Navigating the Digital Abyss:

Exploring the Interplay Between Social Media, Procrastination, and Student Well-being

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Introduction/Background

In the era of digital connectivity, social media has become a pervasive element in the lives of students, offering both conveniences and challenges. The instant accessibility of information and social interactions can be a double-edged sword, as it also invites potential distractions and procrastination. This project, "Navigating the Digital Abyss," aims to explore the complex interplay between social media use, procrastination, and student well-being, focusing on the detrimental effects that social media can have on academic performance and mental health.

Social media platforms are designed to capture and retain user attention with features like instant notifications and infinite scrolling. These features can significantly disrupt a student's ability to concentrate and engage deeply with their academic tasks. The constant interruption caused by social media not only affects the quality of study but also contributes to a cycle of stress and anxiety. This cycle can exacerbate the habit of procrastination—a major barrier to academic success and timely completion of tasks.

Significance

Understanding the triggers and impacts of procrastination in the digital age is crucial for educators, parents, technologists, and students themselves. Procrastination, when influenced by digital platforms, extends beyond mere delay in task completion; it is a significant factor that can undermine a student's academic achievements and shape their digital experiences. This research aims to delve deep into these dynamics, offering insights that could transform educational practices and potentially contribute to the development of interventions that help students manage their digital habits more effectively.

By investigating these patterns, this project seeks to provide actionable strategies for improving time management among students and designing technological solutions that help mitigate distractions. This research is pivotal as it addresses a gap in existing studies by focusing not only on the challenges posed by social media but also exploring potential positive influences that these platforms could have on student productivity and well-being. The outcomes of this research could lead to significant enhancements in educational strategies and digital platform designs, ultimately supporting improved academic outcomes and healthier engagement with digital technologies. The study aims to enhance student well-being and learning environments by uncovering dynamics within social computing interactions, benefiting educators, social computing professionals, and technologists.

Related Work

The intricate relationship between social media use and academic performance has garnered considerable attention in the scholarly community, highlighting the profound impact of digital distractions on student focus and time management. Research has consistently shown that personality traits such as self-control and conscientiousness are linked to procrastination behaviors, with social media platforms presenting unique challenges as facilitators of procrastination. Alblwi et al. (2021) demonstrated that while these traits can predict such behaviors, they explain only a small portion of the variance, underscoring the complex interplay of individual differences and digital environments [1].

Further investigations by Mulawarman et al. (2019) have established a direct correlation between the intensity of social media use and academic procrastination among university students. This foundational insight is pivotal for shaping educational policies aimed at reducing the negative impacts of excessive digital consumption [2]. Complementing this perspective, Rozgonjuk et al. (2018) explored how in-class social media use significantly mediates the relationship between procrastination and problematic smartphone use, highlighting the immediate effects on learning outcomes and student attention [3].

The COVID-19 pandemic has added another layer of complexity to this issue. Latipah et al. (2021) delved into how the pandemic-induced shift to remote learning heightened the influence of social media on procrastination due to reduced self-regulated learning abilities. This research is crucial for understanding procrastination within the extraordinary circumstances of the pandemic, emphasizing the need for adaptive educational strategies [4]. Additionally, Albwi et al. (2020) scrutinized the design features of social networking sites, suggesting the possibility of integrating countermeasures within these platforms to help users regulate their behavior and mitigate procrastination. This perspective underscores the potential of digital environments to support better user habits through thoughtful design interventions[5].

Despite these significant advancements, there remain several gaps in the research. Much of the existing literature focuses predominantly on the negative impacts of social media, with insufficient exploration of how these platforms might also support productivity and well-being. Moreover, there is a pressing need for more personalized and nuanced analyses that consider the individual differences in how users interact with digital technologies. The current project seeks to address these gaps by investigating the potential influences of social media, particularly how culture around social media can influence academic performance. It also aims to develop personalized interventions that leverage user-specific data to create more effective strategies for managing procrastination. This includes using machine learning algorithms to analyze user behavior patterns and suggest tailored time management strategies. Additionally, employing a dual-method approach that combines qualitative insights from student experiences with quantitative data from platforms like Reddit allows for a deeper understanding of the socio-technological dynamics influencing student behavior.

By advancing the understanding of these dynamics, this project fills existing research gaps and contributes practical solutions that could be implemented across social computing platforms. It aspires to enhance both academic performance and psychological well-being for students navigating the complexities of the digital landscape, offering a more holistic view of the role of social media in academic settings.

Objectives, Goals, and Outcomes

The primary objective of this project was to explore the multifaceted relationship between social media use, procrastination, and student well-being, with a focus on enhancing academic performance and mental health. There were two hypotheses being tested via the qualitative and quantitative methods of analysis outlined below:
- Subjects who engage in high social media use tend to procrastinate more academically.
- Academic Procrastination negatively correlates with Self-efficacy

Data and Approach

Individual Reported Data Collection
- Surveys and Questionnaires: Develop and distribute surveys to a diverse group of students across campus to gather self-reported data on their social media usage, procrastination habits, and perceived academic performance. Questions should assess the frequency and duration of social media use, types of platforms used, reasons for usage, self-assessment of procrastination levels, and academic outcomes.
- Digital Footprints: With consent, collect data from participants' social media platforms and study apps to objectively measure time spent, frequency of use, and patterns that correlate with procrastination (e.g., usage during study times).

This method allows for the direct collection of self-reported data which is essential for understanding personal behaviors and perceptions that are not otherwise observable, such as reasons for using social media and self-assessment of procrastination habits. Surveys are versatile, relatively inexpensive, and can reach a broad audience quickly. They are excellent for gathering large amounts of

data which is beneficial for statistical analysis and generalization of findings. Collecting data from digital footprints provides an objective measure of social media usage and patterns. This method supplements self-reported data by providing hard evidence of behavior.

Social Media Data Collection

- Scrape Reddit API, particularly subreddits like r/college, r/gradSchool, r/studying to get insights about social media use and procrastination.
- Find out using NLP, whether descriptions regarding social media use are positive or negative in these subreddits.
- Perform a time series analysis to determine if mentions of procrastination are higher during exam periods and holiday periods. In particular we wanted to evaluate if mentions of procrastilnation were higher during the pandemic.

This method of data collection via tapping into social media forums where students discuss their study habits provides real-world data that can enrich understanding beyond structured survey responses. This can reveal unguarded opinions and discussions about procrastination and social media use, offering authentic insights into student behavior and sentiment. It's important to note that the sample may not be representative of all student populations.

Data Analysis

- Quantitative Analysis: Use statistical methods to analyze the relationship between social media usage patterns and academic performance. This includes correlation analysis, regression models to control for confounding variables, and time series analysis for tracking changes over time.
- Qualitative Anaysis: Analyze survey responses for qualitative insights into why students procrastinate on social media.

Utilizing statistical methods to explore correlations and causations between social media usage and academic performance provides a robust framework for validating hypotheses drawn from theoretical models. This offers the ability to control for confounding variables, providing a clearer picture of the relationships between variables and supports generalizations from sample data to broader populations. The qualitative analysis complements quantitative findings by providing deeper insights into the reasons behind social media usage and procrastination, as perceived by the students themselves.

Scrolling to Procrastination - A Study

The survey "Scrolling to Procrastination" investigates the relationship between academic procrastination and the use of social media and technology. Given the pervasive nature of social media in the lives of students, the research seeks to understand how it impacts their academic performance and tendency to procrastinate. The survey targeted individuals who are currently students. A total of 21 responses were collected, representing various gender, age, and education demographics. The survey consisted of several sections, each designed to capture different aspects of the participant's social media usage and academic behaviors:

- **Demographic Information:** Collecting basic information such as gender, age, and current level of education to understand the background of the participants.
- **Social Media Use Data:** Assessing the daily average screen time and specific app usage to quantify the participants' engagement with social media.

- **Social Media Addiction Questionnaire (BSMAS):** Evaluating the degree of participants' dependency or addiction to social media using a series of statements rated from 'Very Rarely' to 'Very Often'.
- **Multidimensional Media Multitasking Scale (MMMS):** Measuring the frequency of media multitasking, especially the use of social media during study sessions.
- **Academic Procrastination Scale (APS):** Investigating the extent of procrastination behavior related to academic tasks.
- **Self-Efficacy Scale:** Gauging the confidence levels of individuals in their ability to meet targets and handle difficult situations effectively.
- **Screen time/GPA Correlation:** Examining the relationship between screen time on social media and academic performance, as indicated by the participant's GPA.

Participants were asked to provide their full names for internal research purposes, ensuring confidentiality and non-disclosure externally. The research assures the confidentiality of the participants' information and emphasizes that the data collected will not be shared externally, adhering to ethical research practices.

Demographics

The gender distribution was nearly even, with 11 identifying as women and 10 as men. Age-wise, the majority were between 18-25 (19 participants), with 2 participants in the 26-35 bracket. Education levels were primarily Master's degrees (19), with a smaller representation of Doctorate degree holders (2). The survey is designed to draw correlations between social media use and academic procrastination. The diverse range of questions—from screen time to self-efficacy—provides a comprehensive view of the multifaceted ways in which social media may impact students' academic lives.

Screen-time Usage

Participants were requested to disclose their average screen time using data extracted from their mobile apps. The highest reported screen time was 10 hours, while the lowest recorded was 2 hours and 30 minutes. Research suggests that a healthy amount of screen time should average around 2 hours per day. However, 90% of our sample pool reported spending more than 4 hours per day on mobile applications, indicating excessive engagement.
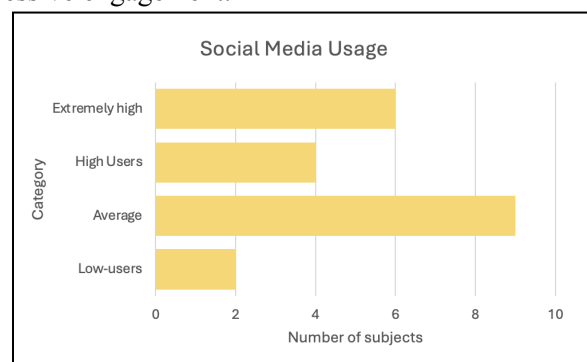

Figure 1: Social Media Usage

The survey categorizes social networking site users into four categories: low, average, high, and extremely high users. The horizontal bar chart in Figure 1 above, shows that the majority of the subjects (~43%) fall into the 'average users' category. There are fewer subjects in the low and high usage categories, and even fewer classified as extremely high users. The data suggests that while there is a range in the usage patterns of social media among the subjects, the majority do not exhibit extreme usage behavior.

Academic Procrastination Scale Categorization

The Academic Procrastination Scale (APS) is designed to explore procrastination behaviors specifically related to academic tasks, including studying, writing papers, and completing assignments. By assessing the frequency and severity of procrastination within an academic context, the APS offers valuable insights into individuals' tendencies to delay these tasks. This scale serves as a valuable tool for researchers and educators seeking to better understand and address procrastination within educational settings.
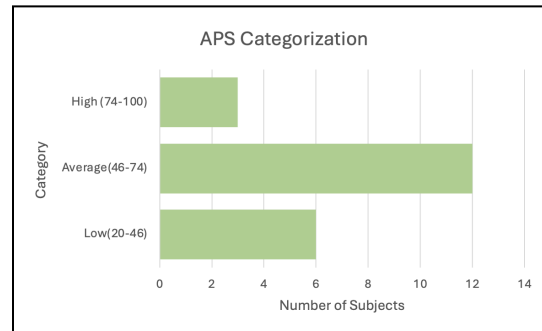
Figure 2: APS score distribution

The Academic Procrastination Scale (APS) was scored using a classical test theory approach, wherein responses to the 20 individual items were summed to generate a total score for the scale. APS scores fell within the range of 20 to 100, with a mean (M) of 60 and a standard deviation (SD) of 14.5. This indicates that while the average score suggests moderate procrastination, there is a significant spread in the scores, implying varying levels of procrastination behaviors among the subjects. Figure 2 above, shows the three levels of procrastination that were identified among the participants: low (20-46), average (46-74), and high (74-100). The bar chart shows that the majority of the subjects (~57%) exhibit average levels of academic procrastination. Fewer subjects fall into the low and high categories.

Bergen Social Media Addiction Scale (BSMAS)

The Bergen Social Media Addiction Scale (BSMAS) is a concise and effective tool for assessing the level of social media addiction. It comprises six items, each rated on a 5-point Likert scale from 1 ("very rarely") to 5 ("very often"). These items aim to gauge the extent of fixation with social media. Some studies suggest that a BSMAS score of 24 or higher indicates the optimal clinical threshold for diagnosing social media disorder (SMD). Interpreting the results, it's commonly understood that scoring above 3 on at least 3 out of the 6 items may suggest addiction to social media. This interpretation is based on the premise that higher scores across most criteria signify increased severity or frequency of behaviors or feelings associated with social media addiction.
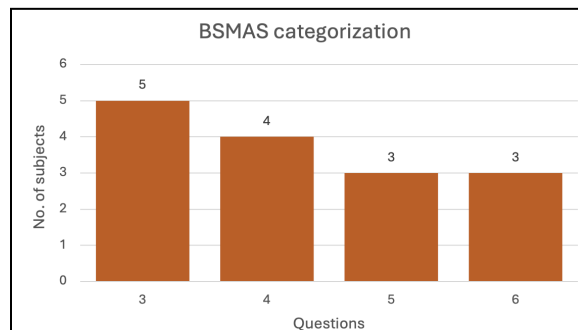

Figure 3: BSMAS Categorization

The bar chart in Figure 3 above depicts that 15 out of 21 subjects (~71%) answered more than 3 on at least 3 out of the 6 items, suggesting a possible inclination towards social media addiction within the majority of this sample.

From these results, it can be interpreted that while the majority of the participants are average users of social media, there is a significant proportion that may be at risk of social media addiction. Moreover, the presence of average levels of academic procrastination among most subjects could suggest a commonality in the student population or could be a reflection of a normal distribution of procrastination behaviors. The mean score on the APS suggests that the tendency to procrastinate is present but not extreme among the participants. The standard deviation in the APS scores indicates that there is variability in how much participants procrastinate, which might be influenced by individual differences or external factors.

Multidimensional Media Multitasking Scale

The Multidimensional Media Multitasking Scale (MMMS) is crafted to delve into the phenomenon of media multitasking across various platforms. It assesses the frequency and intensity of engaging with multiple media sources simultaneously, offering insights into individuals' habits and behaviors in this realm. Researchers and practitioners find the MMMS indispensable for comprehending the intricate dynamics of media consumption in contemporary society. Participants were surveyed about their frequency of engagement with social media platforms during study sessions. Of the respondents, 42% reported engaging "frequently," while 47% reported engaging "occasionally." The pie chart in Figure 4 below illustrates the distribution of these responses.
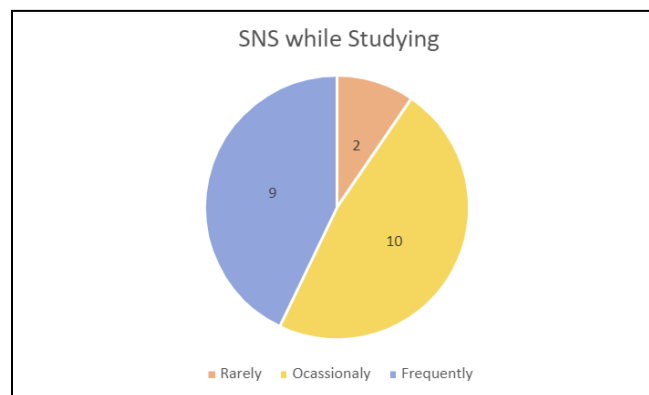

Figure 4: Social Media Usage while Studying

When asked about their use of social media while engaging in academic-related activities, participants demonstrated varying levels of engagement depending on the specific academic tasks they were performing. For example, students were most likely to use social media concurrently when reading or studying from textbooks, attending online classes, or reviewing online lectures and slides. The stacked bar chart in Figure 5 below shows the distribution of the responses of all participants.
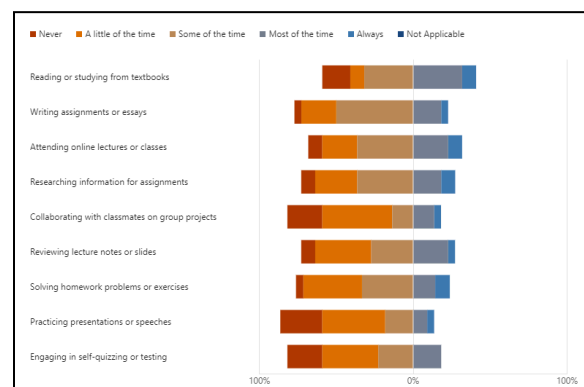

Figure 5: Multidimensional Media Multitasking

The survey also provided an insight into the most frequently used social media platforms during academic activities among students, with the most used being Instagram, followed by Whatsapp and then YouTube.
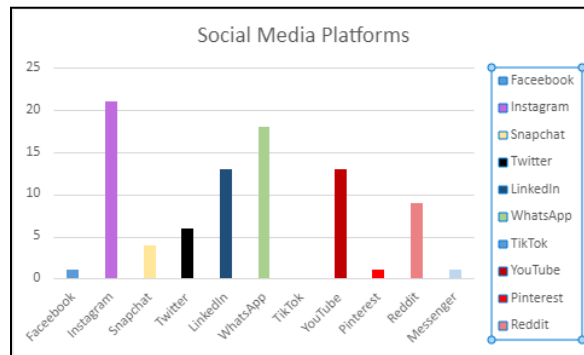

Figure 6: Most frequently used Social Media Platforms

Participants were also asked to self-report their perceptions of how social media influences their academic practices. Figure 7 below shows that of the respondents, 42% indicated that they "always" find it difficult to concentrate on their studies due to social media usage. Additionally, 52% reported feeling that social media usage affects their academic performance "somewhat negatively." This suggests that students are cognizant of the impact of increased social media usage on their academic performance. While this awareness may not necessarily result in poor grades, it could indicate challenges related to mental health, such as stress induced by spending excessive time on social media and not allocating enough time to academic activities, potentially leading to burnout.
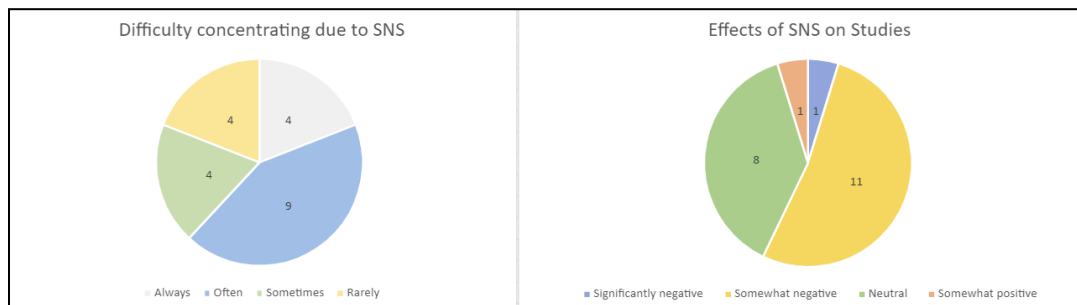

Figure 7: User's perception of social media influence on academics

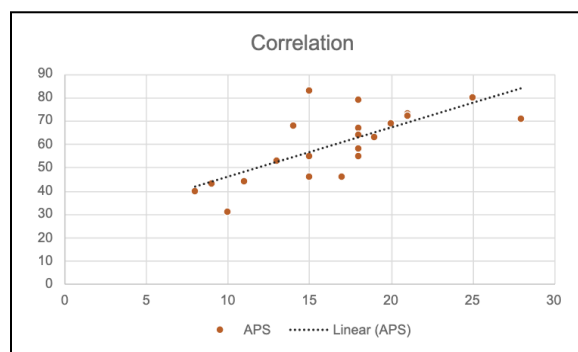*Correlation Analysis between BSMAS and APS Scores*

Figure 8: Correlation between BSMAS and APS

We analyzed the BSMAS and APS scores by finding a correlation between the two variables. The survey reports a positive correlation of 0.72 between the Bergen Social Media Addiction Scale scores and Academic Procrastination Scale scores, which is a strong positive correlation. This implies that higher levels of reported academic procrastination are associated with higher levels of social media usage among the participants. The p-value of 0.000233 indicates that the result is statistically significant at the p < .05 level, suggesting that the observed correlation is unlikely to have occurred by chance.

Self Efficacy and Grades

Self-efficacy not only influences individuals' choices of behavior but also impacts their persistence and effort. Procrastination manifests as a voluntary delay of planned tasks, despite knowing it's not advisable; this suggests weak persistence in individual behavior. Many researchers have acknowledged the influence of academic self-efficacy on academic procrastination. Meta-analyses indicate that self-efficacy is a significant and consistent predictor of procrastination. Other studies also consistently show a negative correlation between academic self-efficacy and academic procrastination, with academic self-efficacy predicting procrastination negatively. Some researchers propose that low self-efficacy in self-regulation predicts higher levels of procrastination. Additionally, studies indicate that academic self-efficacy mediates the effects of other variables on academic procrastination.

In an effort to understand the relation between CGPA and academic procrastination we decided to add a few questions in the survey that can effectively gauge the participants self-efficacy.
The self-efficacy questions are scored on a scale from 5 to 25. The average score obtained by the participants was 17, with a standard deviation of approximately 5. This relatively high average suggests that participants generally have confidence in their ability to exert control over their academic behaviors and outcomes. However, the standard deviation indicates variability in the self-efficacy levels among the participants. The average Cumulative Grade Point Average reported by the participants is 3.9 on a scale where the maximum is 4.0. This indicates high academic achievement across the survey sample. These results indicate that interventions aimed at improving self-efficacy and self-regulation skills could be beneficial for individuals struggling with academic procrastination. By implementing these interventions, individuals can develop the necessary skills and beliefs to effectively manage academic procrastination and maintain high academic achievement levels.

Scrolling Reddit - A Data Exploration

For this portion of the study, we conducted a data collection exercise on Reddit, a popular social media platform with numerous user-generated content forums known as subreddits. Our objective was to gain insights into the discourse around social media use and its relationship with procrastination. To achieve this, we implemented the following methodology:

1. Data Scraping: We scraped Reddit posts for mentions of procrastination across eight different subreddits. These subreddits were carefully selected for their relevance to academic life and productivity, such as r/college, r/gradSchool, and r/studying, among others.
2. Keyword Querying: We queried posts for keywords associated with procrastination, such as social media, assignments, studying, etc., to ensure that the data was relevant to our research questions.
3. Natural Language Processing (NLP): Utilizing NLP techniques, we analyzed the sentiment of the descriptions regarding social media use within these subreddits to classify them as positive or negative.

The pie chart in the visual indicates the distribution of 1,045 Reddit posts across the selected subreddits:
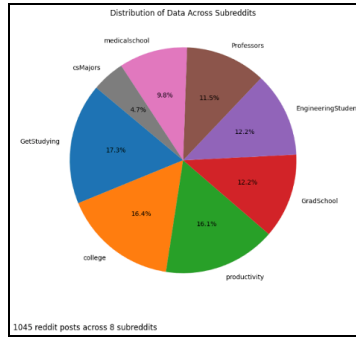
Figure 9: Distribution of Data Across Subreddits

- The subreddit with the highest distribution of posts related to procrastination was r/GetStudying (17.3%), suggesting a high level of concern or discussion about procrastination in this community.
- This was followed closely by r/college (16.4%) and r/productivity (16.1%), which also indicates significant engagement with the topic within these forums.
- Other subreddits like r/medicalschool, r/cSMajors, and r/Professors had smaller, yet notable, shares of the data, implying that procrastination is a topic of interest across diverse academic disciplines.

The sentiment analysis of the posts will provide a qualitative measure of how social media use is perceived in the context of procrastination. By classifying these sentiments, we can understand whether students generally speak about social media as a facilitating tool for procrastination, which may have negative connotations, or as a supportive tool for managing workload and stress, which would be a positive association.
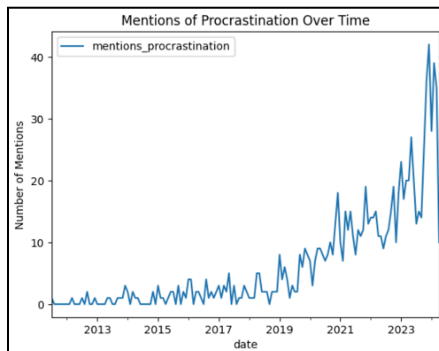

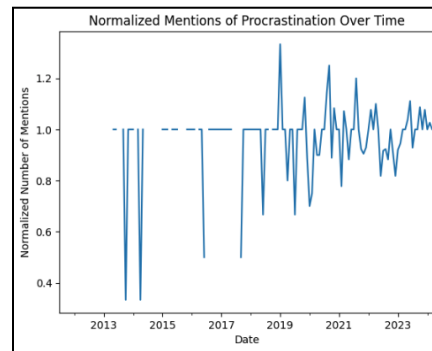**Figure 10: Mentions of Procrastination Over Time**

Figure 11: Normalized Mentions of Procrastination Over Time

The line graph titled "Mentions of Procrastination Over Time" depicts a rising trend in the number of times procrastination is mentioned across various social media platforms from the year 2013 to 2023. Initially, the mentions are relatively stable with a slight increase; however, starting around 2021 there is a noticeable and sharp increase in the mentions of procrastination. This could indicate a growing concern or prevalence of procrastination among social media users because of COVID. The reasons for this uptick could be many, including increased social media use, greater academic pressures, or a greater willingness to discuss procrastination openly. To account for the increase in social media usage, and therefore the increasing volume of overall posts over the years, we computed the "Normalized Mentions of Procrastination Over Time", as pictured above, normalized over posts per month. This shows a sharp increase in 2020 at the start of the pandemic, which might be because of increased social media use during the pandemic. However, the pandemic's role is less clear cut in the normalized data, and it may not be the sole reason for growth of conversations around procrastination as was originally hypothesized.
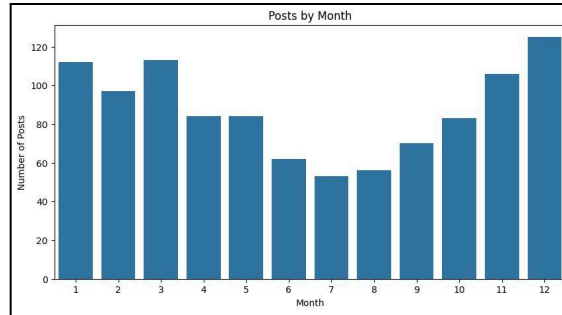
Figure 12: Posts by Month on Reddit

The bar chart, titled "Posts by Month," illustrates the distribution of social media posts throughout the year. A clear seasonal pattern emerges, with December marking the highest volume of posts, coinciding with the end-of-year exam period for many students during the Fall semester. This peak suggests a possible correlation between exam stress and increased online activity. Contrary to expectations, the months of June, July, and August—typically associated with summer break—show the lowest number of posts. This could imply that students are less likely to engage in discussions related to procrastination when they are not in an academic setting, highlighting a potential link between academic obligations and the prevalence of procrastination-related conversations.
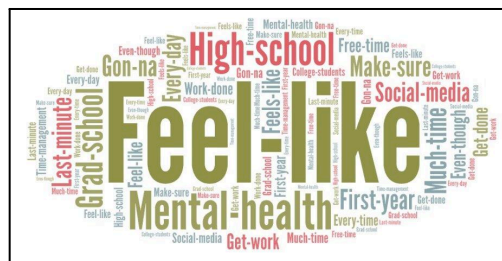

Figure 13: Word Cloud in Posts About Procrastination

The prominence of terms like "mental health," "social media," "high school," and "feel like" suggests these are common themes in discussions about procrastination. This could imply that mental health concerns are often associated with or are a significant aspect of procrastination narratives. The intersection of social media with educational stages like "high school" and "grad school" may indicate that these are key periods where procrastination is most discussed or problematic. Phrases like "feel like" and "mental health" being among the most frequent suggests a subjective and emotional component to the discussion on procrastination. Phrases such as "last minute" and "get work done" reflect common behaviors or situations associated with procrastination.

The longitudinal analysis of social media discussions from 2013 to 2023 highlights an increasing engagement with the topic of procrastination. Notably, a marked upsurge post-2021 might correlate with the global shift in work and study dynamics due to external factors such as the COVID-19 pandemic. The lexicon used in these discussions, captured through a word cloud and bigram frequency analysis, reveals a strong association between procrastination, mental health, and educational stages. Phrases like 'feel like' and 'last minute' were predominant, reflecting the emotional struggle and time management challenges experienced by individuals. These insights underscore the multidimensional nature of procrastination, intertwined with mental well-being and the ubiquitous influence of social media. They suggest an evolving narrative that could guide future interventions aimed at reducing procrastination among youths and adults alike.
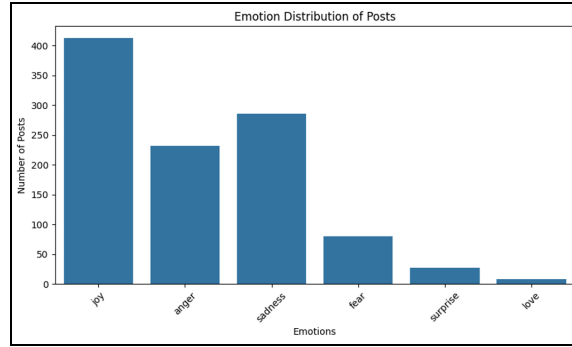
Emotion Keywords

Figure 14: Emotion Keywords in Posts About Procrastination

One of the most telling aspects of the discussion surrounding procrastination is the emotional context in which individuals express their experiences. To elucidate this aspect, a sentiment analysis was performed on the dataset comprising social media posts related to procrastination. The analysis aimed to classify the posts according to the expressed emotions: joy, anger, sadness, fear, surprise, and love. The histogram indicates that 'joy' is the most represented emotion within the dataset, with the number of posts expressing this sentiment being the highest. This finding differs with the commonly held belief that procrastination is seldom a source of joy for individuals, especially within academic and productivity contexts. This is most likely because of limitations of the classifier itself - that it incorrectly associated most emotions as joy.

'Sadness' is the emotion second most frequently associated with procrastination, as evidenced by its prevalence in the dataset. This predominance suggests that discussions about procrastination are often linked with negative emotional states, potentially impacting an individual's mental health. 'Anger' and 'fear' are also significantly represented, suggesting that procrastination is a source of frustration and anxiety for many individuals. These emotions could be indicative of the internal conflict and stress that procrastination engenders, as well as the potential long-term implications for individuals who struggle with consistent procrastination behaviors. The relatively low occurrence of 'surprise' and 'love' indicates that these emotions are not commonly associated with procrastination in social media discourse. It is particularly noteworthy that 'love' has the fewest mentions, reinforcing the notion that procrastination is rarely, if ever, associated with positive feelings or experiences.

Correlation Analysis

To investigate the relationship between procrastination and various factors, we executed a comprehensive correlation analysis. Our approach consisted of four sequential steps:

1. Keyword Identification: We began by identifying keywords pertinent to specific features commonly associated with procrastination: stress, social media, grades, and the COVID-19 pandemic. This identification process was grounded in prior literature that suggests these factors may be interrelated with procrastination behaviors.
2. Text Standardization: Utilizing lemmatization, a natural language processing technique, we standardized variations of the identified keywords within the dataset. This process enabled us to accurately search for and quantify the mentions of each feature within the posts.
3. Correlation Computation: We calculated the correlation between pairs of features to uncover any significant relationships. This statistical measure helped us understand the degree to which these features are associated.
4. Result Interpretation: Our findings revealed positive correlations between procrastination and all other features studied. This was evident in the strength of the correlations and supported by the low P-values, indicating the statistical significance of the results.
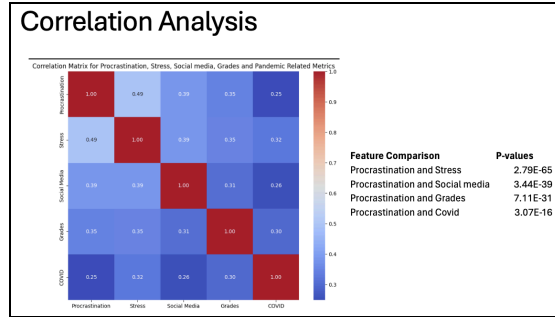
Figure 15: Correlation Analysis Between Procrastination and Various Factors

The correlation matrix presents the calculated correlation coefficients. Notably, procrastination and stress displayed the highest positive correlation (r = 0.49), suggesting a robust relationship between increased stress levels and the tendency to procrastinate. Similarly, procrastination and social media usage exhibited a positive correlation (r = 0.39), which aligns with hypotheses that social media may exacerbate procrastination. Grades showed a positive correlation (r = 0.35) with procrastination, a finding that provides quantitative support for the anecdotal notion that academic performance can be negatively influenced by procrastination. Additionally, the correlation between procrastination and COVID-19-related discussions (r = 0.25) implies that the pandemic may have had an impact on procrastination tendencies. The color-coded heatmap visually illustrates these relationships, with warmer colors representing stronger positive correlations. These P-values are far below the conventional threshold of 0.05, indicating that the observed correlations are highly unlikely to be due to random chance.

The strong positive correlations suggest that stress, social media use, academic performance (as measured by grades), and the COVID-19 pandemic are all significantly associated with procrastination. This pattern implies a multifaceted issue where both psychological factors (stress) and environmental factors (social media, pandemic) may contribute to or exacerbate procrastination behaviors.

Limitations

Given the limited number of students surveyed (22 students), it's likely the results from the survey aren't representative of the larger student population as a whole. In order to account for this, we performed correlation analyses to ensure our data's results would hold more significance than without those analytics. Similarly, due to selection bias in the scraping, data and results from the quantitative search on Reddit could be skewed towards higher correlations with procrastination for the specific keywords used to search. In an attempt to mitigate this, we searched for keywords that we considered to be irrelevant to procrastination to reduce the selection bias and make the results more generalizable.

Another limitation was that the sentiment analysis classifier could have incorrectly classified certain Reddit posts as expressing joy; since that contradicts the general understanding that procrastination would evoke negative emotions, it's possible that the classifier was unable to detect sarcasm or humor and incorrectly categorized the emotions in the posts.

Implications and Conclusion

The present study has established a connection between social media usage and academic procrastination, characterized by a positive correlation. This relationship indicates that as social media usage increases, so does the tendency to procrastinate academically. Additionally, our findings indicate a positive correlation between procrastination and factors such as stress, academic grades, and elements related to the COVID-19 pandemic.

Despite the apparent negative connotations of procrastination, our data also suggest that students can still achieve satisfactory academic performance. This phenomenon can be partly attributed to high self-efficacy, wherein students possess the belief in their capabilities to overcome procrastination and complete tasks successfully. Furthermore, our analysis has shed light on the potential for burnout as students strive to counter the adverse effects of academic procrastination. This condition emerges when

students push themselves to meet academic demands, possibly as a compensatory mechanism for time lost to procrastination.

The study's findings have several critical implications that extend to policy, parental guidance, mental health support, educational intervention, and technological design. Educational institutions might develop policies that recognize the intricate relationship between social media use and procrastination, focusing on creating balanced guidelines that promote effective time management and responsible social media consumption. Parents can play a pivotal role in mitigating the effects of procrastination by fostering an environment that encourages discipline and offers strategies to manage social media usage effectively. The correlation between procrastination, stress, and the potential for burnout underscores the need for robust mental health support systems within academic environments. These systems should provide students with the resources to address stress and procrastination-related challenges. The data suggest the need for educational interventions that teach students skills in self-regulation and time management. Such programs could help students enhance their self-efficacy, enabling them to perform well academically despite the impulse to procrastinate. There is an opportunity for technology designers to create tools that help students manage their social media usage more effectively. These tools could include features that limit the use of social media during study times or provide reminders for task completion.

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