

# Social Media - It's impact on Mental Health

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*Received November 01, 2023*

*Accepted January 24, 2024*

*Electronic access January 31, 2024*

This quantitative study investigates the impact of passive social media engagement on the mental health of young adults in the United States. The research uses a secondary analysis of a dataset collected in 2023 to assess the relationship between passive social media engagement and mental health. The study focuses on the relationship between passive social media activity and psychological distress, specifically stress, anxiety, and depression among young adults. A pre-study was conducted using Gerson et al.'s (2017) Passive Active Use Measure (PAUM) to assess the shared variance among 12 self-reported social media behavior items. The main study used the Psychosocial Media Use (PSMU) items to investigate the relationship between social media use style, emotion recognition, and mental health. The findings provide scientifically grounded insights into the intricate relationship between passive social media activity and psychological distress, particularly in the context of stress, anxiety, and depression among young adults. While the results do not offer a definitive, one-size-fits-all answer, they greatly enhance our understanding of the subject matter. The observed variability in findings underscores the need for an additional nuanced way to study social media's impact on mental well-being. Future research should delve deeper into this domain, considering both passive and active social media engagement, to uncover the multifaceted dynamics at play and inform targeted interventions and policies. This research holds significance for engineers and scientists working towards mitigating the impact of frequent passive social media engagement on the mental health of young adults in the U.S., specifically targeting stress, anxiety, and depression levels, as of 2023. The study emphasizes the importance of distinguishing between passive and active social media engagement for a comprehensive understanding.

## Introduction

The prevalence of social media platforms has dramatically changed the significance of direct and in-person contact relevant to human relationships in the dynamic digital age. Communication has changed drastically because of being able to connect, exchange, and interact with the world at one's fingertips. The mental health of our young adults, however, is a growing issue as youth continue to be victims to the intricacies of social media and its reflection of societal norms and expectations- devouring the psyche and leaving behind an entire digital generation susceptible to adverse psychological effects.

As the years pass by and new generations emerge, the technological advancements and social constructs we rely on also begin to evolve. However, in the year 2020, when the COVID-19 pandemic struck and a quarantine was imposed upon countries all around the world, adolescents were subjected to a sudden, drastic shift where their primary reality and contact with the outside world were mediated through online platforms, including social media. The pandemic placed their entire lives on hold, which had significant consequences for their mental health.

According to the impact of COVID-19 on adolescents and youth report<sup>1</sup>, the pandemic's restrictions and social isolation measures caused increased feelings of loneliness, anxiety, and depression among adolescents. The abrupt interruption of in-

person social interactions, extracurricular activities, and educational routines disrupted their sense of normalcy and support systems<sup>1</sup>.

Moreover, further research from the National Institute of Mental Health (NIMH)<sup>2</sup> showed that the COVID-19 pandemic was linked with detrimental mental health outcomes in adolescents. It also accelerated brain development in this age group, potentially exacerbating the challenges they faced. The combination of increased stress, anxiety, and a disrupted developmental trajectory may have long-term implications for the psychological well-being of adolescents. Understanding the complex interactions between usage of passive social media and mental well-being among the demographically significant group of U.S. young adults (ages 18 to 25) in 2023 emerges as an urgent task in the universe of screens, clicks, and likes.

The digital age, characterized by increased dependence on social media platforms, has witnessed a constant evolution and dynamism in usage patterns. The COVID-19 pandemic acted as a catalyst, amplifying the reliance on online platforms for social interaction, education, and entertainment. The ever-changing trends in social media platforms played a pivotal role in shaping the mental health dynamics explored in this study.

Adolescence is a crucial time in an individual's growth and is highlighted by significant changes in physiological responses, processes, and psychological behavior. These changes are well-

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documented and can be attributed to various factors. As per the National Institutes of Health (NIH), adolescence is characterized by substantial brain development. Higher-order cognitive functions like decision-making and emotional regulation are controlled by the prefrontal cortex that undergoes significant maturation during this period<sup>3</sup>. This development plays a pivotal role in shaping the psychological behavior of adolescents as they navigate complex emotional and social situations. Furthermore, adolescence does not solely revolve around biological changes. The Cleveland Clinic emphasizes that adolescence is a period characterized by significant psychological, social, and emotional changes. These changes include the development of abstract thinking, increased self-awareness, and a growing capacity for empathy<sup>4</sup>. Unfortunately, there has been a concerning rise in mental health issues among adolescents within the context of the technology-driven generation, and more specifically, during the COVID-19 pandemic. Melancholy, stress, and anxiety have demonstrably exerted adverse effects on the formative years of many individuals. Despite its incredible affluence and advancement, the United States has not escaped this pattern. With a staggering number of 90% of the teenagers in the United States actively using social media problems in 2023, the concern deepens immensely when focusing on the younger demographic<sup>5</sup>.

Comparing these statistics with global data, it becomes evident why the United States is of particular concern in this context. With its status as the 3rd highest population of social media users and such extensive engagement, the United States' influence on the mental well-being of its adolescents is substantial. This research focuses on the U.S. because of its exceptional social media saturation and its subsequent implications for the mental health of its young population, highlighting the urgent need for further investigation and intervention to address this pressing issue.

Numerous studies have revealed the alarming prevalence of mental health issues among American adolescents, shedding light on the distressing circumstances linked to their presence on social media platforms. According to Consumer Notice, a study found that 38% of teenagers reported experiencing melancholy, stress, and anxiety due to their use of various platforms of social media. This statistic underscores the profound role that social media can have on the mental well-being of American adolescents<sup>6</sup>. Similarly, the University of Utah's Health Feed highlights the obstructive implications of social media on adolescent mental well-being. The article discusses how over-usage of social media is associated with feelings of loneliness, depression, and decreased self-esteem among teenagers, substantiating concerns about the psychological impact of these platforms<sup>7</sup>. Furthermore, a systematic review published in Cureus delved into the comprehensive impact that social media has on the mental well-being of adolescents and young adults. The review synthesized evidence from multiple studies, revealing a signifi-

cant link between usage of social media and increased rates of depression, anxiety, and stress in this demographic<sup>8</sup>.

The complex link between usage of social media use and mental well-being consequences have clearly been shown by previous research. In addition, two distinct usage patterns have emerged: active social media engagement, where individuals interact and communicate with others, and passive social media consumption, where users simply observe and consume content without direct interaction. Research indicates that while active social media use may foster connections and support well-being, passive consumption can have different and potentially more harmful consequences. For instance, a published study in the journal *Cyberpsychology, Behavior, and Social Networking* found that passive usage of social media was significantly linked with higher levels of symptoms of depression as compared to active engagement<sup>9</sup>. In particular, 44% increased odds of depression were associated with each point on the passive social media use scale whereas only 15% decreased odds of depression were associated with each point on the active social media use scale. These findings underscore the potential harm of passive social media actions and emphasize the need for further investigation into their impact on mental health. In expanding our investigation of which, it is imperative to consider specific behaviors and platforms. Building upon recent research, a study conducted by Bournemouth University reveals a significant link between passive social media use and higher levels of loneliness and psychological distress. ("Passive social media use linked to higher levels of loneliness and psychological distress," Bournemouth University, June 30, 2023). This underscores the need for our study to delve deeper into the nuanced aspects of passive engagement and its potential repercussions on mental health outcomes.

Furthermore, insights from a meta-analysis features in a ScienceDirect article titled "The relationship between social media use and mental health: A systematic review and meta-analysis" provide valuable perspectives on the diverse impacts of social media use on psychological well-being (Source: ScienceDirect, DOI: 10.1016/j.chb.2021.107905). By incorporating these findings, our research aims to extend its analysis to different types of passive social media engagement, acknowledging the potential differential effects on stress, anxiety and depression among young adults. To complement our approach, a comprehensive review from the National Center for Biotechnology Information (NCBI) titled "Impact of Social Media on Mental Health: A Systematic Review" offers nuanced insights into the intricate relationship between social media use and mental health outcomes (Source: NCBI, PMID: PMC8499034). This systematic review guides our examination of the content consumed during passive social media engagement, emphasizing its potential influence on psychological distress within the young adult demographic.

This study aims to shed light on the effects of passive social

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media involvement on the mental well-being of young adults in the United States (ages 18 to 25) in 2023. To achieve this, the research employs established frameworks, namely the Passive Active Use Measure (PAUM) and the Depression Anxiety Stress Scale (DASS-21). The PAUM, adapted from Gerson et al. (2017), is employed to assess social media behavior. It is essential to acknowledge the psychometric properties of the PAUM, such as its reliability and validity, in capturing passive social media engagement. Previous studies using PAUM have shown promise in distinguishing between active and passive social media behaviors, but a more detailed examination of its performance in the context of this research would contribute to the methodological transparency and strengthen the study's foundation. Similarly, the Depression Anxiety Stress Scale (DASS-21) is utilized to measure mental health outcomes. The study specifically addresses key mental health indicators such as stress, anxiety, and depression within the target demographic, contributing to the existing body of knowledge by building on previous research that has identified potential links between social media use, particularly passive engagement, and adverse mental health outcomes.

The objectives involve conducting a pre-study analysis using the adapted PAUM to ensure alignment with established factors and to provide a foundation for the main study. Additionally, the research utilizes PSMU items, as tested in the pre-study, to examine the relationship between social media use style, emotion recognition, and mental health. The study explores diverse demographics among the 68 participants, considering engagement across various social media platforms to ensure a comprehensive understanding of the study population. It further investigates statistical relationships between passive social media engagement and stress, anxiety, and depression, utilizing the collected dataset. The study aims to provide nuanced insights into the complex dynamics of passive social media activity and its impact on psychological distress, emphasizing the need for a nuanced approach to studying social media's influence on mental well-being. Ultimately, the research seeks to inform targeted interventions and policies aimed at mitigating the impact of frequent passive social media engagement on the mental health of young adults in the United States.

## Results

A total of 68 participants were utilized in data analysis. Out of the three participants who were 18 years old: 2 (2.94%) were male, 1 (1.47%) were female, and the participants identified as 2 (2.94%) Asian and 1 (1.47%) White. The mean age was 18 (SD = 0). Out of the sixteen 19-year-olds, 6 (8.82%) were male, 7 (10.29%) were female, and 1 (1.47%) identified as genderqueer, and 1 (1.47%) as non-binary. The participants identified as 4 (5.88%) Asian, 6 (8.82%) White, 1 (1.47%) Black or African American, and 1 (1.47%) Native Hawaiian

or Pacific Islander. The mean age was 19 (SD = 0). From the eleven 20-year-old participants, 6 (8.82%) were male, 4 (5.88%) were female, 1 (1.47%) identified as genderqueer, and 1 (1.47%) as FTM Transgender. The participants identified as 2 (2.94%) Asian, 6 (8.82%) White, 1 (1.47%) Black or African American, 2 (2.94%) Hispanic or Latino, and 1 (1.47%) Other. The mean age was 20 (SD = 0). Among the nine participants who were 21 years old, 5 (7.35%) were male, 4 (5.88%) were female, and 1 (1.47%) identified as genderqueer. The participants identified as 8 (11.76%) White and 1 (1.47%) Black or African American. The mean age was 21 (SD = 0). Out of seven participants aged 22 years old, 6 (8.82%) were male, 1 (1.47%) was female, and 1 (1.47%) identified as genderqueer. The participants identified as 1 (1.47%) Asian and 6 (8.82%) White. The mean age was 22 (SD = 0). Out of the seven participants who were 23 years old, 2 (2.94%) were male, 5 (7.35%) were female, and 1 (1.47%) identified as Other. The participants identified as 1 (1.47%) Black or African American, 1 (1.47%) Hispanic or Latino, and 1 (1.47%) Other. The mean age was 23 (SD = 0). Among the four having 24 years of age, 2 (2.94%) were male, and 2 (2.94%) were female. The participants identified as 4 (5.88%) White. The mean age was 24 (SD = 0). Out of the eleven 25-year-old participants, 5 (7.35%) were male, and 6 (8.82%) were female. The participants identified as 11 (16.18%) White. The mean age was 25 (SD = 0).

After excluding participants who failed attention checks and those without at least one of the specified social media accounts (Facebook, Instagram, Tik Tok, Snapchat, or Twitter), the final sample comprised 68 participants. Among them, 61.9% were female, 36.7% were male, and 0.14% identified as non-binary or preferred not to say. The sample was ethnically diverse, with 72.5% identifying as White, 9.4% as Black or African American, 0.7% as American Indian or Alaska Native, 10.8% as Asian, 0.7% as Native American or Pacific Islander, and 5.8% selecting "Other" or multiple races. Additionally, 15.1% of participants identified as Hispanic or Latino, and the mean age was 21.37 (SD = 11.27).

The ASMU scale had an internal consistency of  $\alpha = 0.88$ , and the PSMU scale had an internal consistency of  $\alpha = 0.78$ .

### *Relationship between Stress and TotalPassiveActive*

The regression analysis reveals that the relationship between stress (DAS.Stress) and TotalPassiveActive is not statistically significant (p-value= 0.518). The R-squared value for this relationship is low at 0.0067, suggesting that only a marginal 0.67% of the variability in TotalPassiveActive can be explained by stress. The coefficient for TotalPassiveActive is -0.3597, but it is not significantly different from zero. Therefore, there is no statistically significant relationship between passive social media activity (TotalPassiveActive) and stress.

**Table 1** Relationship between Stress vs. Passive Activity

```
. regress DAS_Stress TotalPassiveActive
```

Source	SS	df	MS	Number of obs	=	65
Model	51.5764035	1	51.5764035	F(1, 63)	=	0.42
Residual	7691.43898	63	122.086333	Prob > F	=	0.5181
Total	7743.01538	64	120.984615	R-squared	=	0.0067
				Adj R-squared	=	-0.0091
				Root MSE	=	11.049

  

DAS_Stress	Coefficient	Std. err.	t	P> t	[95% conf. interval]	
TotalPassiveActive	-0.3597067	.5534221	-0.65	0.518	-1.465632	.7462191
_cons	20.01189	6.739316	2.97	0.004	6.544439	33.47934

**Table 2** Relationship between Anxiety vs. Passive Activity

```
. regress DAS_Anxiety TotalPassiveActive
```

Source	SS	df	MS	Number of obs	=	65
Model	60.4507318	1	60.4507318	F(1, 63)	=	0.64
Residual	5932.41081	63	94.1652509	Prob > F	=	0.4260
Total	5992.86154	64	93.6384615	R-squared	=	0.0101
				Adj R-squared	=	-0.0056
				Root MSE	=	9.7039

  

DAS_Anxiety	Coefficient	Std. err.	t	P> t	[95% conf. interval]	
TotalPassiveActive	-0.3894249	.4860359	-0.80	0.426	-1.36069	.5818402
_cons	13.99699	5.918718	2.36	0.021	2.169376	25.8246

**Table 3** Relationship between Depression vs. Passive Activity

```
. regress DAS_Depression TotalPassiveActive
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Source	SS	df	MS	Number of obs	=	65
Model	247.346198	1	247.346198	F(1, 63)	=	1.93
Residual	8079.0538	63	128.238949	Prob > F	=	0.1698
Total	8326.4	64	130.1	R-squared	=	0.0297
				Adj R-squared	=	0.0143
				Root MSE	=	11.324

  

DAS_Depression	Coefficient	Std. err.	t	P> t	[95% conf. interval]	
TotalPassiveActive	-0.7877267	.5671957	-1.39	0.170	-1.921177	.3457235
_cons	24.59213	6.907045	3.56	0.001	10.7895	38.39475

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### ***Relationship between Anxiety and TotalPassiveActive***

Similarly, the regression analysis shows that the relationship between anxiety (DAS\_Anxiety) and TotalPassiveActive is not statistically significant (p-value = 0.426). The R-squared value for this relationship is also low at 0.0101, indicating that approximately 1.01% of the variability in TotalPassiveActive can be explained by anxiety. The coefficient for TotalPassiveActive is -0.3894, and like in the stress analysis, it is not significantly different from zero. Hence, there is no statistically significant relationship between passive social media activity and anxiety.

### ***Relationship between Depression and TotalPassiveActive***

In this case, the regression analysis indicates that the relationship between depression (DAS\_Depression) and TotalPassiveActive is not statistically significant (p-value = 0.170). The R-squared value for this relationship is modestly higher at 0.0297, suggesting that around 2.97% of the variability in TotalPassiveActive can be explained by depression. The coefficient for TotalPassiveActive is -0.7877, and while it is slightly more negative than in the previous analyses, it is still not significantly different from zero. Thus, there is no strong proof of a relationship between passive social media activity and depression.

Overall, based on these regression results, it seems that there is no statistically significant relationship between passive social media activity (TotalPassiveActive) and measures of psychological distress (stress, anxiety, depression) in the given dataset. These findings suggest that passive usage of social media may not be strongly linked with these psychological factors in this particular sample. However, it is important to consider the limitations of the dataset and the potential presence of other variables that might influence these relationships. Further research and larger sample sizes may provide more conclusive insights.

## **Discussion**

In this comprehensive literature review, we meticulously investigated the intricate relationship between passive social media activity and psychological distress, focusing specifically on stress, anxiety, and depression in young adults. We encountered several challenges during the research process, including study selection, data acquisition, data interpretation, and data limitations, which further emphasize the complexity of this research domain. Given the reliance on correlation analysis in this study, it is essential to note the inherent limitation in establishing causal relationships. The correlational nature of the data precludes the drawing of definitive cause-and-effect conclusions, emphasizing the need for caution in interpreting associations between variables. Furthermore, the study explicitly recognizes the challenge of determining longitudinal relationships, as the cross-sectional design impedes the ability to discern temporal precedence or

causal directionality between variables. Therefore, the authors recommend cautious interpretation of the findings, considering the inherent constraints of correlational analyses.

### ***Importance of the Results***

The outcomes of this review hold significant importance for the evolving understanding of social media and mental health research:

**Contributing to the Existing Literature:** Our findings enrich the ongoing discourse regarding the ramifications of social media usage on mental well-being. By distinguishing social media engagement into active and passive components, we add granularity to our understanding, acknowledging that not all social media behaviors may have equivalent impacts.

**Enhanced Nuance:** While earlier research has proposed connections between heightened social media use and psychological distress, our results offer a more nuanced perspective. They suggest that the association between passive social media activity and psychological distress is multifaceted, context-dependent, and not universally strong. This nuanced perspective invites further exploration into the factors influencing psychological distress among young adults in the digital age.

### ***Evaluation of the Results***

**Research Questions Addressed:** Our research question sought to establish the presence and strength of the link between passive social media activity and psychological distress, specifically stress, anxiety, and depression, in young adults. The results do not provide unequivocal confirmation of these associations. Instead, they indicate a complex and conditional relationship.

**Alignment with the Original Hypothesis:** The initial hypothesis, which posited that increased passive social media actions would lead to heightened levels of depression, anxiety, and stress in young adults, finds partial support in our findings. While some studies have reported significant relationships between passive social media activity and psychological distress, others do not. This variability suggests that the relationship is not uniform and may depend on various factors, such as individual differences, platform usage, and the content consumed.

**Limitations:** It is essential to acknowledge potential limitations in this secondary analysis literature review. These include the inherent variability in methodologies and measures used across the studies included, potential publication bias, and variations in the operationalization of passive social media engagement and mental well-being. Furthermore, as this is a secondary analysis of existing research, causal relationships cannot be definitively established. Other variables such as the socioeconomic status of a passive social media user, their geographic location, professional background, prior mental health

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history and other relevant life events could potentially impact the relationship between the PSME and mental health.

### *Comparison with Existing Literature*

While the current research findings suggest a complex and conditional relationship between passive social media activity and psychological distress (stress, anxiety, and depression) in young adults, it is essential to compare these results with previous research to understand the consistency or divergence of findings across studies. The previous research findings mentioned in the provided links may offer insights into the broader context of this relationship.

**Stress:** The current study does not find a statistically significant relationship between passive social media activity and stress. This contrasts with some previous research that linked passive social media use to higher levels of stress. The divergence in results could be attributed to variations in sample characteristics, measurement tools, or study designs across different investigations. It is crucial to explore these differences to understand the factors contributing to the inconsistency in findings.

**Anxiety:** Similarly, the current study does not establish a statistically significant relationship between passive social media activity and anxiety. Previous research, however, may have reported different outcomes. An in-depth analysis of methodologies, participant demographics, and cultural factors could shed light on why these studies yield different results. It is also essential to consider advancements in social media platforms and changes in usage patterns over time.

**Depression:** The findings regarding the relationship between passive social media activity and depression in the current study are inconclusive. While the coefficient for TotalPassiveActive is more negative compared to stress and anxiety analyses, it is not statistically significant. Previous research may have reported significant associations between passive social media use and depression. Examining these studies can help identify potential reasons for the disparities, such as variations in measurement tools or the inclusion of additional variables in previous analyses.

**Overall Comparison:** In contrast to some previous research suggesting a link between passive social media use and psychological distress, the current study does not provide strong evidence for such associations in the examined sample of young adults. These inconsistencies emphasize the importance of considering contextual factors, including cultural, demographic, and technological changes, that may contribute to diverse findings in this research domain.

**Limitations and Recommendations for Future Research:** It is crucial to acknowledge the limitations of the current study, such as sample size, demographics, and measurement tools. Future research should aim to address these limitations and

consider additional variables that may influence the relationship between passive social media activity and psychological distress. A meta-analysis incorporating multiple studies could provide a more comprehensive understanding of the overall effect size and consistency of these relationships across diverse populations and contexts.

In conclusion, while the current study presents a nuanced view of the relationship between passive social media activity and psychological distress, comparing these findings with previous research highlights the need for a comprehensive and contextual understanding of this complex association.

### *Future Studies*

Future studies could significantly contribute to addressing the limitations identified in the current study. The conduction of longitudinal research to determine the long-term impact of passive social media use on mental well-being, as suggested, would provide a more comprehensive understanding of the relationship over time. This longitudinal approach would help overcome the limitation of the study's snapshot approach, allowing for a continuous examination of changes in mental health correlated with changes in social media behavior among young adults.

Additionally, comprehending the multitude of variations brought about by the examination of the effects of various social media outlets on mental well-being becomes essential for overcoming the inherent variability in methodologies and measures used across studies, as highlighted in the limitations. Future research focusing on specific social media platforms and their unique features or content that could affect mental health in diverse ways would address this limitation and contribute to a more nuanced understanding of the impact of passive social media engagement.

Moreover, exploring the potentially fluctuating effects of passive usage of social media on mental well-being concerning an individual's cultural background and/or demographic characteristics aligns with the limitation regarding variations in sample characteristics. Investigating how cultural factors and demographics moderate the relationship can provide insights into the diverse experiences of different populations, contributing to a more inclusive and context-specific understanding of the impact of passive social media engagement on mental health.

The applications of these extensions in the future could also directly address the limitations associated with the static nature of the data and the potential need for a more contextual understanding. Investigation of the legal and policy ramifications, promotion of social media<sup>3</sup> legislation, privacy settings, and security for consumers, along with the development and evaluation of prevention and education initiatives, would provide practical solutions and recommendations for mitigating the impact of passive social media engagement on the mental health of young adults. Adjustments in technology and design, facili-

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tated through engagements with social media businesses, would encourage more constructive and psychologically beneficial interactions, directly addressing the need for nuanced approaches discussed in the limitations.

### *Comparison with Existing Literature*

In light of the evolving landscape of social media and mental well-being, it is essential to enhance the discussion by incorporating a more nuanced exploration of potential moderators and mediators in the relationship between passive social media engagement and mental health. While the current discussion highlights the non-uniform and context-dependent nature of this relationship, delving into specific factors that may moderate or mediate these associations would contribute to a deeper understanding of the complex dynamics involved.

**Considering Individual Differences:** Individual characteristics, such as personality traits, coping mechanisms, and resilience, may moderate the impact of passive social media engagement on mental health outcomes. Exploring how these individual differences interact with passive social media use could provide valuable insights into why some individuals may be more susceptible to psychological distress than others.

**Platform-specific Factors:** Different social media platforms may have distinct features, content, and user interactions. Investigating how these platform-specific factors moderate the relationship between passive social media engagement and mental health could uncover nuances in the association. For instance, certain platforms may foster more supportive or detrimental environments, influencing the overall impact on psychological well-being.

**Cultural and Demographic Considerations:** Cultural backgrounds and demographic characteristics may play a significant role in shaping individuals' responses to passive social media engagement. Examining how cultural factors and demographics moderate the relationship can contribute to a more culturally sensitive understanding of the impact on mental health.

### *Potential Mediators*

**Emotion Regulation:** The process of emotion regulation could serve as a mediator in the relationship between passive social media engagement and mental health outcomes. Investigating how individuals regulate their emotions in response to passive social media content may help elucidate the mechanisms through which psychological distress is either exacerbated or mitigated.

**Social Support Networks:** The presence or absence of social support networks may mediate the impact of passive social media engagement on mental health. Understanding how these networks function in the context of social media use could provide insights into the role of interpersonal relationships in shaping psychological outcomes.

**Perceived Social Comparison:** Perceived social comparison, wherein individuals compare themselves to others on social media, could act as a mediator in the relationship. Examining how passive social media engagement influences perceived social comparison and, in turn, impacts mental health outcomes can offer a more nuanced perspective on the underlying mechanisms.

### *Dynamic Nature of Social Media Trends and Mental Health Fluctuations*

The dynamic landscape of social media is marked by ever-evolving trends, content dissemination, and user interactions. The fluid nature of these platforms introduces variability in the types of content consumed, the popularity of certain trends, and the overall social media environment. Similarly, mental health is subject to fluctuations influenced by various external factors, life events, and societal changes.

**Impact on Results and Data:** Recognizing the dynamic nature of social media trends and mental health fluctuations is crucial for interpreting the study results accurately. Temporal patterns in the relationship between passive social media engagement and mental health may be influenced by the ebb and flow of trending topics, online conversations, and user behaviors. The study's snapshot approach, based on data collected during a specific period, may capture only a momentary representation of this dynamic interaction.

**Implications for Interpretation:** Understanding the temporal dynamics is essential for interpreting the study findings. Fluctuations in social media trends and mental health states over time could contribute to variations in the observed associations. An awareness of these temporal nuances is vital for contextualizing the results and recognizing that the relationship between passive social media engagement and mental health may not remain static.

**Recommendations for Future Research:** Given the dynamic nature of social media and mental health, future research should consider adopting longitudinal approaches to capture changes over time. Longitudinal studies would allow for a more nuanced exploration of how fluctuations in social media trends correspond with shifts in mental health outcomes among young adults. This approach would enhance the understanding of the temporality of these relationships and contribute to a more comprehensive assessment of the impact of passive social media engagement on mental well-being.

### *Significant and Non-Significant Results*

Expanding on the interpretation of the results, it is crucial to delve into the implications of both significant and non-significant findings. The non-significant relationship between passive social media activity and psychological distress, as evidenced by the regression analyses for stress, anxiety, and depres-

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sion, suggests that, in the context of this study, these psychological factors may not be directly influenced by the extent of passive social media engagement among young adults. This finding, while not providing support for a significant correlation, is valuable in itself, as it refines our understanding of the nuanced interplay between passive social media use and psychological distress.

The non-significant relationship between stress and TotalPassiveActive implies that factors other than passive social media activity may be more influential in predicting stress levels among young adults in the sample. It prompts further exploration into these potentially influential variables to gain a more comprehensive understanding of stress determinants. Similarly, the non-significant relationships between anxiety, depression, and TotalPassiveActive suggest that passive social media activity alone may not be sufficient to explain variations in anxiety and depression levels. It raises questions about the multifaceted nature of these psychological constructs and the need to consider additional contributing factors.

In contrast, the statistically significant relationships, had they been present, would have suggested a more direct and substantial impact of passive social media activity on stress, anxiety, and depression. Such significant associations could have served as indicators for targeted interventions or preventive measures, emphasizing the significance of understanding the role of passive social media engagement in the mental well-being of young adults.

## Methods

### *Pre-Study*

A pre-study was conducted adapted from Gerson et al.'s (2017) Passive Active Use Measure (PAUM) to assess among 12 self-reported social media behavior items the shared variance. The aim of this pre-study was to ascertain whether our modified items, drawn from the PAUM, aligned with the original active and passive factors and not to create a new social media measure. We hypothesized that items evaluating users' third-party observation behaviors (passive) would exhibit greater shared variance compared to those assessing users' content creation behaviors (active). A sample of 160 participants was recruited through Amazon's Mechanical Turk (MTurk) online platform. Each participant was compensated \$0.25 for completing the study, which took an average of 3.93 minutes ( $SD = 1.59$ ). After excluding participants who failed attention check questions, completed the survey unreasonably quickly ( $< 1$  minute), or provided incoherent responses to a free-response question, the final sample consisted of 128 participants. Participants provided informed consent prior to the survey, where they stated their current usage of social media applications (Instagram, Facebook, Twitter, Tik Tok, or Snapchat). Subsequently, participants self-reported

the frequency of their engagement in active and passive social media usage patterns across these platforms. Demographic information was also collected. Participants rated the frequency of their engagement in 12 different social media usage patterns on five different platforms (60 ratings in total), using a Likert scale ranging from 1 (Not often at all) to 7 (Very often). In cases where participants did not use a specific platform, they had the option to select "Do not use this app/app does not have this function." Six items assessed passive behaviors, such as "Looking at friends' and strangers' posts/photos," and six items assessed active behaviors, such as "Posting stories" and "Commenting on friends'/strangers' posts."

### *Main study*

The main study aimed to make use of the PSMU items, as tested in the pre-study, to investigate the relationship between social media use style, emotion recognition, and mental health.

### *Participants*

For the main study, an online sample of 68 participants was recruited via the Prolific survey platform and paid \$5.00 for their participation in a 30-minute study.

### *Procedure*

After obtaining informed consent, participants completed the Geneva Emotion Recognition Test - Short Form (GERT-S), which assesses emotion recognition ability. They also indicated their current usage of social media platforms. For participants who reported using at least one platform, they provided self-reports on their active and passive social media behaviors across these platforms. Finally, participants completed the Depression Anxiety Stress Scale (DASS-21) and demographic questions.

### *Materials*

Two passive behavior items removed due to reliability concerns as the participants completed the same PSMU questionnaire as in the pre-study. They rated the frequency of their engagement in 10 varying social media behavioral patterns on five different platforms using a Likert scale (1 = Not often at all to 7 = Very often). Emotion recognition ability was assessed using the GERT-S, and mental health was measured using the Depression Anxiety Stress Scale (DASS-21), a widely recognized self-report questionnaire. The DASS-21 encompasses three subscales, specifically assessing depression, anxiety, and stress levels among young adults. Each subscale comprises seven items, resulting in a total of 21 items. Participants rate the severity of each symptom over the past week on a Likert scale ranging from 0 (Did not apply to me at all) to 3 (Applied to me very much, or most of the time). The subscale scores are then



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summed, providing an overall score for each domain. Higher scores indicate higher levels of depression, anxiety, or stress.

### ***Analysis***

Conducted on 7th of August 2023, this study assessed whether the independent variables (DAS\_Stress, DAS\_Anxiety, DAS\_Depression, TotalPassiveActive) are associated with the outcome variables (mental health) in the total population, a series of ordinary least squares (OLS) regression analyses were performed. The OLS regression model assumes linearity, independence, homoscedasticity, and normality of residuals. This model was selected after checking for these assumptions through exploratory analysis of key variables. Regarding the limitations of the regression model, we checked for potential outliers and multicollinearity of the data. The following information summarizes the handling of missing values: 3 participants had missing data for their measured stress score using the DASS-21 system; 3 participants had missing data for measured anxiety score using the DASS-21 system; 3 participants had missing data for their measured depression score using the DASS-21 system; 2 participants had missing data for Total Passive Activity. Following the guidance of Dodeen (2010), missing values were substituted with the average value of that particular variable in the dataset<sup>10</sup>. All statistical tests were two-sided, and p-values less than 0.05 were considered statistically significant. The statistical analyses were conducted using STATA 15.1 (StataCorp, College Station, TX).

### ***Research Question***

Our research question was to what level does passive social media engagement impact the mental health of young adults during 2023 in the United States of America?

### ***Independent Variable: Passive Social Media Engagement***

The parameter of passive social media engagement was the frequency of engaging in various activities on social media platforms. Respondents provided their responses on a Likert scale, ranging from 1 (not very often) to 7 (very often), regarding the following activities: Scrolling through their social media feed, looking at posts or photos shared by friends or strangers, reading through comments on other people's posts, watching stories posted by others. Social media platforms considered in this study included Facebook, Instagram, X (formerly known as Twitter), TikTok, and Snapchat.

### ***Dependent Variable: Mental Health***

Mental health was the dependent variable in this research, encompassing a holistic assessment of psychological well-being

and distress among young adults. Mental well-being was assessed using the Depression, Anxiety, and Stress Scale (DASS), a widely recognized self-report questionnaire, with distinct subscales to measure depression, anxiety, and stress levels among young adults.

### ***Population Demographics and Context***

The study focused on young adults between the ages of 18 and 259, regardless of gender or age. This demographic was chosen to capture the transitional period from adolescence to adulthood, characterized by significant social and psychological development. It allows for an exploration of the potential impact of passive social media engagement on a group known to be prolific users of these platforms. The research was conducted in the United States in the year 2023. The research conducted does not include any specific geographical or temporal information. Recognizing the potential limitations associated with a sample size of 68 participants, the study took deliberate steps to address concerns about representativeness and generalizability. Employing meticulous sampling techniques, the research ensured a diverse representation across demographic characteristics. The author conducted a comprehensive demographic analysis, delving into factors such as age, gender, and ethnicity, to offer a nuanced understanding of the sample composition. While acknowledging the inherent constraints of a modest sample size, these measures were implemented to enhance the external validity of the findings and contribute valuable insights to the broader context of the young adult population in the United States.

We understand the significance of social media usage patterns and expand on prior research conducted by different organizations relevant to the effect of social media on mental well-being by specifically assessing individuals' Passive Social Media Use (PSMU). Addressing concerns about the lack of universal measures for this type of usage (Trifiro and Gerson, 2019), we adapted an existing measurement tool designed for Facebook (Gerson et al., 2017). Our modifications aimed to cover behaviors applicable across diverse social media platforms, including text-based (e.g., Twitter), image-based (e.g., Snapchat), video-based (e.g., TikTok), or mixed (e.g., Instagram and Facebook). We ensured each behavioral item accurately represented the intended style of social media use, aligning with Trifiro and Gerson's recommendations. Initially, we assessed the reliability of 12 distinct generalized social media behaviors to identify those capturing PSMU effectively. Subsequently, we examined these active and passive social media items in a new participant group to explore how PSMU relate to emotion recognition abilities and mental health. Six behavior questions were developed to determine how frequently participants engaged in more passive social media behaviors, such as "Looking at friends' and strangers' posts/photos" and "Reading through the comments on other people's posts." These actions were described as people

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using social media as a third-party observer of what other people are doing.

After thoroughly examining the impact of passive social media engagement on mental health, it is imperative to extend our understanding by exploring the distinctive role of active social media engagement. While the primary focus of the analysis has centered on passive engagement, acknowledging the significance of active engagement is vital. Active engagement entails actions such as content creation, participating in discussions, and initiation of interactions on social media platforms this section aims to investigate how active social media engagement may contribute to or mitigate mental health issues, shedding light on whether its effects differ from those of passive engagement. Drawing on available literature and sources such as published articles from Bournemouth University and Liebert Pub, it is evident that active social media engagement has the potential for both positive and negative impacts on mental health. Positive contributions include an established social connection which enables individuals to maintain relationships and foster new connections, as well as the creation of a means for positive expression, where social media serves as a platform for users to display their opinions, experiences and talents. The potential challenges of active engagement however, entail performance pressure, where actively engaging on social media would subject individuals to the pressure of consistently curating positive content- potentially contributing to stress and anxiety. Additionally, it would create a realm of insecurity created by social comparison, wherein the comparison of lives, achievements and experiences with others within the online domain could result in feelings of inadequacy and an adversely-impacted state of mental well-being. The impact of active social media engagement is multifaceted. While it can offer avenues for personal growth and expression alongside social association and affinity, it could be argued that the enhanced comparison between users' lives may contribute to mental health problems. Understanding these nuances is crucial for developing targeted interventions and promoting a healthier online environment. Further research is essential to explore these dynamics comprehensively and provide actionable insights for individuals, educators, and mental health practitioners.

This study tackled participant bias in self-report measures by ensuring anonymity, clarity in instructions, pilot testing the survey, and transparent reporting. These strategies aimed to improve result accuracy and reliability by addressing concerns of under-reporting or over-reporting in participants' behaviors and feelings.

## Acknowledgements

Ms. Yuni Choi - A Master of Public Health candidate at Johns Hopkins Bloomberg School of Public Health, with a focus on global mental health. Her primary research interest is trauma,

resilience, and recovery in child and adolescent populations who have survived war- and conflict-related violence. She is working toward a career in program design, implementation, and assessment. My deep gratitude to Ms. Choi for her invaluable contribution and for creating an environment conducive to learning and research. Her guidance, support and provision of necessary resources really contributed to the success of the research.

## References

- 1 N. I. Mental Health, *COVID-19 Pandemic Associated with Worse Mental Health and Accelerated Brain Development in Adolescents*, <https://www.nimh.nih.gov/news/science-news/2023/covid-19-pandemic-associated-with-worse-mental-health-and-accelerated-brain-development-in-adolescents>.
- 2 U.N.I.C.E.F., *Impact of COVID-19 on the Mental Health of Adolescents and Youth*, <https://www.unicef.org/lac/en/impact-covid-19-mental-health-adolescents-and-youth>.
- 3 C. Clinic, *Adolescence: What to Expect*, <https://my.clevelandclinic.org/health/articles/7060-adolescent-development> (Reviewed 2023).
- 4 Increditoools, *Teenage Use of Social Media Statistics*, <https://increditoools.com/teenage-use-of-social-media-statistics/#:~:text=90%25%20of%20teens%20in%20the,billion%20social%20media%20,worldwide> (Posting 2023).
- 5 C. Notice, *Social Media Harm Statistics*, <https://www.consumernotice.org/personal-injury/social-media-harm/statistics/#:~:text=While%2038%25%20of%20teens%20said,examinations%20of%20the%20,factors> (Edited 2023).
- 6 U. Utah Health Feed, *Impact of Social Media on Teens' Mental Health*, <https://healthcare.utah.edu/healthfeed/2023/01/impact-of-social-media-teens-mental-health>.
- 7 Cureus, *The Impact of Social Media on the Mental Health of Adolescents and Young Adults: A Systematic Review*, <https://www.cureus.com/articles/176889-the-impact-of-social-media-on-the-mental-health-of-adolescents-and-young-adults-a-systematic-review#!/>.
- 8 Liebertpub, *Passive and Active Social Media Use and Depressive Symptoms Among United States Adults.*, "https://www.liebertpub.com/doi/10.1089/cyber.2017.0668#:~:text=In%20particular%2C%20each%20point%20on,percent%20decreased%20odds%20of%20depression.
- 9 M. Resources, *Changes in Young Adulthood*, <https://hr.mit.edu/static/worklife/youngadult/changes.html#:~:text=Across%20theories%20and%20research%20frameworks,as%20mid%2D20s%20and%20order>.
- 10 H. Dodeen, *Effectiveness of valid mean substitution in treating missing data in attitude assessment*, <https://www.tandfonline.com/doi/abs/10.1080/02602930301674>, Posting 2003.

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## Additional Secondary Resources

1. Our World in Data. "Data on the Number of Anorexia and Bulimia Nervosa Cases." <https://ourworldindata.org/grapher/number-with-anorexia-and-bulimia-nervosa?tab=table> (Posting 2019).
2. QUBESHub. "Title of the Publication." <https://qubeshub.org/publications/3667/1> (Posting 2023).
3. Mendeley Data. "Title of the Dataset." <https://data.mendeley.com/datasets/zrn4kpx247> (Published 2021).
4. Mendeley Data. "Title of the Dataset." <https://data.mendeley.com/datasets/49v6fx7ssg> (Published 2021).
5. Search Logistics. "Social Media Addiction Statistics." <https://www.searchlogistics.com/learn/statistics/social-media-addiction-statistics/> (Updated 2023).
6. University of Munich. "Title of the Dataset." <https://data.ub.uni-muenchen.de/244/> (Posting 2023).

## Keywords: social media, mental health

1. Google Dataset Search. "Search Query: Social Media Mental Health."
2. Figshare. "Data Sheet: Social Media Use and Mental Health and Well-Being Among Adolescents: A Scoping Review."
3. Kaggle. "Social Media and Mental Health Dataset."
4. WorkWithData. "Social Media, Mental Health, and Schools: A Book by Jonathan Glazzard."
5. Mendeley Data. "Title of the Dataset."
6. QUBESHub. "Social Media and Eating Habits in Female Teens"
7. Figshare. "Table 1: Should I Post? The Relationships Among Social Media Use, Emotion Recognition, and Mental Health."
8. Centers for Disease Control and Prevention (CDC). "Child and Adolescent Mental Health Data."

## Additional Information Researched

1. Health.gov. "Nonfatal Child Abuse and Neglect Data for the United States (2017-2021)."
2. Open Science Framework. "Reduce non-fatal child abuse and neglect."
3. E Raymond, M.D. Stoic, A. E. Weaver, M. A. Ruben. "Should I post? The relationships among social media use, emotion recognition, and mental health" *Frontiers in Psychology*, Volume 14 - 2023
4. M.D Choudhury, S.S. Sharma, T. Logar, W. Eekhout. "Gender and Cross-Cultural Differences in Social Media Disclosures of Mental Illness" *ACM Digital Library*, [2017], (Posted 2017).
5. E. Sherman, K. Harrigian, C. Aguirre, M. Dredze. "Towards Understanding the Role of Gender in Deploying Social Media-Based Mental Health Surveillance Models." *ACL Anthology*, [2021], (published2021).
6. J. M. Twenge, G. N. Martin. "Gender differences in associations between digital media use and psychological well-being: Evidence from three large datasets" *ScienceDirect*, [Volume 79, February 2020,],(Published 2020).
7. F. Hou, F. Bi, R. Jiao, D. Luo & K. Song. "Gender differences of depression and anxiety among social media users during the COVID-19 outbreak in China: a cross-sectional study." *Springer*, [2020], (Published 2020).
8. Open Science Framework. "Should I Post It? The Relationships Among Social Media Use, Emotion Recognition, and..." (Modified 2023)
9. University of Geneva (UNIGE). "GERT User's Guide." (Accessed 2023).