that I checked every requirement box that these various programs were in search of. For example, medical school “recommends” that students gain medical experience in a variety of ways, such as research, shadowing, and scribing, to help an applicant determine if a career in the medical field is truly what they are seeking. As such, I have spent a lot of my time doing these activities. However, as a first-generation college student, I wasn’t entirely sure how to adequately prepare myself to be an outstanding candidate in the hopes that I can one day achieve my dreams of becoming a trauma surgeon. Despite the endless support and motivation from my family, I still felt the enormous stress and pressure that is placed on any student striving to attend medical school. Regardless of how difficult the journey may be, I have found that my various extracurricular involvements have provided many opportunities to not only feel less stressed, but also to grow tremendously. Although what I was doing was a lot, I do not regret any of it. It was through these involvements
where I was also able to find job opportunities, make endless amounts of connections, and, most importantly, memories that will last a lifetime.

With this, I do recognize that my situation may be inherently different to that of other undergraduate students. Some students may get involved simply to make friends or find a sense of community, while others might pursue these activities only to check off requirements for future applications. Some students may not have the chance to get involved because they are working or have other time constraints. As an individual who is employed while also maintaining active involvement in my extracurriculars, I have noticed that I feel more confident in various transferable skills such as time management, organization, leadership, and public speaking compared to some of my peers who are not involved. I have also noticed a difference in various health related subjects, such as a decrease in my stress levels and overall better physical health. My positive experiences in extracurricular activities has led me to develop a strong interest and passion in learning more about the impact of extracurricular involvement on other students.

Before starting this study, based on personal experience, I was expected to find that students with light to moderate extracurricular commitments (<20 hrs/week) would showcase the most promising results with respect to academic performance and confidence in transferable skills. I was not one of these students; I have always been extremely involved, which left little time for myself and, as such, my health was impacted significantly. I noticed that my sleeping habits were unhealthy, my mental health was not the greatest, and my attitude towards other people was not pleasant. Overtime, I learned how to better balance my various responsibilities and not take on more than I could handle. More recently, my health has improved after taking more time to focus on myself. Working part-time and being involved in extracurriculars for 10 to
15 hours each week still allows time for exercise, friends, and prioritizing my own well-being.

Most importantly, I am still able to succeed academically while continuing to prepare myself for life after graduation.

Given my experiences, I wanted to survey my peers at the University of Arizona to learn more about how extracurricular involvement was affecting their lives. More specifically, I was interested to see how extracurricular involvement affects student academic performance, mental and social health, and preparedness for life after graduation. I hope that this study will provide a new perspective on the various beneficial and negative aspects of extracurricular involvement for undergraduate students.
**Background**

As an undergraduate student, I have witnessed both strong and poor time management skills among my classmates. Finding the balance between academic life, social life, and other commitments can be quite difficult. Interestingly, I have often noticed weaker time management skills among my peers who lacked work experience or extracurricular involvement. In these same peers, I have also frequently observed a lack of leadership skills, difficulty with communication, struggles working in a team setting, and other skills needed for careers. Having additional responsibilities, like those that often come with involvement in extracurricular activities or holding employment, can provide an individual with a plethora of skills, tools, and resources that encourage success in any setting (i.e., personal, academic, and professional life).

A previous study conducted by Meghan Lucero at The University of Arizona found that working a part-time or full-time job helped to build these skills.1 The same study found that employed students reported higher confidence in their time management skills compared to unemployed students, indicating a better preparedness for post-graduate careers. Similar to employment, extracurricular involvement also requires students to manage their time well in order to balance their commitments with coursework, and these learned skills can be transferred to personal, academic, and professional settings. However, although some previous studies have shown that students who work are more confident and possess better time-management skills, there is a lack of data regarding the correlation between involvement in extracurricular activities and student success. However, one study did show that students who were involved in some capacity

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developed a deeper connection to their school, had a higher-grade point average (GPA), and were more likely to attend classes.²

Being involved is highly encouraged in college to strengthen applications to various programs or internships during school, and later for applications to graduate programs and/or jobs. An article written by a former admissions officer at Columbia University about applying to medical school claimed that having exposure and reflection is important when creating an outstanding application.³ Medical schools seek students who have developed and maintained various core competencies, such as social skills, critical thinking, cultural competence, etc. These experiences in college often highlight the applicant’s growth and journey as a student. College campuses offer a wide variety of extracurricular activities, and the University of Arizona is no exception with its more than 400 clubs and organizations, each with diverse focuses based on culture, academics, sports, or social interests. Students also have the option to create their very own club or organization, providing an opportunity to lead a newfound club or organization that best suits their interests. A 1993 article by Alexander Austin suggests that gaining involvement also positively affects student learning and developmental outcomes.⁴ Interactions with peers through extracurricular involvement in college provides students with the opportunity to broaden their perspective, ultimately increasing their capacity for learning and growth.

Retention and educational attainment is also highly important and has been shown to positively correlate with extracurricular involvement. A prior study conducted in 1991 suggested

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that being involved in extracurricular activities had a positive impact on degree completion; involvement also provided students with more opportunities to achieve their post-graduation goals.⁵ Students that are actively involved and engaged are also found to generally be more ambitious than their uninvolved peers.⁶

Soft and hard skills, from my experience, can be developed by being involved in extracurricular activities. These skills are highly transferable to life outside of college and can also encourage success within the classroom setting. While many of these skills are often taught in the classroom, getting involved can further enhance these skills.⁷ Many students first become involved to establish a social circle or find a support system that makes college a little less daunting; however, extracurricular activities ultimately become avenues through which students can gain valuable experience (e.g., an internship) that can be tailored towards career goals.⁸ Sarah-Jane McQueen, a general manager of a company called CoursesOnline, was interviewed to gain further insight as to how employers might view extracurricular activities.⁹ McQueen shared that employers often seek candidates who are able to showcase their diversity through a combination of different experiences, activities, and involvements. Furthermore, it is not just the experience alone that is attractive to employers, but rather the value it serves to the candidate through the skills gained. The Job Outlook of 2022 created by the National Association of

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Colleges and Employers included a list of attributes and skills that employers often seek on a student’s resume. From this extensive list, the top five notable skills and attributes were: problem solving skills (85.5%), analytical/quantitative skills (78.6%), ability to work in a team (73.3%), communication skills (73.3%), and initiative (72.5%).

While extracurriculars are important for career goals, there are limited studies conducted that explore the impact that they have on a student’s undergraduate career. Several studies have suggested that being involved is correlated with higher academic achievement; however, the data shown within these studies is limited. In addition, most prior studies have focused on high school students rather than undergraduate college students. To determine how extracurricular involvement impacts a student’s academic performance, GPAs of both uninvolved and involved students should be compared. A previous study suggested that extracurricular involvement may have a positive impact on academic performance when students were able to balance their commitments and prioritize their academics accordingly. As such, time management and organization is important to help involved students succeed.

It can be difficult for college students to find time for extracurricular activities due to balancing multiple commitments, such as coursework, part-time jobs, and personal obligations. Taking on new roles and responsibilities can lead to increased stress and put a student's overall health at risk. If not managed properly, stress can lead to a range of negative outcomes, including physical and mental health issues that can negatively impact academic performance and overall quality of life. As such, understanding how to effectively manage one’s time can decrease these

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10 National Association of Colleges and Employers. Job Outlook 2022. Published Online November 2021
various mental and physical health-related issues. Previous studies and articles have found that students can find it relatively difficult to manage their academic endeavors and external lives, which leads to poor time management, increased levels of stress, and terrible sleep patterns. Likewise, a previous study showed that there is a link between time management and physical health.

Since many extracurricular activities are social in nature, it would be reasonable to wonder about a possible link between involvement and higher alcohol consumption or drug usage. A previous study found that students were more likely to drink or have the opportunity to drink when becoming involved. The extracurricular activities in this study included Greek life, academic groups, and socially focused groups. From this study it can be concluded that involved students may be at a higher risk for drug and alcohol usage, depending on the type of extracurricular activity.

The various studies, literature reports, and articles that exist provide information that is somewhat conflicting regarding the impact of extracurricular involvement on undergraduate students. This study asks more specific questions to better understand the impact of extracurricular involvement on undergraduate students with respect to academic achievement, mental and physical health, and preparedness for life upon graduation.

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Methods

For this research study, my population of interest was full-time (enrolled in at least 12 credits) undergraduate students at the University of Arizona between the ages of 18 and 22. The survey was created on Qualtrics and contained 32 questions that were then distributed to various classes and departments at the University of Arizona. Students were encouraged but not required to complete the survey. The survey was completely anonymous and collected no personal information; participants had the option to provide their email for follow up, if desired. Furthermore, students taking this survey were asked to answer with honesty and integrity, and this was requested in the beginning of the survey before proceeding. An informed consent was required to begin the survey. An Institutional Review Board responsible for human subjects at The University of Arizona reviewed this research project and found it to be acceptable, according to applicable state and federal regulations and University policies designed to protect the rights and welfare of participants in research. A total of 100 students started the survey, but 3 were incomplete; this resulted in a total of 97 surveys for analysis.

When formulating this survey, I utilized questions that focused on academic success and achievement, mental and physical health, alcohol consumption, stress concerns, and extracurricular involvements. The full survey is included at the end of this document (Appendix 1).

Results

A. Respondent Demographics

After excluding the incomplete surveys as described in the methods section, there were a total of 97 completed responses that were utilized for data analysis. All survey respondents were between 18 and 22 years old; responses for each age group were as follows: 18 year-olds
(10.1%), 19 year-olds (34.3%), 20 year-olds (17.2%), 21 year-olds (20.2%), and 22 year-olds (18.2%) (Figure 1). Students were also asked to self-report their academic year as freshman, sophomore, junior, or senior. The percentage of survey respondents in each category is as follows: freshman (22.8%), sophomores (20.8%), juniors (24.8%), and seniors (31.7%) (Figure 2).

![Figure 1: Graphical representation of age of undergraduate students who responded to the survey.](image1)

![Figure 2: Graphical representation of the academic year of undergraduate students who took the survey.](image2)

The undergraduate students who completed the survey were also asked to select the college in which they were enrolled at the University of Arizona. Over 54.3% of respondents were enrolled in the College of Medicine and 18.1% were enrolled in the College of Science; the remaining 27.7% were enrolled in other colleges, as shown in Figure 3.
When completing the survey, students were asked to self-report their overall GPA. The majority of respondents (40.2%) reported having a GPA between 3.7–3.9, 29.3% of students reported having a GPA of 4.0, 15.2% reported having a GPA between 3.6–3.6, 9.6% reported having a GPA between 3.0–3.33, and 5.4% reported having a GPA less than 3.0.

B. Academic Success Based on GPA

To gather information regarding student involvement outside of the classroom, survey participants were asked about their employment status. This question was included to gain a better understanding of student time commitments and whether time spent working may be negatively correlated with time spent involved in extracurricular activities. A total of 25 students
reported being unemployed and 65 students were employed. It is important to note that some participants did not answer questions regarding employment. Of the respondents, 27.8% were unemployed, 51.1% worked 1–20 hours per week, and 21.1% worked more than 20 hours each week (Figure 5).

![Figure 5: Number of Students vs. Hours Spent Working Working](image)

Next, using the same employment groups shown in Figure 5, self-reported GPA was evaluated. Unemployed students reported an average GPA of 3.74, students working less than 10 hours each week had an average GPA of 3.5625, students working 11–15 hours each week had an average GPA of 3.82, students working 16–20 each week had an average GPA of 3.6889, students working 21–30 hours per week had an average GPA of 3.6875, and students working 31+ hours each week had an average GPA of 3.2. The average GPA of unemployed students was significantly higher from that of those employed more than 31+ hr/week (p < 0.1). However, there were no significant differences found when comparing the average GPA of unemployed students to any other group (Figure 6). This suggests, not surprisingly, that working more than 30 hours per week may be detrimental to academic success. Working less than 30 hours per week
did not significantly impact GPA in this study, which is similar to findings from a previous study at the University of Arizona\textsuperscript{17}.

Next, students were asked about their extracurricular involvements. Of the 97 survey respondents, 81.4\% reported being involved in extracurriculars and 18.6\% reported not being involved (Figure 7). One of the questions that students answered within the survey was about their perceived impact of extracurricular involvement on their GPA. Of the respondents, 37.8\% felt that their involvement had no impact on their GPA, 33.8\% felt that it had a very positive impact, 14.9\% felt that it had somewhat of a positive impact, and 13.5\% felt that it had a negative impact (Figure 8). Students who were involved in extracurriculars reported an overall average GPA of 3.7217 while those who were not involved reported an average GPA of 3.65. Although this is a noticeable difference, it is worth noting that very few students reported being uninvolved and therefore the sample sizes are unequal between these two groups. No significant difference was found between the involved group vs not involved group (Figure 9).

\textsuperscript{17} Lucero, Meghan, Carmelita. (2022). EMPLOYMENT IN COLLEGE: ITS EFFECT ON ACADEMIC SUCCESS, MENTAL HEALTH, AND PREPAREDNESS BEYOND COLLEGE (Bachelor's thesis, University of Arizona, Tucson, USA).
Next, students were asked to report how much time they spent each week on extracurricular activities. This question was asked to gain insight into the level of commitment.
and engagement of survey respondents. Students reported being involved in extracurricular activities to varying degrees. Of the respondents, 18 reported being uninvolved, 27 reported involvement of less than 5 hours each week, 26 reported involvement between 5–10 hours each week, 18 reported involvement of 11–15 hours each week, and eight reported involvement of more than 16 hours each week (Figure 10).

Next, using the same groups shown in Figure 10, self-reported GPA was evaluated. Of the survey respondents, students who were uninvolved reported an average GPA of 3.7, those involved less than 5 hours each week reported an average GPA of 3.6, those involved between 5 to 10 hours each week reported an average GPA of 3.7, those involved between 11 to 15 hours each week reported an average GPA of 3.8 GPA, and those involved more than 16 hours reported an average of 3.9 GPA. The average GPA in the 16–30 hr/week group was significantly higher than that of the uninvolved group (p < 0.10). However, no significant differences were found when comparing the average GPA of uninvolved students to any other group (Figure 11). Overall, these data show that spending more time being involved may result in an overall higher GPA.
Based on the data from Figures 10 and 11, I also wanted to determine whether students who reported being involved between 16 to 30 hours a week were also employed. Of the eight students in this group, two (25%) were unemployed, one (12.5%) worked less than 10 hours each week, four (50%) reported working 11 to 15 hours each week, and one (12.5%) reported working 21 to 30 hours each week. Similarly, I wanted to assess whether students who reported to be involved less than 5 hours each week also worked. Of the 27 students who reported being involved less than 5 hours a week, 28.16% were unemployed, 6.25% worked less than 10 hours each week, 18.75% worked 11–15 hours each week, 21.88% worked 16–20 hours each week, 15.63% worked 21–30 hours each week, and 9.38% worked more than 31 hours each week. This could suggest that students who are more heavily involved are possibly more equipped with tools and resources necessary to succeed academically.

I also wanted to determine how many hours the average student with a GPA above 3.0 spent being involved each week. Of the respondents who reported a GPA of 3.0 or above, 41.1% reported being involved less than 5 hours each week, 27.8% reported being involved 5 to 10 hours each week, 22.2% reported being involved 11 to 15 hours each week, and 8.9% reported
being involved more than 16 hours each week (Figure 12). Compared to the whole survey group, there were no notable differences in the involvement for this group of students.

![Figure 12: Graphical representation of time spent being involved for students with a 3.0 GPA and above based on survey respondents.](image)

C. Mental and Physical Health, Stress, and Alcohol Use

Next, students were asked to self-report about their health and wellbeing. Of the survey respondents who reported being involved in extracurriculars, 85.9% reported their health as ‘good’ or better. In contrast, of those who reported being uninvolved, only 70% reported their health as ‘good’ or better (Figure 13). This suggests that students who are involved may be slightly more healthy in comparison to their uninvolved peers.

![Figure 13: Graphical representation of student self-perception of health in students involved compared to those who were not involved based on survey respondents.](image)

Students were also asked to self-report about their overall stress levels in a typical semester. Stress was more commonly reported by those who were involved in comparison to
students who reported being uninvolved; 48.6% of involved students were somewhat stressed, 33.33% were stressed to a greater degree, and 5.56% reported feeling overwhelmingly stressed. Together, this amounts to more than 87% of involved students feeling stressed when trying to balance extracurricular involvements and school-related work. On the other hand, 50% of uninvolved students reported feeling stressed to a larger degree, 20% felt somewhat stressed, 20% felt stressed to a smaller degree, and 10% felt that they were not stressed at all. Overall, it was found that students involved in extracurriculars had a higher level of stress on average in comparison to uninvolved students.

In addition, the survey asked students about alcohol consumption and the frequency in which they consumed alcohol. Results showed that approximately 48.6% of involved students reported never consuming alcohol, 19.44% reported drinking alcohol once per month, 23.61% reported drinking alcohol once per week, and 8.33% reported drinking alcohol 2 to 3 times per week. Of the respondents who were uninvolved, 40% reported never consuming alcohol, 10% reported drinking once per month, 40% reported drinking once per week, and 10% reported drinking 2 to 3 times per week. None of the survey respondents, involved or uninvolved,
reported drinking alcohol on a daily basis (Figure 15). Taken together, these data show that uninvolved students were more likely to consume alcohol and do so on a more frequent basis in comparison to involved students.

![Figure 15: Consumption of Alcohol Beverages]

Figure 15: Graphical representation of the frequency of alcohol consumption for each survey respondent.

**D. Involvement Effect on Student Preparedness for Life After Graduation**

In the survey, respondents were asked to rate how confident they felt with certain soft/transferable skills in comparison to their peers. This was asked to determine how extracurricular activities may have impacted skill development in students. Regarding transferable skills, students who were involved in extracurricular activities reported higher confidence compared to their peers in all categories except self-motivation: time management (69.43% involved, 60% uninvolved), ability to multitask (65.18% involved, 60% uninvolved), self-motivation (58.32% involved, 50% uninvolved), self-confidence (51.36% involved, 20% uninvolved), punctuality (65.26% involved, 60% uninvolved), teamwork (70.76% involved, 50% uninvolved), maturity (80.55% involved, 60% uninvolved), leadership (81.87% involved, 70% uninvolved), and public speaking (65.2% involved, 60% uninvolved). These percentages were found by combining the categories of “slightly stronger compared to that of my peers” and
“significantly stronger compared to that of my peers.” The percentages of involved students that chose each answer are shown in Table 1; highlighted cells indicate that there was a higher percentage of involved students that selected that ranking in comparison to uninvolved students. Taken together, these data show that involved students were more confident in a wide variety of soft skills compared to their uninvolved peers.

<table>
<thead>
<tr>
<th>Field</th>
<th>My abilities are significantly weaker compared to my peers</th>
<th>My abilities are slightly weaker compared to that of my peers</th>
<th>My abilities are equivalent to that of my peers</th>
<th>My abilities are slightly stronger compared to that of my peers</th>
<th>My abilities are significantly stronger compared to that of my peers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time management</td>
<td>1.38%</td>
<td>9.27%</td>
<td>19.4%</td>
<td>29.16%</td>
<td>40.27%</td>
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<tr>
<td>Ability to multitask</td>
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<td>6.94%</td>
<td>27.7%</td>
<td>38.8%</td>
<td>26.38%</td>
</tr>
<tr>
<td>Self-Motivation</td>
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<td>12.5%</td>
<td>18.05%</td>
<td>29.16%</td>
<td>29.16%</td>
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<tr>
<td>Self-Esteem</td>
<td>8.3%</td>
<td>11.1%</td>
<td>36.1%</td>
<td>23.61%</td>
<td>20.83%</td>
</tr>
<tr>
<td>Self-Confidence</td>
<td>5.5%</td>
<td>13.8%</td>
<td>29.16%</td>
<td>29.16%</td>
<td>22.2%</td>
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<tr>
<td>Punctuality</td>
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<td>13.8%</td>
<td>20.83%</td>
<td>29.16%</td>
<td>36.1%</td>
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<tr>
<td>Teamwork in Group Projects</td>
<td>0%</td>
<td>4.16%</td>
<td>25%</td>
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<td>41.6%</td>
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<tr>
<td>Maturity Level</td>
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<td>18.05%</td>
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<td>4.16%</td>
<td>13.8%</td>
<td>40.27%</td>
<td>41.6%</td>
</tr>
<tr>
<td>Public Speaking</td>
<td>5.5%</td>
<td>11.1%</td>
<td>18.05%</td>
<td>37.5%</td>
<td>27.7%</td>
</tr>
</tbody>
</table>

**Conclusion and Discussion**

College can be a very daunting environment for students. With the increasing demand placed on students to gain experience and develop broad skill sets for their future endeavors, many students become involved in extracurriculars. This study provides new data about the impact of extracurricular involvement on student GPA. The data showed that students who were involved for 11 to 15 hours per week held an average GPA of 3.82, and those that were involved
for 16 to 30 hours per week had an average GPA of 3.96. When comparing uninvolved students to those involved less than 5 hours per week or those involved for 5 to 10 hours per week, there is approximately 0.006 to 0.0078 difference in GPA. It is important to note that no significant differences in GPA were found between uninvolved groups and involved groups, with the exception of the 16-30 hr/week group (p < 0.10). While GPA is not the only factor that graduate school admissions committees will evaluate, better GPA can indicate a high caliber student and is seen as highly favorable by committees.1819

When evaluating survey responses related to health and wellbeing, the differences observed between involved and uninvolved students were smaller than I originally expected. I was expecting that involved students would have an overall better health and wellbeing due to the support group and connections that they can create by being involved. I was also surprised to see that uninvolved students reported consuming alcohol more frequently than involved students. This finding may be a result of students being involved in extracurricular activities that are more academically focused and less social. When looking at the reported stress levels, there was a noticeable difference between involved and uninvolved students, with stress more commonly reported by those who were involved. In addition, the degree to which a student was stressed also varied greatly and over 87% of involved students felt constantly stressed at a higher degree compared to uninvolved students. This could suggest that the demands of school along with changing routines in extracurricular activities create more stress, perhaps due to increased time commitments and less free time. Stress can be detrimental to a student’s overall health; however, not all forms of stress are bad. Contrary to popular belief, stress can be beneficial in certain

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contexts. In moderation, stress can allow a person to meet and exceed obstacles that they are faced with, motivate a person to achieve their goals and ambitions, and at times, make them healthier.\textsuperscript{20} Regardless, it is important for college students to find time for themselves to prioritize their needs, health, and wellbeing. If they are unable to properly take care of themselves, then this could negatively impact their health as well as their academics. As such, it is recommended that students should find a healthy school, work, and social life balance. It is important to remember that we are humans first and students second.

Based on the analysis of student self-perception on soft skills, it was found that involvement in extracurricular activities and the development of various soft skills are positively correlated. Although soft skills can also be developed within a classroom setting and outside of extracurricular activities, the survey data suggests that soft skills may be developed to a higher degree when becoming involved. Joining extracurricular activities provides students with ample opportunities (leadership roles, internships, events, etc) to grow in various ways that help develop and strengthen these soft skills. Students who spend more time strengthening their soft skills will likely be seen as stronger applicants and will be better equipped to excel in their future endeavors. Interestingly, many companies are now finding that having “hard” skills and a high GPA does not accurately predict how well candidates will perform in a workplace setting.\textsuperscript{21} In another study, it was found that over 59\% of respondents were able to develop the majority of the skills they use in their current job through activities outside of school. It was also further found

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that these skills were linked to a higher perceived work quality later in life.\textsuperscript{22} Based on these studies and results from this survey, it can be concluded that students at the University of Arizona who are involved in extracurricular activities will be equipped with tools, knowledge, and skills that will encourage success after graduation.

This study provides information related to extracurricular involvement and how it correlates to student achievement, both inside and outside of the classroom. Despite how difficult college can be, the results of this study suggest that students can get involved without negatively impacting their GPA. Every individual is inherently different and what works for one person might not necessarily work for another. As such, it is important to find balance between the various demands in each student’s life. In doing so, students will have the ability to succeed in different aspects of their life and create a more positive and enjoyable environment for themselves. Higher retention rates for colleges and universities stems from students succeeding academically. Although it might not seem significant, graduation and retention rates provide great insight into how many students finish their respective degrees and provide information on the quality of the school.\textsuperscript{23} Such information gives colleges and universities a better understanding on how to best support their students to ensure their success upon graduation. Although it is challenging to maintain a full-time status in college while being involved in extracurricular activities, this study and others show that the benefits of involvement outweigh the risks.


Limitations and Further Studies

This study aimed to determine whether involvement in extracurricular activities impacts student success. Although students were able to anonymously self-report their GPA on the survey, this information was not verified through academic records. The beginning of the survey requested that students answer with full honesty; however, there is a chance that reported GPA may differ from actual GPA. In addition, students were asked to self-report various qualities, such as soft skills, mental and physical health, etc. Any self-reported data has the possibility of being biased and may lack consistency.

Furthermore, the sample size for students who were uninvolved was rather small and seeking a larger group of uninvolved respondents would be beneficial for future studies. As such, future studies with larger sample sizes may be better able to determine the impact of extracurricular involvement on academic performance and preparedness for life after graduation at a larger scale.
Appendix 1: Survey

Q1 **Study Title**: Extracurricular Involvement in College and Its Effect on Academic Success, Mental and Social Health, and Preparedness for Life After Graduation

**Principle Investigator**: Derick Truong

**You are being asked to participate in a research study.** Your participation in this research study is voluntary and you do not have to participate. This document contains important information about this study and what to expect if you decide to participate. Please consider the information carefully. Feel free to ask questions before making your decision whether to participate.

This study is being used to evaluate the effect of the extracurricular activities of college students on an individual’s academic success, mental/physical health, and readiness for life after graduation. The investigation will be conducted based on data analysis of the following survey. The survey is anticipated to take ten to fifteen minutes. To participate in the study the participants must be a full-time student enrolled at the University of Arizona.

**You will not benefit** directly from participating in this study. There is a potential loss of confidentiality when participating in this study. However, the information that you give in the study will be anonymous. Your name will not be collected or linked to your answers. All responses will be stored in an encrypted and password protected Box database.

The information that you provide in the study will be handled confidentially. However, there may be circumstances where this information must be released or shared as required by law. The University of Arizona Institutional Review Board may review the research records for monitoring purposes.

For questions, concerns, or complaints about the study, you may contact Derick Truong at dericktruong@arizona.edu

For questions about your rights as a participant in this study or to discuss other study-related concerns or complaints with someone who is not part of the research team, you may contact the Human Subjects Protection Program Director at 520-626-8630 or online at https://research.arizona.edu/compliance/human-subjects-protection-program.

By selecting **I agree** below, you are giving your consent to participate in this research study.
Q2 I agree to answer accurately and honestly (responses are anonymous).

  - I agree (1)
  - I disagree (2)

Q3 What is your age?

  - 17 (1)
  - 18 (2)
  - 19 (3)
  - 20 (4)
  - 21 (5)
  - 22 (6)
  - 23 (7)
  - 24 (8)
  - 25+ (9)
Q4 What is your academic year classification?

- Freshman (1)
- Sophomore (2)
- Junior (3)
- Senior (4)

- Other (Specify below): (5)

__________________________________________________
______________________________________________________________________________

Q5 What academic college do your studies fall under?

- College of Agriculture & Life Sciences (1)
- College of Applied Science & Technology (2)
- College of Architecture, Planning & Landscape Architecture (3)
- College of Education (4)
- College of Engineering (5)
- College of Fine Arts (6)
- College of Humanities (7)
- James E. Rogers College of Law (8)
Q6 What is your academic major?

○ Applied Physics (23)

○ Astronomy (4)

○ Biochemistry (5)

○ Bioinformatics (6)

○ Biology (7)
○ Chemistry (8)

○ Computer Science (9)

○ Ecology & Evolutionary Biology (10)

○ Engineering (26)

○ Geosciences (11)

○ Hydrology & Atmospheric Sciences (24)

○ Mathematics (12)

○ Molecular & Cellular Biology (13)

○ Neuroscience & Cognitive Science (14)

○ Physics (25)

○ Psychology (15)

○ Speech Language & Hearing Sciences (16)

○ Statistics (17)

○ Nursing (18)

○ Nutrition (19)

○ Pharmacy (21)
Q7 What is your expected graduation year?

- 2022 (1)
- 2023 (2)
- 2024 (3)
- 2025 (4)
- 2026 (5)
- Unknown (6)
- Non-degree seeking (7)

Q8 What is your overall GPA?

- 4.0+ (1)
- 3.9 (2)
- 3.8 (3)
Q9 What are your current living arrangements?

○ Campus/university housing (1)
Q10 DO any of the following situations apply to you?

☐ I live in a multigenerational household (1)

☐ I use my income to support other family members (2)

☐ I am a caregiver and do not get compensated for my duties (3)

☐ I have dependents who rely on me (4)

☐ A significant portion of my income is used for medical expenses for myself or my dependents (5)

☐ I share my income with my family members or others that live out of the country (6)

☐ None of the above situations applies to me (7)

Q11 How many credits are you enrolled in this semester?

☐ <11 (1)

☐ 12-15 (2)
Q12 If you are currently employed, on average, how many hours do you work per week?

- 16-18 (3)
- 19-21 (4)
- 22+ (5)

Q13 Are you involved in any extracurricular activities (clubs, sports, volunteering, etc.)

- Yes (1)
- No (2)

Q14 If you answered "yes" to the previous question, please list and briefly describe the activities in which you are involved.
Q15 If you are involved in extracurricular activities, which of the following best describes their effects on your social involvement.

- This does not apply to me (1)
- I am able to participate in all social activities that I wish to (2)
- My extracurricular activities prevent me from participating in some social activities (3)
- My extracurricular activities prevent me from participating in most social activities (4)
- My extracurricular activities prevent me from participating in all social activities (5)

Q16 If you are involved in extracurricular activities, are you able to easily adjust your schedule to meet the demands of school and extracurricular activities?

- Yes (1)
- Sometimes (2)
- No (3)
- Does not apply (4)

Q17 What do you plan to do after you graduate?

- Attend graduate/professional school (including medical school or any other health related schools) (1)
- Enter the workforce (2)
○ Take a year of opportunity (gap year) (3)

○ Join the military (4)

○ Volunteer/work abroad (5)

○ Other (specify below) (6) ____________________________________________

Q18 What is your perceived impact of your extracurricular involvement on your academic GPA?

○ Very negative impact (1)

○ Somewhat negative impact (2)

○ No impact (3)

○ Somewhat positive impact (4)

○ Very positive impact (5)

○ I am not currently employed (6)

Q19 On average, how often do you feel overwhelmed with the demands of school and other commitments (work, extracurriculars, etc)?

○ Never (1)

○ Sometimes (2)

○ About half the time (3)
Q20 On average, how many hours of extracurricular and community service activities do you participate in per week?

- <5 (1)
- 5-10 (2)
- 11-15 (3)
- 16-30 (4)
- 21+ (5)

Q21 For each of the following categories, how would you rate yourself in comparison to your peers?

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<thead>
<tr>
<th>Time Management (1)</th>
<th>My abilities are significantly weaker compared to that of my peers. (1)</th>
<th>My abilities are slightly weaker compared to that of my peers. (2)</th>
<th>My abilities are equivalent to that of my peers. (3)</th>
<th>My abilities are slightly stronger compared to that of my peers. (4)</th>
<th>My abilities are significantly stronger compared to that of my peers. (5)</th>
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<tr>
<td>Ability to Multitask (2)</td>
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<td>Skill</td>
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<td>Self-Motivation (3)</td>
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<td>Self-Esteem (4)</td>
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<td>Public Speaking (11)</td>
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Q22. What is your general assessment of your current health?

- Poor (1)
- Fair (2)
- Good (3)
- Very good (4)
- Excellent (5)
Q23 On average, how would you describe your overall stress level during a typical semester?

- Not stressed at all (1)
- Stressed to a small degree (2)
- Somewhat stressed (3)
- Stressed to a large degree (4)
- Overwhelmingly stressed (5)

Q24 On average, how would you describe your stress level in the week leading up to an exam?

- Not stressed at all (1)
- Stressed to a small degree (2)
- Somewhat stressed (3)
- Stressed to a larger degree (4)
- Overwhelmingly stressed (5)

Q25 On average, how many hours do you spend studying for all of your classes per week?

- 0-3 (1)
- 4-6 (2)
Q26 On average, over the last two weeks, how many hours of sleep have you gotten on weekday nights (excluding naps)?

- <5 hours (1)
- 5-6 hours (2)
- 7-8 hours (3)
- 9-10 hours (4)
- 11+ hours (5)

Q27 On average, over the last two weeks, how many hours of sleep have you gotten on weekend nights (excluding naps)?

- <5 hours (1)
- 5-6 hours (2)
- 7-8 hours (3)
Q28 Do you feel that you have enough time to participate in the activities that you enjoy outside of work, school, and extracurricular activities?

- Yes (1)
- Sometimes (2)
- No (3)

Q29 How often do you consume alcoholic beverages?

- Never (1)
- Once a month (2)
- Once a week (3)
- 2-3 times a week (4)
- Daily (5)

Q30 When you do consume alcoholic beverages, how many do you consume during that time?

- 0 (1)
Q31 If you would like to share any additional information about your experience balancing work, extracurricular involvements, and academics, please share below

Q32 If comfortable, please provide an email in order for a follow up survey to be sent should the need arise. Thank you for your time.