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Putting It Off: Exploring the Prevalence of Procrastination of Assignments by the Aversive Nature of High School Courses and Student Impulsivity

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ABSTRACT

Procrastination is the act of delaying or postponing a task. Currently, procrastination is a serious issue among high school students as it can cause detrimental effects to work habits and contribute to poor health among students. After a review of scholarly sources within the body of knowledge surrounding procrastination, it was determined that procrastination is caused by two main factors: aversiveness and impulsivity. While there have been some studies determining the effects of procrastination in high schools, there was a gap in the body of research regarding a cause for procrastination in high school students. As a result, a study was conducted in which 253 students were selected through English classes in a New York high school to complete a survey which identified whether class aversiveness and student impulsivity had differing effects on student procrastination among three different course types: AP, Honors, and Regents. Three scales were used in the survey to record different statistical measures: the S-UPPS-P Behavior Scale for student impulsivity, the Perceived Stress Scale for class aversiveness, and a Student Procrastination Scale created by the investigator to measure student procrastination. After use of unpaired t-tests, it was determined that there is no direct correlation between class aversiveness and student impulsivity to procrastination.

Literature Review

Introduction

According to Magoosh, an educational company, as many as 86% of high school students procrastinate. Procrastination is defined as the delay of an aversive task by replacing it with a less aversive one while leaving the original task "for a future version of themselves" (Sirios, Pychyl 2013). It is both the cause and result of stress, and if resolutions are not found, procrastinators can be subjected to a never-ending cycle. Living with that much stress can seriously harm one's mental health. Later in adulthood, those who suffer from procrastination may also suffer to meet deadlines for work or pay taxes on time. Currently, there are only a few studies regarding procrastination in relation to high school students, let alone how specific high school courses affect student procrastination. Procrastination is the result of two main factors: aversiveness (negative stimuli provoking) and impulsivity (the lack of impulse control resulting in the delay of tasks). By measuring these factors in a high school environment for courses with varying difficulty, new information could answer the question: To what extent does impulsivity and the aversive nature of high school courses of varying difficulty affect student procrastination of assignments?

Impacts of Procrastination

Procrastination has been shown to have a harmful impact on students' well-being and work habits. Irma S. Jones, a professor in the Department of Applied Business Technology at the University of Texas Rio Grande Valley, conducted a study that used 877 assignments to determine grades of an undergraduate criminal justice program at Southern Hispanic University. The study concluded that students whose assignments were submitted earlier had substantially higher grades. Other studies, however, refuted Jones's findings and found no direct correlation between negative grades and procrastination. In a 2015 study, Jill Janssen, a psychologist with a PhD in educational psychology from Georgia State University, examined 98 high school students and 133 undergraduate college students. Jannsen collected information on the students' grade point averages (among other statistics) and found no statistically significant evidence that indicated academic achievement correlated to procrastination. Alexandre Gareau, a psychology researcher with a PhD in Social Psychology from the University of Ottawa, found similar results when compiling a sample of 258 students who completed self-report surveys on measures of procrastination and tests for memory. Gareau found that academic procrastination negatively predicted subsequent academic achievement, indicating that procrastination was not found to be linked to any areas of academic difficulties or limits in cognitive ability.

Other studies, however, pointed to a more direct harmful effect of procrastination: students' health. A study by Dianne M. Tice, who holds a PhD in social psychology from Princeton University, and her colleagues observed both positive and negative impacts of procrastination on a person's health in the short and long term. In her study, Tice conducted an experiment with 44 undergraduate college students who were assigned a paper at the start of a semester with a due date and were told they could have an automatic extension to a later date if they could not meet the deadline. Four weeks into the semester, students were instructed to complete Lay's Procrastination Scale- another scale to provide data on procrastination behaviors. They then recorded daily measures of stress and work requirements for the next 30 days. Tice found that in the short-term, procrastination brought benefits as procrastinators were carefree and unstressed, while non-procrastinators worked on the project immediately and suffered from health problems and stress. However, these health benefits reversed as time progressed. Towards the end of the project, procrastinators reported greater overall stress and illness than non-procrastinators. The cumulative effect of procrastination on stress and health based on the early and late measures were found to be negative as total stress and illness were far higher overall for procrastinators than non-procrastinators.

Aversiveness

Often, when a task is found to be difficult, anger-provoking, or another negative stimulus, they are faced with the urge to abandon the task altogether. Dr. Fuschia M. Sirios, a professor of the Department at the Psychology in Durham University, and Timothy A. Pychyl, an Associate Professor of Psychology at Carleton University, explains that such emotions are examples of aversiveness, one of the main components and factors that leads to procrastination. Procrastination comes from a lack of self-regulation and self-discipline, causing people to delay an intended task because of it being viewed as aversive. As a result, people leave the task for a future version of themselves, ultimately leading to more stress and further delaying task completion.

In 2000, Timothy A. Pychyl and Allen K. Blunt, a fellow professor of the Psychology Department at Carleton University, completed an experiment that identified aversive stimuli and the effect they had on procrastination. In the study, 161 undergraduate students in an introductory psychology class completed the Personal Projects Analysis (PPA) and the Principal Components Analysis (PCA) to observe emotions that arose throughout the stages of a personal project. The results corroborated those of the study by Pychyl and Blunt and found that boredom, frustration, and resentment emerge as components associated with task aversiveness at each stage of project development. Other negative emotions, such as stress, were also attributed to aversiveness at varying stages of the project development. All identified components of aversiveness corresponded positively in relation to procrastination, hence displaying a direct relationship between procrastination and aversiveness.

Impulsivity

Impulsivity comes from the lack of self-regulation of one's own actions and is a massive component of procrastination. Self-regulation is an attempt to override natural tendencies or impulses. This may include, for example, a person attempting to diet despite desperately wanting to eat unhealthy foods. In a study by Dianne M. Tice and Ellen Bratlavesky, professors of Applied Social Psychology at Case Western Reserve University, it was found that depending on one's strength and willpower, a person may be able to override impulses to withstand their higher order goals. Those better at resisting these impulses are less likely to fall into procrastinative tendencies.

Attempts to self regulate sometimes lead to greater self-control failures, creating a spiraling negative emotional state. When someone exercises self-control, it often involves forcing themselves to do something that they do not want to, and as a result, a person may enter a negative emotional state. During these negative emotional states, a person may fall into self-control failures in an attempt to regulate these negative emotions. According to Tice and Bratslavasky, "Emotional distress is so aversive that people often give top priority to ending it in an attempt to feel better." These failures may occur in chains as a person immediately tries to regulate negative emotions coming from these failures by giving up on other modes of self-control. This can make long-term self regulation difficult as a result (Tice, Bratslavsky 2000).

Provocations of Student Procrastination in High School

The high school educational system plays a role in provoking procrastination in the student body. One of the reasons for schools' large contribution to procrastination is the high stress environment they induce. According to a 2013 survey conducted by the American Psychological Association (APA), 80% of teenage students claimed that their largest stressor was school. Similarly, a study by Doctor Maria Kaczmarek, a senior research scientist and program coordinator at EcoHealth Alliance, found that 25% of high-school level school students in Poland were extremely stressed when it came to daily life (Kaczmarek, 2021). School environments were found to be the only cause of these high stress levels for the students. When an aversive emotion, such as stress, is constantly active in a student's life, as suggested by Tice and Bratlavesky, self-control failures may occur more frequently, and procrastination occurs as a result.

Different courses in high schools can have varying effects on students' stress levels. Honors/advanced level courses are assumed to have a greater level of stress than standard courses. A study by Dylan Conger, a professor of public policy at George Washington University, proved that Advanced Placement (AP) courses produce greater stress than that of Honors or other courses. In his study, students of 23 schools across the nation (the Midwest was excluded) were surveyed about their workload after adding 12 AP Chemistry courses and 10 AP Biology courses across the schools. Results found that 10% fewer students were confident they could take a college-level course after taking these AP courses. AP courses were found to double the already high rates of stress for science courses. With AP classes causing increased stress due to their more advanced concepts and greater workload, it can be assumed that more difficult courses cause a more aversive environment, and therefore, cause more procrastination.

Conclusion of Literature Review

Previous research has proved that procrastination exists at a high level among high school students. This can prove to be detrimental to lifestyle and health as a result. Procrastination is both the source and cause of stress, resulting in a cycle that continuously harms mental health and inhibits the ability of students to meet deadlines. Assignments are often the subject of procrastination for students in high school, and it is still unknown how the rigor of certain courses affects the procrastination of assignments. This study looks to measure a direct correlation between the aversive nature of courses and impulsivity of students to procrastination in high school courses. It can be used to investigate a gap in the field of procrastination about the causes of procrastination in high school rather than just its effects. The

use of a hypothetical survey based on aversiveness, impulsivity, and procrastination may help students better select courses and improve their well-being. With this said, it can be hypothesized that procrastination will be higher in students that have both higher levels of aversiveness and impulsivity.

Methodology

Participants

The intent of this study was to take into consideration how aversiveness and impulsivity affect procrastination between different high school course types. The participants selected for this study comprise high school students from a local high school of the investigator. This population was chosen because it was both the source of inquiry for the study as well as the host to a relatively diverse population compared to other schools in the region.

The high school has a total of 1609 students. Of those students, 55.9% are white, 17.2% are Asian, 11.8% are African American, 11.4% are Hispanic, and 3.6% are multiracial. Such diversity allows the implications of this study to apply to a general high school population.

Sampling

A purposive sampling process was used to gather a sufficient sample of students to use in the study. Random sampling was the ideal method for acquiring participants, but due to the necessity of gathering enough students from each grade level and class difficulty, this method proved ineffective. Students were selected from Honors, Regents (grade-level classes), and AP courses. Participants in the study were recruited specifically through the use of English classes in the school. The classes were specifically recruited, but the types of students in each class (other than by the rigor of the classes they take) were random. This method of sampling was beneficial as all students in the high school are required to complete an English class. In addition, recruiting students from only English classes ensured that only the level of aversiveness of the class was considered in the sampling criteria. Subsequently, the investigator spoke briefly to as many of the selected classes as to inform students that participation in this study would benefit the researcher. A total of 253 students participated in the study.

Materials

Throughout the study, several materials and published scales were utilized to conduct the research. One of these materials was a personal computing device of a type that was either provided by the school or that belonged to the students. Google Forms was utilized as a platform for students to complete three different surveys as well as provide organizational tools for the data collected within the study. The study was multifaceted as it contained three surveys, two of which tested the factors that cause procrastination, and another that measured procrastination itself by presenting the participant with a hypothetical situation. All three of the surveys used Likert scales. The questions in the survey were indirect and did not indicate to the participants a specific area of measure when answering so that bias could be prevented.

The first of the scales used to collect data from the students was a *Student Procrastination Scale* created by the investigator. The students were presented with a different hypothetical research paper assignment based on the type of student they classified themselves as at the beginning of the survey (AP, Honors, Regents). The hypothetical assignment for each class type had differing requirements except that all were to be completed in one month. Each hypothetical assignment had three requirements: the type of research conducted, the number of sources used, and the length of the paper itself. These characteristics became more aversive with each increasing class difficulty as the hypothetical assignment became more difficult or longer to complete. The survey questions and hypothetical research

assignments can be observed in Appendix B. The questions for the scale evaluated responses to the assignment by asking whether the participant agreed strongly or disagreed strongly on a scale from 1-5. They asked students about how they delayed assignments and whether their delays were intentional or not. For example, one question from the survey states, "I intend to work on the assignment, but find myself doing other things instead." Another question states, " I start the assignment right away." Some researchers helped justify the creation of the questions in the survey. The first was Eun Hee Seo, the English for Academic Purposes Program Coordinator at Mason Korea, who observed the differences between active and passive procrastination. Seo found that active procrastinators- those who intentionally delay assignments- had better grades than passive procrastinators who unintentionally find themselves delaying assignments . The other justification for the creation of this survey was from the work of Sirios and Pychyl, who outline the basic aspects of procrastination. They explain that procrastination results in leaving the task for "a future version of themselves", hence why questions were included about when the participants began the hypothetical assignment.

The *Perceived Stress Scale* (PSS) *is* a ten-item Likert scale to measure the degree to which a person's life is considered stressful. Created by Sheldon Cohen, Tom Kamarck, and Robin Mermelstein, the items of the scale were designed to measure the extent to which the respondents' lives were unpredictable, uncontrollable, and overloaded. The questions were designed for a general population and are not specific, thus allowing any subpopulation group to bring about valid results. The scores for the scale are obtained by reversing responses (e.g., 0 = 4, 1 = 3, 2 = 2, 3 = 1 & 4 = 0) to the four positively stated items (items 4, 5, 7, & 8) and then summing across all scale items. For the purposes of the study, the questions of the PSS were edited to focus on a school-specific setting rather than the respondent's general life. This allowed the investigator to gather information about stress in classes to measure the aversiveness factor of procrastination. The specific questions for the scale can be observed in Appendix E.

The *Short UPPS-P Impulsive Behavior Scale* (S-UPPS) created by Jules Roger Dugré and her colleagues is a shortened version of the original *UPPS-P Impulsive Behavior Scale* (UPPS) developed by Stephen P. Whiteside and Donald R. Lynam in 2001. The scale evaluates impulsive behaviors, or impulsivity, by using the Five-Factor Model of Personality: negative urgency, positive urgency, premeditation, perseverance, and sensation seeking. Questions were asked on a Likert scale to identify the extent of these impulsive behaviors from 1-4. The S-UPPS was created to successfully shorten the original scale and was tested by Dugré to find that it was successful in identifying impulsive behaviors among psychiatric patients. Questions from the scale can be observed in Appendix G.

Procedure

First, approval was received by the Institutional Review Board for the study. Then, to carry it out, the investigator sent out a Google Forms link to students in desired English classes through their teachers. Students filled out the informed consent form, then began the survey, allowing the investigator to gather information on them.

In the next part of the survey, students identified their grade level and chose what difficulty the majority of their classes were (AP, Honors, Regents). Based on their selection, the subjects were then each sent to a different Likert-scale survey, which presented a hypothetical assignment given to the students that would be completed in a month. The students were asked questions based on how they would respond to the assignment (ex. when they would start it, how long would they spend on the task, would they delay it, and why). This first part of the survey helped create a measure of the extent to which students may procrastinate in real-life situations.

The next section asked questions about school induced stress on the modified version of the PSS. The intent of this section was to provide information on one of the factors that cause procrastination: aversiveness. This does so by measuring stress, a major aversive feeling imposed among students in high school.

The final survey used is the adapted USSP-S Impulsivity Behavior Scale to measure student impulsivity. This measure is especially important when understanding procrastination as it shows correlations to the levels of impulse control students have in each class. This also increases the validity of the method because it accounts for the student's ability to handle different workloads at each course level.

Results

High School Population

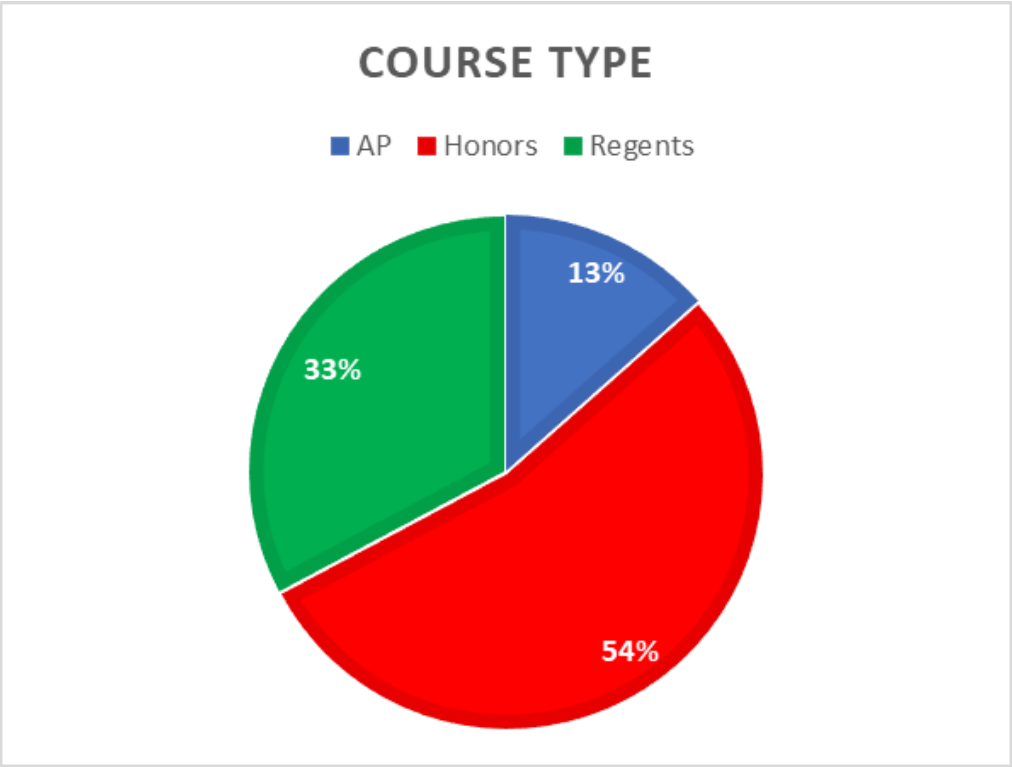

Figure 1. High School Student Population - Class Difficulty Type

As shown in Figure 1, students participating were most abundant in Honors classes, which consisted of 136 participants and 54.0% of the total population. Regents students (regular classes) consisted of 32.9% of the students and had 83 participants. AP students represented the smallest percent of the population at 13.1% with 34 students. This proportion of AP students, though minor, is valid as AP classes are much more limited in number compared to Regents or Honors. In addition, for students to have identified themselves as an "AP Student" in the survey, they would have to have taken multiple AP courses, an uncommon occurrence.

Student Procrastination Scale

When it came to scoring the specific questions of the *Student Procrastination Scale*, they were either reverse scored or normally scored. The *Student Procrastination Scale* consisted of seven items scored on a 1 to 5 basis. Items 1, 5, and 6 were scored in reverse in this section. Methods of identifying central tendencies using mean, median, and standard deviation helped analyze the data to determine which class difficulty type had the greatest score for procrastination. These statistics can all be viewed in Appendix C.

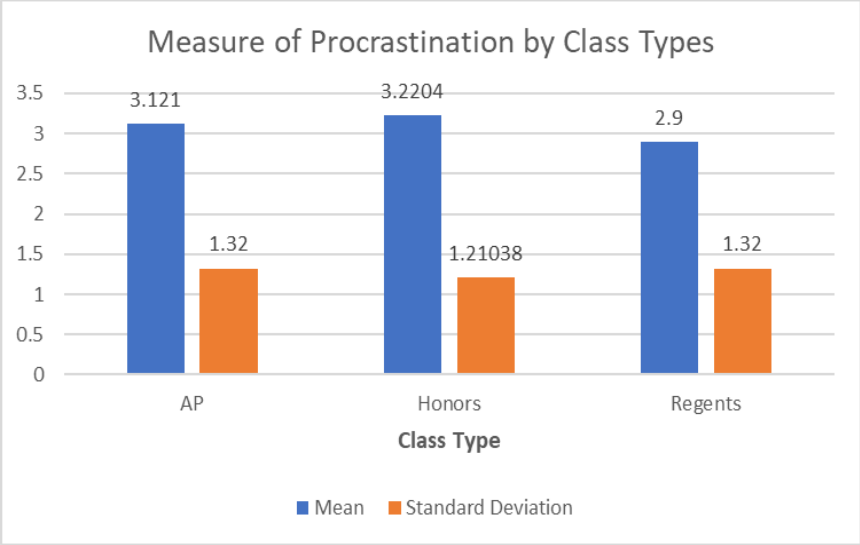

Figure 2. Student Procrastination Scale- Measure of Procrastination by Class Types

For the calculations displayed in Figure 2, the three class types were analyzed for each question by three measures of central tendency: mean, median, and standard deviation. The measured values for each of these methods of central tendency were then averaged together to represent the entire population for the section. The specific statistics can be seen in Appendix C.

The average means of the scores for AP, Honors, and Regents courses were all about the same (3.12, 3.22, 2.9). Honors courses had the largest score of procrastination by class type, followed by AP courses, then by Regents courses. Three unpaired two-sample t-tests were used to measure the statistical differences of procrastination between all class types: AP-Honors ($p = 0.8632$), Honors-Regents ($p = 0.5790$), and Regents-AP ($p = 0.7125$). The results of the following t-tests were all greater than the critical value of $p = 0.05$, indicating that they were not statistically significant and showed no notable comparison in measurement of procrastination between class types.

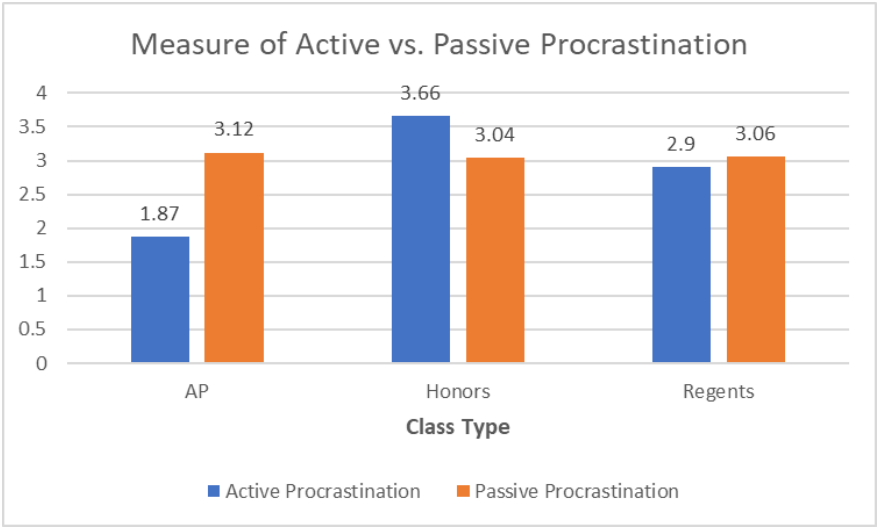

Figure 3. Student Procrastination Scale- Measure of Active and Passive Procrastination

Items 4 and 7 from the *Student Procrastination Scale* each measure a different aspect of procrastination: active and passive (Seo, 2012). Item 4 uses the term "intentional" when asking about procrastination habits to determine active procrastination, and item 7 uses the word "unintentional" with procrastination to determine passive procrastination. For the calculations displayed in Figure 3, the three class types were analyzed for items 4 and 7 by three measures of central tendency: mean, median, and standard deviation. The specific statistics can be seen in Appendix D.

The scores for the *Student Procrastination Scale* differed greatly between Active and Passive procrastination. The results show that Active Procrastination was favored in only one class: Honors (3.66). Measures of Active Procrastination were also highest in Honors courses, followed by Regents (2.9) then AP (1.87). Three unpaired two-sample t-tests between the different courses were used to determine statistical significance differences: AP-Honors ($p = 0.0128$), Honors-Regents ($p = 0.0480$), and Regents-AP ($p = 0.1577$). Relationships between the AP and Honors as well as the Honors and Regents courses had a p-score less than the critical value of $p = 0.05$ indicating that there was a significant difference between the courses for Active Procrastination.

Passive Procrastination, on the other hand, did not differentiate much between the different class types. Means of the scores for AP courses are just barely the highest (3.12) followed by Regents (3.06) then Honors courses (3.04). Three unpaired two-sample t-tests were used evaluate statistical differences between the courses for Passive Procrastination: AP-Honors ($p = 0.8894$), Honors-Regents ($p = 0.9710$), and Regents-AP ($p = 0.9710$). None of the values fell below the $p = 0.05$ critical value indicating that there was no significant difference between Passive Procrastination values between the courses.

Perceived Stress Scale

The *Perceived Stress Scale* consists of ten Likert-scaled items (0-4). Five of the items when coding was reverse scored: 2, 4,6, 7, 8.

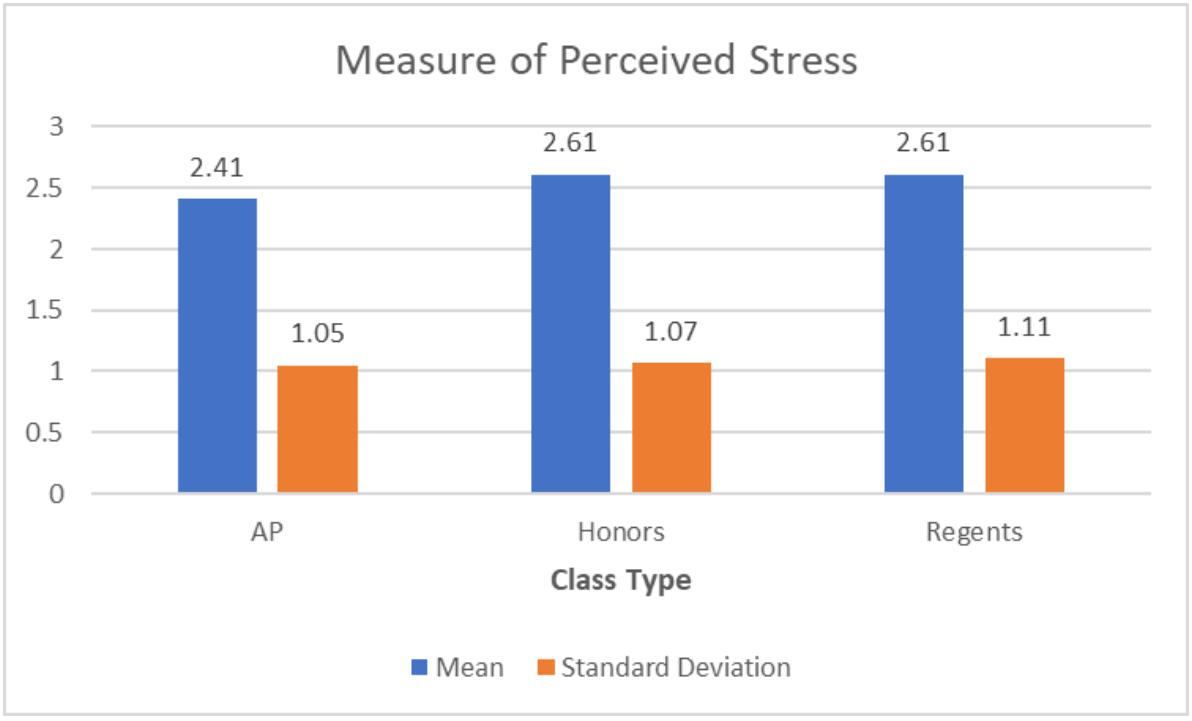

Figure 4. Perceived Stress Scale- Measured Perceived Stress by Class Type

For the calculations displayed in Figure 4, the three class types were analyzed for each question by three measures of central tendency: mean, median, and standard deviation. The measured values for each of these methods of central tendency were then averaged together to represent the entire population for the section. These specific statistics can be observed in Appendix F. Again, for this test, measures for perceived stress were relatively similar between all the courses. Both Honors and Regents courses had the same means for scores of perceived stress (2.61). AP courses had a mean score slightly lower than the other two course types (2.41). Distribution between the course types was all very low as indicated by the low standard deviations. This indicates that student answers do not differ much from one another. Three unpaired two-sample t-tests were used to compare statistical significance of perceived stress between the different course types: AP-Honors ($p = 0.6781$), Honors-Regents ($p = 0.6719$), and Regents-AP ($p = 0.6838$). None of the values for the comparison tests between the different class types had a p-score below the critical value of $p = 0.05$ indicating that there was no significant difference between perceived stress of the different class types.

S-UPPS-P Impulsive Behavior Scale

The *S-UPPS-P Impulsive Behavior Scale* consists of 20 Likert-scaled items (1-4). A majority of the items in this scale are to be reverse coded by default: 3, 6, 8, 9, 10, 13, 14, 15, 16, 17, 18, and 20. The S-UPPS-P is often scored and observed through its individual scales within the survey from the Five-Factor Personality Model, however, for the purposes of this study, all scores were combined together into one large measure of impulsivity. Individual measures of impulsivity by personality trait were not important because impulsivity was being compared as a whole for its effect on procrastination.

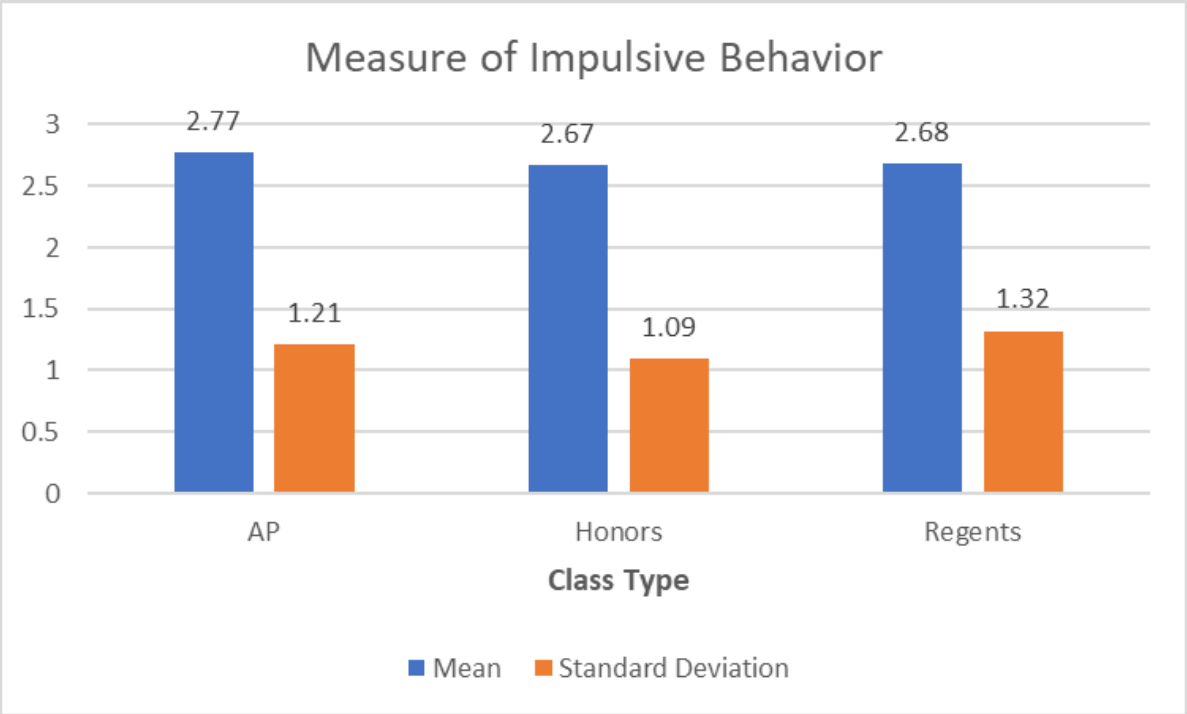

Figure 5. S-UPPS-P Impulsive Behavior Scale- Overall Student Impulsivity by Class Type

For the computations shown in Figure 6, the three class types were examined using the mean, median, and standard deviation as three measures of central tendency for each question. The measured results for each of these

central tendency approaches were then averaged to represent the class's whole population. All statistics for these measures can be observed in Appendix H. The mean scores for impulsivity between the different class types was similar. AP courses, by a minor amount, had the highest mean score (2.77), followed by Regents courses (2.68), then Honors courses (2.67). Three unpaired two-sample t-tests were used to measure the statistical differences of procrastination between all class types: AP-Honors ($p = 0.7851$), Honors-Regents ($p = 0.9793$), and Regents-AP ($p = 0.8234$). None of the tests between the different course types had a p-value below the critical value of $p = 0.05$. This means that there was no statistical significance of impulsivity between the different class types.

Discussion

Review of Findings

After conducting several tests to measure student stress, impulsivity, and procrastination, the null hypothesis can be accepted: There is no direct correlation between aversiveness and impulsivity to procrastination. The results seen in Figure 2, when put in context of the study by Pychyl and Sirios, can be understood that there was no difference in negative stimuli experienced by its students based on the course type. This may be due to the types of students in each course and their ability to handle both the courses' difficulty of task and workload. On each level, students are self-selected into the classes that are most appropriate for their abilities. Students in the upper level courses (AP) are best able to handle difficult tasks, and students on lower level courses (Regents) handle the lighter workload in the same manner (Sirois & Pychyl, 2013).

It was also apparent that there was a large difference in the ways that students procrastinate based on their course type. In Figure 3, it can be observed that both AP and Regents courses preferred Passive Procrastination, while Honors students preferred Active Procrastination. This means that when completing assignments, Honors students chose to complete their task at the last minute, rather than attempt to start the assignments at an earlier time. On the contrary, AP and Honors students, based on the results of Figure 3, tend to start an assignment earlier, but due to self-regulation failures, they find themselves going off task and unintentionally delaying the assignments. One would have originally expected that any differences observed in Passive vs. Active Procrastination would be more apparent in either the most difficult (AP) or the easiest classes (Regents) (Seo, 2012). The fact that this was seen in the middle level class (Honors) further reduces the likelihood that class aversiveness impacted procrastination style.

Limitations

There were several possible limitations within the study that could have limited the validity of the results. The first of these was the fact that there was an uneven distribution of grade levels. As seen in Appendix A, there was a significantly larger portion of underclassmen (9th and 10th grade) students than upperclassmen (10th and 11th grade students). These underclassmen were much more willing to take the survey, hence yielding the most participants. The investigator, despite going to many upperclassmen classes, found that the underclassmen more frequently completed the survey following the investigator's brief of the study. The upperclassmen did not. There is also a slightly uneven distribution within the course types of students as shown in Figure 1. A much larger population of Honors (54%) and Regents (33%) students participated in the study than the AP students (13%). With AP students still having a satisfactory size of 34 students, it can be argued still that a larger population would make the results much more reliable. Another limitation that should be addressed is the fact in which the scales do not take into account that students do not usually take only one type of course. Very few students take only AP, Honors, or Regents classes. The survey, to compare the course type, asked students to identify what type of student they were and only allowed one selection of a course causing it to not fully address the mixture.

Conclusion

The relationship between impulsivity and aversiveness is a complex one, and from the results of the study, is difficult to be relied upon when identifying what classes may cause increased procrastination in students. With the results of this study, it can be said that students when choosing courses should not target classes specifically due to worries of one causing them to procrastinate more than another. Something that may be able to be called upon for future research in the field, however, is the exploration of which levels of impulsivity can have effects on procrastination. In this study, impulsivity was viewed as a singular, overarching factor that causes procrastination, but it is a spectrum with many different aspects, all with major effects on behaviors.

References

Bethune, S. (2014). American psychological association survey shows teen stress rivals that of adults. *Https://Www.apa.org*. https://www.apa.org/news/press/releases/2014/02/teen-stress

Blunt, A. K., & Pychyl, T. A. (2000). Task aversiveness and procrastination: a multi-dimensional approach to task aversiveness across stages of personal projects. *Personality and Individual Differences*, *28*(1), 153–167. https://doi.org/10.1016/s0191-8869(99)00091-4

Cohen, S., Kamarck, T., & Mermelstein, R. (1988). *Perceived stress in a probability sample of the United States*. Psycnet.apa.org. https://psycnet.apa.org/record/1988-98838-002

Conger, D., Kennedy, A. I., Long, M. C., & McGhee, R. (2019). The Effect of Advanced Placement Science on Students' Skills, Confidence and Stress. *Journal of Human Resources*, 56(1), 0118-9298R3. https://doi.org/10.3368/jhr.56.1.0118-9298r3

Dugré, J. R., Giguére, C.-É., Percie du Sert, O., Potvin, S., & Dumais, A. (2019). The psychometric properties of a short UPPS-P impulsive behavior scale among psychiatric patients evaluated in an emergency setting. *Frontiers in Psychiatry*, *10*. https://doi.org/10.3389/fpsyt.2019.00139

Gareau, A., Chamandy, M., Kljajic, K., & Gaudreau, P. (2018). The detrimental effect of academic procrastination on subsequent grades: The mediating role of coping over and above past achievement and working memory capacity. *Anxiety, Stress, & Coping, 32(2)*, 141–154. https://doi.org/10.1080/10615806.2018.1543763

Janssen, J. (2015). Academic Procrastination: Prevalence Among High School and Undergraduate Students and Relationship to Academic Achievement. *Communication Sciences and Disorders Dissertations.* https://doi.org/10.57709/7132571

Jones, I., & Blankenship, D. (2021). Year two: Effect of procrastination on academic performance of undergraduate online students. *Research in Higher Education Journal, 39.* https://scholarworks.utrgv.edu/tl_fac/29/

Kaczmarek, Maria, and Sylwia Trambacz-Oleszak. "School-Related Stressors and the Intensity of Perceived Stress Experienced by Adolescents in Poland." *International Journal of Environmental Research and Public Health*, vol. 18, no. 22, 10 Nov. 2021, p. 11791, 10.3390/ijerph182211791.

Seo, E. H. (2012). Cramming, active procrastination, and academic achievement. *Social Behavior and Personality: An International Journal*, *40*(8), 1333–1340. https://doi.org/10.2224/sbp.2012.40.8.1333

Sirois, F., & Pychyl, T. (2013). Procrastination and the Priority of Short-Term Mood Regulation: Consequences for Future Self. *Social and Personality Psychology Compass*, *7*(2), 115–127. https://doi.org/10.1111/spc3.12011

Tice, Dianne M., and Roy F. Baumeister. "Longitudinal Study of Procrastination, Performance, Stress, and Health: The Costs and Benefits of Dawdling." *Psychological Science*, vol. 8, no. 6, 1997, pp. 454–458, www.jstor.org/stable/40063233#metadata_info_tab_contents. Accessed 12 Oct. 2022.

Tice, D. M., & Bratslavsky, E. (2000). Giving in to Feel Good: The Place of Emotion Regulation in the Context of General Self-Control. *Psychological Inquiry*, 11(3), 149–159. https://doi.org/10.1207/s15327965pli1103_03