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### RESEARCH ARTICLE

## “ASSOCIATION OF SOCIAL-MEDIA USAGE AND DEPRESSION AMONG ADOLESCENTS IN A LOCAL CONTEXT - A CROSS-SECTIONAL STUDY”

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### Manuscript Info

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#### Key words:-

Adolescent depression, Mental Health, Depression, Screen time, time spent on social media, social media platforms, Facebook, Tiktok

### Abstract

**Objectives and scope of the research:** Adolescent depression is a growing global health concern and contributes to socioeconomic burden. This study investigated the association between time spent on social media and depression with its severity among Filipino adolescents in the local setting, considering age, gender, grade, and social media platforms used, in November 2024. This study determines correlation but does not prove causality.

**Methodology:** This used an analytical cross-sectional design, surveying adolescents aged 14-17 years-old from a public secondary school. A questionnaire including data on demographic information, social media habits, and questions based on PHQ-9: Modified for teens was used. Descriptive statistical methods were utilized to analyze the data, using Pearson Chi-Square tests to determine statistical significance.

**Results:** This study involving 239 participants showed that those aged 14-15 (mostly grades 9-10) and females typically spent 4-6 hours daily on social media, while older adolescents and males mostly spent 0-3 hours. Among those who spend 0-3 hours on social media, 28 of 87 have depression (score of  $\geq 10$ ). For those who spend 4-6 hours, 48 of 95 have depression, and for those who spend  $\geq 7$  hours, 37 of 57 have depression. For depression severity, 13.4% of the total population (spends 0-3 hours) have a score of 0-4 (no/minimal depression), 13.8% (spends 4-6 hours) scored 10-14 (moderate depression), and 5% (spends  $\geq 7$  hours) scored 15-27 (severe depression).

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**Conclusion and Recommendation:** An association between depression and time-spent on social media was identified. Increased time on social media is correlated with both higher prevalence and severity of depression among adolescents. Females and younger adolescents appear to be more vulnerable due to higher social media usage patterns. Given the cross-sectional nature of the findings, causality cannot be inferred. Nevertheless, the observed association highlights the potential role of targeted interventions, gender-sensitive strategies, awareness initiatives, and greater parental and school involvement in monitoring social media usage and guiding content exposure as part of broader adolescent mental health support strategies.

## Introduction:-

Social media has become an important part of adolescents' everyday life, allowing them to maintain both in-person and virtual relationships for educational and recreational purposes.<sup>1,2</sup> According to statistics most adolescents worldwide are using social media.<sup>3,4</sup> In the Philippines, adolescents comprise 9.6% of the population and these teens have online demographics comprising mostly of multiple social media platforms.<sup>5,6,7</sup> This near – constant engagements raised concerns about the potential psychological effects of prolonged social media usage on mental health. Adolescent depression is a global health concern, with mental health illness ranking third among the most common causes of morbidity in the Philippines. Likewise, there are high prevalence of suicide attempts up to 16.8% among Filipino adolescents.<sup>8,9</sup> Given the vulnerability and susceptibility of the adolescent mind, social media exposure warrants closer scrutiny. Although there are advantages to social media,<sup>10</sup> there is still ongoing debate on its impact on mental health.<sup>11</sup> Adolescents may be particularly vulnerable due to ongoing brain development and heightened sensitivity to peer pressure, emotional fluctuation, and peer opinion.

<sup>12,13,14,15</sup> The interactive nature of social media facilitates frequent social comparison and exposure to cyberbullying producing a sense of worthlessness, insecurity, and inferiority leading to reduced life satisfaction and increased depressive symptoms.<sup>15,16,17,18</sup> Social media use may potentially affect depression leading to morbidity of varied chronicity and mortality among adolescents.<sup>19,20</sup> A local study in Baguio City reported that 74.2% of students in a public high school exhibited signs of depression.<sup>21</sup> Despite growing international evidence, much of the existing literature comes from Western countries. Several gaps in knowledge are present, including how social media impacts the mental health of Filipino adolescents. Therefore, investigating the association between social media usage and depression in the local setting may provide valuable insights regarding the relationship between social media and depression among Filipino adolescents. This study could help develop evidence-based guidelines to promote healthy social media use, avert and address the potential negative effects of social media, as well as provide valuable insights on how to cope with social media advances helping alleviate the increasing number of adolescents with depression.

## Goals and Objectives:-

### General Objective:

- To determine if there is an association between time spent on social media and depression in adolescents as well as its severity in the local setting.

### Specific Objectives:

1. To determine the prevalence of social media use and screen time among adolescents based on the following variables:
  - a. Age
  - b. Gender
  - c. Grade level
  - d. Social media platform usage (Facebook and Messenger, Instagram, Tiktok, Youtube)
2. To determine if there is a correlation between social media platform usage and depression in adolescents.
3. To determine if there is a correlation between time spent on social media and level of depression.

## Review Of Related Literature:-

### Prevalence of Social Media Use Among Adolescents:-

Social media has become an integral part of adolescents' daily lives. Social media are network-based interactive platforms used by people to connect, collaborate, share, and interact with each other.<sup>1,2</sup> In light of current social settings, adolescents are constantly using social media to connect with people both for educational and recreational purposes at anytime and anywhere.<sup>2</sup> According to a study done by Leon Chaddock as of January 2024, 93% of teens use social media in the US<sup>3</sup>. Globally, 97% of teens are using social media where in Facebook being the most frequently used followed by Youtube<sup>6</sup>. In the Philippine setting Facebook and Messenger are the mostly used social media platform with 94.6% and 92.1% monthly login respectively followed by Tiktok with 80% online demographic engagements.<sup>7</sup> According to the statistics done by Balita, 92% of Filipinos ages 12-15 and 97% of those ages 16-17 uses social media.<sup>4</sup> Adolescents ages 13-17 years old comprises 9.6% of the Philippine population which is 118,939,136 based on the worldometer of the United Nations.<sup>5</sup> Studies have shown that there are both advantages and disadvantages associated with social media use. However, this near-constant engagement raises concerns about the psychological effects of prolonged social media usage on adolescents, particularly its impact on mental health.

**Social Media and Mental Health:-**

The influence of social media on adolescents is shaped by many factors which includes but not limited to social media time spent, gender, types of content exposed to, as well as their interaction with other people on different platforms. Their responses are as well affected by their individual vulnerabilities, strength, socioeconomic status as well as cultural background.<sup>8</sup> One of the mechanisms through which social media impacts mental health is through social comparison. Adolescents are particularly vulnerable to comparing themselves with others, especially when presented with idealized images and lifestyles on platforms like Instagram according to the study of Chou & Edge.<sup>22</sup> Evidence have shown that social comparison with others' lives have caused depression in adolescents, generating a sense of worthlessness, insecurity, and inferiority.<sup>15</sup>

**Cyberbullying and Its Impact on Depression:-**

Cyberbullying is another critical factor linking social media use to depression among adolescents. Research by Hinduja and Patchin shows that adolescents who experience cyberbullying are more likely to report feelings of sadness, isolation, and hopelessness, which can lead to clinical depression.<sup>21</sup> The anonymity provided by social media platforms allows for more frequent and aggressive forms of bullying, making adolescents feel powerless and contributing to their emotional distress. A study by Nixon also supports this, revealing that victims of cyberbullying often report higher levels of depression compared to those who experience traditional face-to-face bullying.<sup>23</sup>

**Moderating Factors: Gender and Age:-**

The relationship between social media use and depression is not uniform; gender and age play moderating roles. According to Vannucci, Flannery, and McCauley Ohannessian, female adolescents are more likely to experience negative psychological effects from social media usage compared to males.<sup>23</sup> This may be due to greater engagement in social comparison and a higher likelihood of experiencing body image issues. Brain development in the amygdala and prefrontal cortex is the most sensitive during early adolescence. This is important for emotional learning and behavior as well as impulse control and emotional regulation which leads to moderating social behavior.<sup>8,10</sup> It is the time when self-worth is being developed and is highly susceptible to peer pressure, comparison and peer opinion.<sup>11,12</sup> Social media use may cause changes in this development and is highly vulnerable to the interactive nature of social media.<sup>13, 14</sup> Adolescent social media usage is evidently predictive of reduction in life satisfaction for certain developmental stages including those 11–13 years old females and 14–15 years old males according to a study done by Orben.<sup>15</sup>

**The Role of Different Social Media Platforms:-**

Not all social media platforms have the same impact on mental health. Research indicates that platforms centered on image-sharing, like Instagram and Snapchat, are more strongly associated with negative mental health outcomes compared to platforms like Twitter and Facebook.<sup>25</sup> This may be due to the visual nature of these platforms, which encourages appearance-based comparison. On the other hand, platforms that emphasize social interaction and support may provide a protective effect against depression by fostering positive social connections and providing emotional support.<sup>26</sup> In a cohort study of adolescents aged 12-15 in the United States regarding mental health indicates that adolescents who spend over three hours per day on social media are twice as likely to experience poor mental health outcomes, including symptoms of depression and anxiety.<sup>8</sup> In another study, negative impact of social media use on mental health of adolescents are observed, which include depression, anxiety, and stress.<sup>20</sup>

**Depression in adolescents in the Philippines:-**

Depression is a medical condition that causes a negative effect on how a person feel, think, and act as well as sadness or loss of interest in previously enjoyable activities. Major depression is recognized as a serious psychiatric illness in adolescents which can cause morbidity of varied chronicity as well as mortality.<sup>16</sup> Mental health illness rank as third most common cause of morbidity among Filipinos according to the National statistics office. In Filipino students aged 13 to 17, 16.8% have attempted suicide at least once within a year before the 2015 Global School-based Student Health survey of the World Health Organization.<sup>18</sup> In line with the digital world, Adolescent depression is characterized as a global health concern and contributes to socioeconomic burden. In the Philippine setting, the incidence of depression among young adults is 8.9% of the general population.<sup>17</sup> One local study in Baguio City, a total of 271 in 365 students in a secondary public school showed signs of depression correlating to 74.2% of students.<sup>19</sup>

**Gaps in the Literature:-**

While there is evidence linking social media use with depression among adolescents, several gaps remain. Much of the research focuses on Western populations, leaving a gap in understanding how social media impacts mental health in the Asian population and less studies on Filipino adolescents. Investigating the relationship between social media usage and depression could offer insight and guidance towards preventing and addressing adolescent depression. This study could help develop guidelines on how to prevent and address social media usage to prevent such impact on adolescents as well as to develop ways on how to cope with social media advances helping alleviate the increasing number of adolescents with depression.

**Methodology:-**

This is an analytical cross-sectional study conducted to determine the correlation between time spent on social media and risk of depression in adolescents as well as its severity in the local setting. This study is performed through answering survey disseminated to the participants and involves collecting information regarding the social media usage and demographics of adolescents and their current mental status.

**Study population:**

This study was conducted in one public secondary school including adolescents ages 14-17 years old and involving both males and females.

**Inclusion criteria:**

This study included students enrolled in a public-school ages 14-17 years old. This research includes both males and females.

**Exclusion criteria:**

This study excludes students who are diagnosed with depressive disorder and those who are on antidepressants. Excluded in this study are those who refuse to complete the questionnaire.

**Sample size computation:**

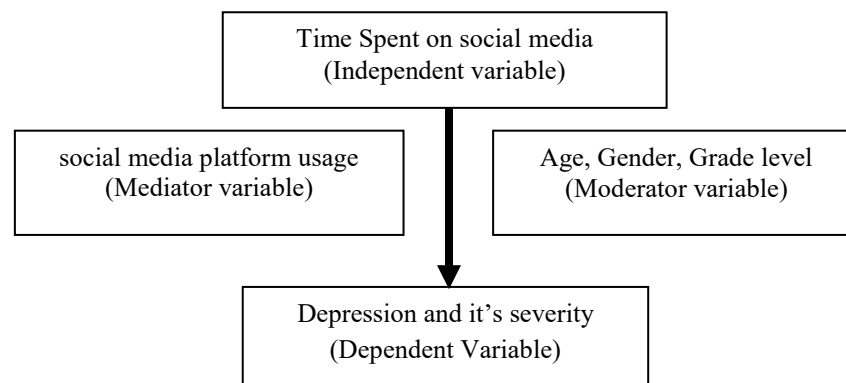
This study used probability sampling. The number of eligible students in the study site is 382 and the percentage of depression among adolescents in the local setting is 74.2%. Therefore, a total of 167 samples is needed to get a confidence level of 95%. This formula was used to compute the sample size 
$$\text{sample size } n = \frac{[DEFF * Np(1-p)]}{[(d^2/Z_{1-\alpha/2}^2 * (N-1) + p(1-p))]}$$

**Site and duration of the study:**

This study was conducted in a public secondary school at Sto. Tomas National High School, Apugan, Sto. Tomas Central, Baguio City, Benguet in November 2024.

**Conceptual framework:**

Time spent on social media is the independent variable to which the study focuses on, to see how it influences the dependent variable which is depression and its severity. The amount of time spent on social media is presumed to have an impact on the mental health of the individuals being studied. Depression including its severity, is the outcome that the study aims to explain or predict based on the time spent on social media. The study examines whether there is a correlation between how much time is spent on social media and the level of depression experienced by the participants.



Moderator variables affect the strength or direction of the relationship between independent and dependent variables. In this study, gender, age and grade level might influence how time spent on social media impacts depression. A mediator variable explains the mechanism through which the independent variable influences the dependent variable. In this case, the number of social media platforms used could mediate the relationship between time spent on social media and depression. This means that the platform used (e.g., Facebook, Instagram, Twitter) might play a role in how time spent on social media leads to depression. For instance, more platforms used may be more associated with negative outcomes, while the lesser platform used may not have the same effect. The study will help understand how the amount of time spent on social media (independent variable) affects depression and its severity (dependent variable).

**Data collection:**

This research was conducted through answering questionnaires given to the participants in person. The research was explained to the participants, and assent and consent was collected prior to them answering the questions. Prior coordination with the school was done before questionnaires were floated. The principal investigator explained the research, procedures, possible risks and how to address them to the participants and advisers. Participants were allowed to bring home the consent form, assent form, and questionnaires and let their parents/guardians read and sign the forms. Questions by the parent/guardian were directed to the principal investigator and were answered accordingly. The forms were collected by the researcher once the participants were able to answer the questionnaires. Patient's information was handled by the primary researcher. Information about the participants was not disclosed to anyone besides the research team. Questionnaires were anonymized. Numbers were used instead of names. This research was entirely voluntary. No pressure was applied to the participants and guardians in giving consent to this research. They were given the chance to withdraw or stop participating at any time in the study.

**Data collection tool:**

The first part of the survey included a consent and assent form to comply with the data privacy act. Questions include demographic information such as age, gender, grade level, clinical diagnosis of depression, and antidepressant use, as well as time spent on social media and social media platforms being used. Part thereof consists of ad hoc questions, and the succeeding parts contained questions based on the PHQ-9: Modified for teens questionnaire.

**PHQ9 modified for teens questionnaire:-**

The PHQ9 modified for teens questionnaire was verified and used by the American Academy of psychiatrist to assess depression as well as to score depression severity. According to the American Psychiatric Association the diagnostic validity and reliability of the PHQ9 questionnaire has sound psychometric properties. The survey contains 9 item rating-scale. Each item is scored from a score of 0 (not at all), 1 (several days), 2 (More than half the days) to 3 (nearly every day). The subscale scores were added up to get the total score and a score of more than or equal to 10 has a good sensitivity of 88% and specificity of 88% for Major Depressive Disorder and depending on the total score to which the severity of depression coincides. A score of 0-4 indicates no or minimal depression; 5-9 indicates mild depression; 10-14 indicates Moderate depression; 15-19 indicates moderate severe depression; and 20-27 indicates Severe depression. Another study by L. Richardson, done among youths ages 13-17y/o, a PHQ-9 score  $\geq 11$  had a sensitivity of 89.5% and specificity of 77.5% for detecting youth meeting DSM-IV criteria for major depression on the DISC-IV.<sup>27</sup> This questionnaire is an easy-to-use self-administered version of the PRIME-MD diagnostic instrument for common mental disorder that is easily understood and answered by patients, hence lay person validation was not necessary.<sup>28</sup>

**Data management and statistical analysis:**

Descriptive statistical analysis was used to check for data consistency. The independent variable in this study is the time spent on social media. The moderator variables are gender and age. The Mediator variable is the number of social media platforms used. The dependent variable is depression and its severity. Sample size with a power of >95% is implemented. The Chi-Square test with a 0.05 level of significance is utilized to analyze the data and to determine whether the results are of significance. Multivariate analysis is a statistical limitation in this study. Some parameters cannot meet assumptions to execute multivariate analysis.

### Results:-

By sampling computation, the number of participants required to get a 95% confidence level is 167 samples. The total probable eligible participants were 382. From this, a total of 240 participants responded and were screened using both inclusion and exclusion criteria wherein 239 of which were eligible participants in this study. A total of 54% of the participants in the study were men (n=129) and 46% were females (n=110). There is a higher proportion of male group as compared to the female group. The participants ranged from 14-17 years old, and most of these participants are 14-15 years old (n=132). Most of the participants are from grade 11 (n=95) comprising 39.7% of the sample population. Among the sample population, 39.7% of which are spending 4-6 hours using social media platforms (n=95). There is no statistically significant difference between females and male participants in terms of age, grade level, and time spent of social media with p-values of 0.059, 0.194, 0.228 respectively as shown in table 1. There is significant difference in the proportion of participants who are using 1-3 platforms and those who are using 4-5 platforms.

**Table 1. Frequency distribution of socio-demographic features of the study participants**

Categorical Variables	Male	Female	Total n (%)	$\chi^2$ (p- value)
<b>Age group n (%)</b>				
14-15 years old	64 (26.8%)	68 (28.5%)	132 (55.2%)	3.577 (0.059)
16-17 years old	65 (27.2%)	42 (17.6%)	107 (44.8%)	
<b>Grade n (%)</b>				
9	40 (16.7%)	43 (18.0%)	83 (34.7%)	3.277 (0.194)
10	31 (13.0%)	30 (12.6%)	61 (25.5%)	
11	58 (24.3%)	37 (15.5%)	95 (39.7%)	
<b>Social media platform use n (%)</b>				
1-3 platforms	18 (7.5%)	5 (2.1%)	23 (9.6%)	6.042 (0.014)
4-5 platforms	111 (46.4%)	105 (43.9%)	216(90.4%)	
<b>Time spent on social media n (%)</b>				
0-3 hours	52 (21.8%)	35 (14.6%)	87 (36.4%)	2.953 (0.228)
4-6 hours	45 (18.8%)	50 (20.9%)	95 (39.7%)	
>=7 hours	32 (13.4%)	25 (10.5%)	57 (23.8%)	
<b>Total n (%)</b>	129 (54%)	110 (46%)		

Participants aged 14-15 years predominantly reported spending 4-6 hours per day on social media, whereas those who are aged 16-17 years spend mostly 0-3 hours on social media platforms. Similarly, students in grades 9 and 10 primarily spent 4-6 hours on social media platforms, while grade 11 students reported lower use at 0-3 hours per day. Most females have daily social engagement of 4-6 hours while males use social media platforms for 0-3 hours daily. Participants using both 1-3 and 4-5 social media platforms frequently reported daily usage of 4-6 hours. There is no significant difference in the proportion of the sample population according to the hours' time spent on social media in relation to age, grade level, gender, and number of social media platforms used with p-values of 0.410, 0.431, 0.228, and 0.431 respectively as shown in table 2.

**Table 2. Time spent on social media per day based on different variables**

Categorical variables	0-3 hours	4-6 hours	More than or equal to 7 hours	$\chi^2$ (p- value)
<b>Age group n (%)</b>				
14-15 years old	47 (19.7%)	57 (23.8%)	28 (11.7%)	1.785 (0.410)
16-17 years old	40 (16.7%)	38 (15.7%)	29 (12.1%)	
<b>Grade n (%)</b>				
9	32 (13.4%)	34 (14.2%)	17 (7.1%)	3.821 (0.431)
10	18 (7.5%)	29 (12.1%)	14 (5.9%)	
11	37 (15.5%)	32 (13.4%)	26 (10.9%)	
<b>Gender n (%)</b>				
Male	52 (21.8%)	45 (18.8%)	32 (13.4%)	2.953 (0.228)
Female	35 (14.6%)	50 (20.9%)	25 (10.5%)	

Social media platform use n (%)				
1-3 platforms	7 (2.9%)	12 (5.0%)	4 (1.7%)	1.682 (0.431)
4-5 platforms	80 (33.5%)	83 (34.7%)	53 (22.2%)	

Most of the participants (n=126) in this study have a score of < 10. Among those who spend 0-3 hours on social media, 59 of them have a score of <10 and 28 have a score of  $\geq 10$ . For those who spend 4-6 hours, 47 has a score of <10 and 48 has a score of  $\geq 10$ . There are 20 who scored < 10 and 37 scored  $\geq 10$  for those who spend  $\geq 7$  hours on social media. According to statistical analysis there is a significant difference in these variables with a p-value of <0.001 as shown in table 3. A higher proportion of the sample population uses 4-5 social media platforms as compared to those who use 1-3 platforms. For those using 1-3 platforms 15 of them have a score of <10 and 8 has a score of  $\geq 10$ . For those using 4-5 platforms 111 has a score of <10 and 105 has a score of  $\geq 10$ . There is no significant difference in these variables with a p-value of 0.207 as illustrated in table 3.

**Table 3. Participants with depression (scores  $\geq 10$ ) based on time spent on social media and platforms used**

Social Media	Participants with scores $\geq 10$	Participants with Scores <10	Total n (%)	$\chi^2$ (p- value)
<b>Time spent on social media:</b>				
0-3 hours	28 (11.7%)	59 (24.7%)	87 (36.4%)	15.465 (<0.001)
4-6 hours	48 (20.1%)	47 (19.7%)	95 (39.7%)	
$\geq 7$ hours	37 (15.5%)	20 (8.4%)	57 (23.8%)	
<b>Media platform used</b>				
1-3 platforms	8 (3.3%)	15 (6.3%)	23 (9.6%)	1.595 (0.207)
4-5 platforms	105 (43.9%)	111 (46.4%)	216 (90.4%)	
<b>Total n (%)</b>	113 (47.3%)	126(52.7%)		

From the total sample population 13.4 % has a score of 0-4: no/minimal depression and they are spending 0-3 hours on social media. A total of 13.8% of the participants scored 10-14 signifying moderate depression and they are spending 4-6 hours on social media. Among the participants 10.5% of the participants with a score of 10-14 are spending  $\geq 7$  hours on social media. Among those who have scores 15-27, 5% are spending  $\geq 7$  hours on social media. There is a significant difference between time spent on social media and the scores of depression severities obtained with a p-value of 0.002 as shown in table 4.

**Table 4. Time spent on social media and levels of depression.**

	No/minimal depression (scores: 0-4)	Mild depression (scores: 5-9)	Moderate depression (scores: 10-14)	Moderately severe / severe depression (scores: 15-27)	$\chi^2$ (p- value)
0-3 hours	32 (13.4%)	28 (11.7%)	19 (7.9%)	8 (3.3%)	20.704(0.002)
4-6 hours	22 (9.2%)	25 (10.5%)	33 (13.8%)	15 (6.3%)	
$\geq 7$ hours	5 (2.1%)	15 (6.3%)	25 (10.5%)	12 (5.0%)	
<b>Total n(%)</b>	(24.7%)	68 (28.5%)	77 (32.2%)	14.6%) 35	

## Discussion:-

The current study aimed to examine the correlation between time spent on social media and depression in adolescents and its severity. The findings revealed patterns in social media usage across different age groups and grade levels. This will help us understand further how screen time impacts mental health among adolescents. The numerical distribution of the socio-demographics of the participants was examined. Accordingly, a higher proportion of males as compared to females is present in the sample population. However, the proportion of the samples per subset is statistically sound for achieving valid results. A key finding of this study is that younger adolescents (14-15 years) reported substantially higher daily social media use compared to their older counterparts (16-17 years). A similar pattern was observed across grade levels. Students in grade 9 and 10 reported higher social media engagement than those in grade 11. These patterns may reflect developmental differences in autonomy, digital habits, and academic demands across age groups suggesting that early adolescence may represent a period of

heightened exposure to social media. These findings align with previous research by Livingstone and Helsper who suggested that early to middle adolescence is a critical period for social exploration where peer interactions heavily influence online behaviors, with younger adolescents relying more heavily on social media to establish and maintain social connections. In contrast, older adolescents may gradually shift their focus toward academic responsibilities and offline activities resulting in reduced screen time.<sup>29</sup> Moreover, Valkenburg and Peter noted that increasing maturity is associated with improved ability to self-regulate screen time which may further explain the lower social media engagement among older adolescents.<sup>30</sup> This pattern may also be influenced by increased academic demands at higher grade levels, particularly among students preparing for post-secondary education.

This study identified significant gender-based differences in social media usage. Female adolescents reported greater daily screen time than their male counterparts. This finding is consistent with existing literature indicating that females tend to engage more frequently with social media platforms.<sup>1</sup> For instance, Anderson and Jiang reported that female adolescents are more active on visually driven platforms while males prefer platforms focused on gaming and content consumption.<sup>31</sup> Differences in usage patterns may reflect distinct motivations for engagement. As described by Valkenburg and Peter, females more likely to use social media for social interaction, emotional expression, and peer validation leading to prolonged use. Males on the other hand tend to engage primarily for entertainment and information-seeking resulting in shorter screen times.<sup>30</sup> These gender-based differences may have implications for mental health. Prolonged social media use among females has been associated with increased vulnerability to depression and anxiety, potentially mediated by exposure to idealized online portrayals and social comparison.<sup>32</sup>

The study also found that participants using multiple social media platforms were more likely to spend more time on social media suggesting that greater platform diversity may contribute to prolonged social media use. This is consistent with prior research indicating an association between the number of platforms used and overall screen time. Primack et al., reported that engagement across multiple platforms encourage more frequent checking behavior as users attempt to remain updated across accounts potentially reflecting the addictive nature of multi-platform engagement rather than isolated use of single platform.<sup>33</sup> The study showed that participants who spent more time on social media had higher scores from the questionnaire. Examination of the distribution of participants shows that the more time the participants spend on social media the higher the number of participants with depression. This trend highlights the potential role of excessive social media use in depressive symptoms. This finding is consistent with prior research by Twenge et al., linking prolonged screen time with increased risks of depression particularly among adolescents. The mechanisms underlying this relationship may include exposure to cyberbullying, social comparison, disrupted sleep patterns, and reduced face-to-face interactions. Keles et al. suggest that adolescents who spend more than three hours daily on social media are more likely to exhibit symptoms of depression and anxiety.<sup>34</sup> These findings are also consistent with Becker et al., who noted that prolonged social media engagement exacerbates cognitive overload and emotional exhaustion particularly among vulnerable populations like adolescents.<sup>35</sup>

The results of this study presented a nearly even distribution of depression scores among subgroups under the number of social media platforms. Despite the larger sample size for multi-platform users, statistical analysis showed no significant difference in depression scores. This finding implies that the number of platforms used may not independently determine depression. The findings align with existing research highlighting the complex relationship between social media use and mental health. However, the lack of a significant difference in depression scores in this study contrasts with previous findings that suggested a linear relationship between the number of platforms used and mental health risks.<sup>35</sup> The statistical analysis demonstrated a significant association between time spent on social media and the severity of depression. Increased social media use was associated with greater depression severity suggesting that prolonged screen time may be linked to greater mental health risks. This pattern is consistent with existing literature. For instance, Liu et al. reported that the time spent on social media is associated with a higher risk of depression in adolescence in a linear dose-response manner, remarkably for teenage girls.<sup>1</sup> While causality cannot be inferred, the consistency of these findings across studies underscores the relevance of screen time as an important factor in adolescent mental health research.

Social media fosters an environment that amplifies social comparison, exposure to negative content, and feelings of inadequacy which contributes to emotional distress. Twenge and Campbell reported that prolonged social media engagement may displace protective behaviors including adequate sleep and physical activity that are essential for mental well-being. Their findings indicate that adolescents who spend more than five hours per day online are twice as likely to report depressive symptoms compared to those who spend less than an hour.<sup>32</sup> In this study, higher levels



of social media use were associated with greater depression severity. Participants with moderate to severe depression scores more frequently engage in social media for four or more hours daily. These findings are consistent with prior literature and suggest that greater time spent on social media may be linked to increased vulnerability to depression among adolescents. This study has determined 113 participants with scores of  $\geq 10$  signifying a threshold associated with Major depressive disorder with high sensitivity and specificity. Among these 35 participants were classified within the moderately-severe to severe depression range. In accordance with ethical protocols, participants who screened positive for depression based on their scores were referred through the school administration for appropriate support and further referral to a qualified mental health professional including guidance counselor, psychologist, and/or psychiatrist. All information related to patient's depression was handled with confidentiality, with notifications limited to authorized personnel and parents or guardians directly involved in their care. In addition, the dissemination of educational materials on depression management, self-care strategies, and the importance of seeking professional help was coordinated with the school to promote awareness and early intervention.

#### Appendices:-

#### Certificate of Approval From Technical Review Board:-

Saint Louis University- Sacred Heart Medical Center

#### Technical Review Board

#### ORAL DEFENSE OF QUALITATIVE RESEARCH PROTOCOLS

**Research Proposal Title:** IMPACT OF SOCIAL-MEDIA USAGE ON DEPRESSION RISK AMONG ADOLESCENTS IN A LOCAL CONTEXT

**Lead Author:** Chermayne Tate A. Galletes, MD

**Date of Defense:** September 28, 2024

#### Comments and suggestions of reviewers:

##### Dr. A. Manalo:

- How will other risk factors for depression be eliminated?
- Formatting of references was not consistent.

##### Dr. J. Rimando:

- The RRL and background of the study seem to be redundant (no separate RRL in the protocol)
- How was sample size computed? Indicate well in the paper
- What if the patient has a different living condition (Is the family intact?) that is not an option in the questionnaire?
- Why was this specific school selected?
- The social background is not indicated in the questionnaire, will you include this?

#### Recommendation:

Protocol is **APPROVED** by the Technical Review Board and may be endorsed to the Ethics Review Board. Kindly append the protocol with the suggestions listed above.

**Reviewers:** Annalee Manalo, MD

Jezreline Cacanindin-Rimando, MD

## Certificate Of Approval From Ethics Review Board:-



**Saint Louis University**  
**University Research and Innovation Center**  
**Research Ethics Committee**

CONTROLLED

Document Code	FM-URI-035
Revision No.	00
Effectivity	SEP 01, 2021
Page	1 of 2

## APPROVAL CERTIFICATE

The following protocol, with its related documents, is approved for implementation by the Saint Louis University -Research Ethics Committee.

Protocol No.	Principal Investigator		
SLU-REC 2024-243	Chermayne Tate A. Galletes		
Title	Impact Of Social-Media Usage On Depression Risk Among Adolescents In A Local Context		
Protocol Version/ Date	2/ October 29, 2024	ICF Version/ Date	2/ October 29, 2024
Type of review	<input checked="" type="checkbox"/> Expedited <input type="checkbox"/> Full board Meeting date: October 21, 2024 & November 7, 2024	Duration of Approval October 7, 2024 – November 7, 2024	Frequency of continuing review N/A

## Responsibilities of investigator/s after the protocol approval:

- Seek approval from SLU-REC for any protocol/document amendment after this date
- Submit SAE and SUSAR reports to the REC within 7 days (see addendum next page)
- Submit progress report after/every \_\_\_\_ months
- Report protocol deviation/violation
- Abide by the principles of good clinical practice and ethical research
- Comply with all relevant international and national guidelines and regulations
- Submit final report after completion of study
- Others:

For the SLU-REC:

REC Chairperson	Signature	Date
RAINIER MORENO-LACALLE		November 7, 2024

Received by:

Principal Investigator	Signature	Date
CHERMAYNE TATE A. GALLETES		November 7, 2024

**List of participants number with depression (Scores  $\geq 10$ ):-**

8	155	220	283	341
10	156	231	285	342
11	157	235	289	352
16	158	236	290	353
17	159	237	295	354
92	160	239	296	359
96	161	241	297	360
98	164	243	308	361
99	170	244	309	363
100	171	245	311	364
101	175	248	312	365
118	176	249	313	367
125	178	250	314	370
127	181	254	320	
128	184	261	322	
130	185	263	323	
132	187	264	325	
133	191	266	330	
136	197	267	331	
137	207	268	332	
138	210	270	333	
140	212	271	335	
143	215	272	336	
144	217	280	338	
154	218	282	339	

**List of participant numbers with scores more than or equal to 15 (moderate to severe depression):-**

8	157	197	248	314
125	158	207	249	322
128	164	210	263	323
132	178	215	266	336
133	181	220	272	352
140	185	235	282	364
156	191	245	283	370

**Informed Consent Form For Parents/ Guardian:-**

This informed consent form is for parent(s)/ guardian of children between the ages of 13 - 17 who are currently a Junior or Senior high student and who we are inviting to participate in research entitled "Impact of Social-Media Usage on Depression Risk Among Adolescents in a Local Context".

**This Informed Consent Form has two parts:**

- Information Sheet (to share information about the study with you)
- Certificate of Consent (for signatures if you agree that your child may participate)

**You will be given a copy of the full Informed Consent Form:-****PART I: Information Sheet:-****Introduction:-**

My name is Chermayne Tate A. Galletes, and I am a pediatric resident and doing research on the Impact of Social-Media Usage on Depression Risk Among Adolescents in a Local Context. We want to know if the more time spent on social media the more teenagers are likely to be at risk for depression and we believe that this research will help us determine this correlation. Ang pangalan ko ay Chermayne Tate A. Galletes at ako ay isang pediatric resident na nagsasagawa ng pananaliksik tungkol sa Epekto ng Paggamit ng Social Media sa Panganib ng Depresyon sa mga Kabataan sa Lokal na Konteksto. Nais naming malaman kung ang mas matagal na pag gamit ng social media ay nagdudulot ng mas mataas na panganib ng depresyon. Ang pananaliksik na ito ay makakatulong upang matukoy ang kaugnayan ng pag gamit ng social sa panganib ng depresyon.

I'm going to provide you with information and invite your daughter/son to be part of a research study. You can decide whether you consent to your child participating. We will ask your child for assent. Even if your child agrees to participate in this research, we still need your consent as the parent/ Guardian. However, if you do not wish your child to take part in the research, you can choose to disagree. Ibibigay ko sa iyo ang impormasyon at imbitahan ang iyong anak na maging bahagi ng isang pananaliksik. Maari kang pumayyag o hindi sa paglahok ng iyong anak. Hihingan parin namin ng pahintulot ang iyong anak. Kahit pumayag ang iyong anak na lumahok sa pananaliksik na ito, kailangan pa rin namin ang iyong pahintulot bilang magulang. Gayunpaman, kung hindi mo nais na payagan ang iyong anak sa paglahok sa pananaliksik, maari kang tumanggi. There may be some words you don't understand or things that you want me to explain more about because you are interested or concerned. Please ask me anytime and I will take time to explain. Maaaring may mga salitang hindi mo naiintindihan o mga bagay na gusto mong ipaliwanag ko nang mas mabuti. Mangyaring sabihin lamang sa akin upang magkapaglaan ako ng oras upang maipaliwanag ang mga ito.

**Purpose:-**

In light of the increased number of adolescent depressions, we want to determine the social media usage impact on the risk of depression so that this can be used to find ways on how to prevent depression among teenagers.

Dahil sa pagdami ng mga kaso ng depresyon sa mga kabataan, nais naming tukuyin ang epekto ng paggamit ng social media sa panganib ng depresyon upang magamit ito sa paghahanap ng mga paraan kung paano maiwasan ang depresyon sa mga kabataan.

**Type of Research Intervention:-**

This research is a survey type of research and questionnaires are to be answered. Ang pananaliksik na ito ay gumagamit ng talatanungan na siyang sasagutan ng mga kalahok.

**Participant selection:-**

We are asking your children aged 13-17 years old to participate in the study since they can provide insight into this matter. Their response is highly essential in arriving at a conclusion regarding the goal of this research which is to determine if there is correlation between time spent on social media and risk of developing depression in teenagers.

Hinihiling naming na ang inyong mga anak, mga kabataan na nasa edad 13-17 taong gulang na lumahok sa pananaliksik na ito, dahil maaari silang magbigay ng mahalagang pananaw tungkol sa bagay na ito. Ang kanilang mga tugon ay napakahalaga upang makamit namin ang layunin ng pananaliksik na ito, na tukuyin kung may kaugnayan ba ang oras na ginugugol sa social media at ang panganib ng pagkakaroon ng depresyon sa mga kabataan.

**Voluntary Participation:-**

Your decision to have your child participate in this study is entirely voluntary. It is your choice whether to have your child participate or not. If you choose not to consent your child will not be punished and nothing will change. You may also choose to change your mind later and stop participating, even if you agreed earlier. You or your child can withdraw anytime during the study. Ang inyong desisyon na payagan ang inyong anak na lumahok sa pag-aaral na ito ay lubos na boluntaryo. Nasa inyo ang pagpapasya kung nais ninyong lumahok ang inyong anak o hindi. Kung pipiliin ninyong hindi magbigay ng pahintulot, hindi mapaparusahan ang inyong anak at walang magbabago. Maaari rin kayong magbago ng isip sa hinaharap at itigil ang paglahok, kahit pa pumayag kayo noong una. Kayo o ang inyong anak ay maaaring umatras anumang oras sa panahon ng pag-aaral.

**Procedures and Protocol:-**

We are asking your child to help us learn about the risk of depression in correlation to social media use. We are inviting your child to take part in this research via answering the questionnaires given to them in the school. Before gathering data, rest assured that we have coordinated with the school regarding the said research and that they have allowed us to distribute questionnaires. We will let your child bring the forms home and let you review them first. We have explained the study, procedure as well as possible risks and ways on how to address this. Feel free to ask us anything regarding the research prior signing the consent. Hinihiling namin ang tulong ng inyong anak upang matulungan kaming pag-aralan ang kaugnayan ng paggamit ng social media sa panganib ng depresyon. Inaanyayahan namin ang inyong anak na lumahok sa pananaliksik na ito sa pamamagitan ng pagsagot sa mga talatanungan na ibibigay sa kanila sa paaralan. Bago kami mangalap ng datos, makakatiyak kayong nakipag-ugnayan kami sa paaralan ukol sa pananaliksik na ito at pinahintulutan nila kaming ipamahagi ang mga talatanungan. Hahayaan namin na iuwi ng inyong anak ang mga form upang mapag-aralan ninyo muna ito. Ipinaliwanag na namin ang pag-aaral, ang proseso, gayundin ang posibleng mga panganib at mga paraan kung paano ito matutugunan. Huwag mag-atubiling magtanong sa amin tungkol sa pananaliksik bago lagdaan ang pahintulot. The content of the questionnaire will also be shown to you and if there is a content that you feel poses harm to your child, you can contact us researchers anytime for clarification and if you are still of the opinion that the content will potentially harm your child, you can withdraw your consent. Ipapakita rin sa inyo ang nilalaman ng talatanungan, at kung may bahagi rito na sa tingin ninyo ay maaaring makasama sa inyong anak, maaari kayong makipag-ugnayan sa amin anumang oras para sa paglilinaw.

Kung sa inyong palagay ay maaari pa rin itong makasama sa inyong anak, maaari ninyong bawiin ang inyong pahintulot. If you agree for your child to participate, He/She will be asked to fill out a survey form and an informed ascent will also be taken prior answering the questionnaire. If the child is not comfortable in answering a question he/she might skip them and move on to the next question. The students can withdraw anytime they want from the study. Rest assured that the information they provide will be kept confidential and for research purposes only. Only the researcher will have access to the information and answers. After the all forms are filled out, the researcher shall collect these forms in the school. Kung pumapayag kayong lumahok ang inyong anak, siya ay hihilinging sagutan ang isang survey form, at kukunin din ang kanyang pahintulot bago sagutan ang talatanungan. Kung hindi

komportable ang inyong anak sa pagsagot sa isang tanong, maaari niya itong laktawan at magpatuloy sa susunod na tanong. Maaaring umatras ang mga mag-aaral anumang oras sa pag-aaral. Makakaasa kayong ang mga impormasyong kanilang ibibigay ay mananatiling kumpidensyal at gagamitin lamang para sa layunin ng pananaliksik. Ang mananaliksik lamang ang magkakaroon ng access sa mga impormasyong ito. Pagkatapos masagutan ang lahat ng form, ang mga ito ay kukunin ng mananaliksik sa paaralan.

**Duration :-**

The research shall take place over 2 months in total. During that time feel free to coordinate with the researcher. This is for us to ensure that you are well informed of the research and to clarify any inconsistencies or discrepancies. Questions for clarification are highly appreciated. Ang pananaliksik ay magaganap sa loob ng kabuuang 2 buwan. Sa panahong iyon, huwag mag-atubiling makipag-ugnayan sa mananaliksik. Ito ay upang matiyak namin na naintindihang mabuti ang pananaliksik at upang maipaliwanag ang anumang hindi nauunawaan.

**Side Effects:-**

There are no direct side effects on physical health but answering this questionnaire might cause discomfort or mental/ emotional disturbance in your child. Rest assured that we will closely watch out for this, and we will provide a contact information that you can call if there are any side effects noted. Walang direktang epekto sa pisikal na kalusugan, ngunit ang pagsagot sa talatanungan na ito ay maaaring magdulot ng hindi kumportableng pakiramdam o mental/emotional na pagkabalisa sa inyong anak. Maging panatag kayo na aming babantayan ito ng mabuti, at magbibigay kami ng contact information na maaari ninyong tawagan kung may anumang epekto na mapansin.

**Risks:-**

Your children might have instances that they will feel uncomfortable answering the questionnaires, or that it may cause emotional or mental distress. If something like this happens, they may stop at any time and inform the researchers immediately for interventions. Researcher shall coordinate with guidance counselor and clinic of the school for proper referral to psychiatrist for proper management. Participants who are feeling overwhelmed or uncomfortable can withdraw from the study anytime. May mga pagkakataon na maaaring maramdaman ng inyong mga anak ang hindi pagiging komportable sa pagsagot sa mga tanong, o maaaring magdulot ito ng emosyonal o mental na pagkabalisa. Kung mangyari man ito, maaari silang huminto anumang oras at agad na ipaalam sa mga mananaliksik para sa mga interbensyon. Ang mananaliksik ay makikipagugnayan sa Guidance counsellor at klinika ng paaralan para sa wastong pakikipagugnaan sa psychiatrist para sa tamang pag gamut. Ang mga kalahok na nakakaramdam ng labis na pagkapagod o pagkabalisa ay maaaring umatras mula sa pag-aaral anumang oras.

**Discomforts:-**

Your children might feel uneasy or feel pressured answering these questions. If this happens your child may stop answering questions and notify immediately the researcher. Participants who are feeling overwhelmed or uncomfortable can withdraw from the study anytime. Maaaring makaramdam ng hindi pagkakomportable o pagka presyur ang inyong anak sa pagsagot ng mga tanong na ito. Kung mangyari ito, maaaring huminto ang inyong anak sa pagsagot at agad na ipaalam ito sa mananaliksik. Ang mga kalahok na nakakaramdam ng labis na pagkapagod o pagkabalisa ay maaaring umatras mula sa pag-aaral anumang oras.

**Benefits:-**

There will be no direct benefit to you or your child, but your child's participation is likely to help us find ways to aid policy- makers, non-governmental organizations and other socio-civic organizations plan support and guidelines that will help address adolescent depression in relation to social media use. Walang direktang pakinabang sa iyo o sa inyong anak, ngunit makatulong ang pakikilahok ng iyong anak sa paghanap namin ng paraan upang matulungan ang mga tagapagbalangkas ng patakaran, mga hindi pampamahalaang organisasyon, at iba pang mga sosyo-sibikong organisasyon na magplano ng suporta at mga gabay na makakatulong sa pasugpo ng depression sa kabataan kaugnay ng pag gamit ng social media.

**Reimbursements:-**

Participants will not be given any incentives whether monetary or in any form for participating in this study. Ang mga kalahok ay hindi bibigyan ng anumang insentibo sa paglahok sa pananaliksik na ito, pinansiyal man o sa iba pang paraan. The costs associated with conducting this study will be covered by solely by the researcher. However, if additional care or treatment is required beyond what the study provides, these costs may be covered by the participant's health insurance or by the participant/participant's family. Ang mga gastos na may kaugnayan sa

pagsasagawa ng pag-aaral na ito ay sasagutin nang buo ng mananaliksik. Gayunpaman, kung kakailanganin ng karagdagang pangangalaga o paggamot na lampas sa ibinibigay ng pag-aaral, ang mga gastos na ito ay maaaring sagutin ng health insurance ng kalahok o ng kalahok/pamilya ng kalahok

**Confidentiality:-**

The information that we collect from this research project will be kept confidential. Information about your child that will be collected from the research will have a restricted access. Once the forms are filled up, the researcher shall collect the said forms and will place them in a secured cabinet which will only be accessible to the researcher. Any information about your child will have a number on it instead of his/her name. It will not be shared with or given to anyone except SLU SHMC research office. If data are to be shared with a third party, these data shall correspond only to numbers and statistical figures unless information to be shared is of emergent nature and requires immediate medical intervention. Ang impormasyong makokolekta namin mula sa pananaliksik na ito ay mananatiling kumpidensyal. Ang mga impormasyon tungkol sa inyong anak na makokolekta mula sa pananaliksik ay itatago, at walang makakakita nito maliban sa mga mananaliksik. Ang anumang impormasyon tungkol sa inyong anak ay magkakaroon ng numero sa halip na pangalan. Tanging ang mga mananaliksik lamang ang makakaalam kung ano ang nakatalagang numero sa inyong anak, at itatago namin ang impormasyong ito sa ilalim ng lock at susi. Hindi ito ibabahagi o ibibigay sa kahit sino maliban sa opisina ng pananaliksik ng SLU SHMC. Kung ang datos ay ibabahagi sa isang ikatlong partido, ang mga ito ay nakapaloob lamang sa mga numero at estadistikal na pigura maliban kung ang impormasyon ay nangangailangan ng agarang medikal na interbensyon dahil sa isang pang-emergency na sitwasyon.

**Sharing of the results:-**

The knowledge that we get from this study will be shared with you before it is made widely available to the public. Confidential information will not be shared. This research will be presented in SLU SHMC and at the Philippine Pediatric Society. Afterwards, we will publish the results in order that other interested people may learn from our research. Ang kaalamang makukuha namin mula sa pag-aaral na ito ay ibabahagi muna sa inyo bago ito gawing publiko. Hindi ibabahagi ang mga kumpidensyal na impormasyon. Ang pananaliksik na ito ay ipresenta sa SLU SHMC at sa Philippine Pediatric Society. Pagkatapos nito, ilalathala namin ang mga resulta upang ang ibang interesadong tao ay matuto mula sa aming pananaliksik. For participants who are determined to have depression immediate support and referral to a qualified mental health professionals (eg. counselor, psychologist, psychiatrist) are to be done. This will be coordinated with the school administration, guidance counselor, and school clinic. Information regarding patient's depression shall remain confidential and only those authorized personnel as well as their parents/ guardian who are involved in their care will be notified. Access to the forms will be restricted. Participants who are feeling overwhelmed or uncomfortable can withdraw from the study anytime. Sharing educational materials about managing depression, self-care strategies, and the importance of seeking professional help is encouraged and coordinated with school.

Para sa mga kalahok na matutukoy na may depresyon, agad na magbibigay ng suporta at magrererefer sa mga kwalipikadong propesyonal sa kalusugang pangkaisipan (hal. counselor, psychologist, psychiatrist). Ang prosesong ito ay makikipag-ugnayan sa administrasyon ng paaralan, guidance counselor, at klinika ng paaralan. Mananatiling kumpidensyal ang impormasyon tungkol sa depresyon ng pasyente, at tanging mga awtorisadong tauhan, pati na ang kanilang mga magulang o tagapag-alaga na may kaugnayan sa kanilang pangangalaga, ang aabisuhan. Magkakaroon ng restriksiyon sa access sa mga form. Ang mga kalahok na nakakaramdam ng labis na pagkapagod o pagkabalisa ay maaaring umatras mula sa pag-aaral anumang oras. Hinihikayat at iniaayos din ang pagbabahagi ng mga materyal na pang-edukasyon tungkol sa pagharap sa depresyon, mga estratehiya sa pag-aalaga ng sarili, at ang kahalagahan ng paghahanap ng tulong mula sa mga propesyonal, kasama ang paaralan.

**Right to Refuse or Withdraw:-**

You do not have to agree to your child taking part in this research if you do not wish to do so and refusing to allow your child to participate will not affect you or how your child is treated at school. You may stop your child from participating in the research at any time that you wish. Even if you agree now, you can still withdraw anytime during the study. Hindi mo kinakailangang pumayag na makilahok ang iyong anak sa pananaliksik na ito kung ayaw mo. Ang pagtanggì na payagan ang iyong anak na makilahok ay hindi makakaapekto sa iyo o sa kung paano tinatrato ang iyong anak sa paaralan. Maaari mong itigil ang pakikilahok ng iyong anak sa pananaliksik anumang oras na nais mo. Kahit pumayag ka ngayon, maaari ka pa ring umatras anumang oras habang isinasagawa ang pag-aaral. This proposal has been reviewed and approved by the Saint Louis University – Research Ethics Committee (SLU-REC),

which is a committee whose task it is to make sure that research participants are protected from harm. If you wish to find about more about the SLU-REC, contact DR. RAINIER MORENO-LACALLE, Chair of the SLU-REC, 444-8246 Local 387.

**PART II: Certificate of Consent:-****Certificate of Consent:-**

I have been invited to have my child participate in a research about Impact of Social-Media Usage on Depression Risk Among Adolescents in a Local Context. I understand that my child will answer a list of questions in the survey form and that this might cause discomfort, but it will help in determining correlation between time spent on social media with risk of adolescent depression. Ako ay naimbitahan upang isali ang anak ko sa pananaliksik na tungkol sa Epekto ng Paggamit ng Social Media sa Panganib ng Pagkakaroon ng Depression sa mga Kabataan sa Lokal na Konteksto. Naiintindihan ko na sasagutan ng aking anak ang isang listahan ng mga tanong sa form ng survey at maaaring magdulot ito sa akin ng pagkabalisa ngunit makakatulong ito sa pagtukoy ng kaugnayan ng oras na ginugulog sa social media at panganib ng pagkakaroon ng depression sa mga kabataan. I have read the foregoing information, or it has been read to me. I have had the opportunity to ask questions about it and any questions that I have asked have been answered to my satisfaction. I consent voluntarily for my child to participate as a participant in this study. Nabasa ko ang nasabing impormasyon, o ito ay naipaliwanag sa akin. Nagkaroon ako ng pagkakataon na magtanong tungkol dito, at ang lahat ng aking mga tanong ay nasagot nang ayon sa aking kasiyahan. Kusang-loob akong nagbibigay ng pahintulot para sa aking anak na lumahok bilang kalahok sa pag-aaral na ito.

I have accurately read out the information sheet to the potential participant, and to the best of my ability made sure that the participant fully understands what s/he is being asked to do in the research project. Tama kong binasa ang impormasyon sa magulang ng potensyal na kalahok, at sa abot ng aking makakaya ay sinigurado kong lubos na naintindihan ng magulang ng kalahok ang hinihiling na gawin niya sa proyekto ng pananaliksik. I confirm that the parent was given an opportunity to ask questions about the study, and all the questions asked by the parent have been answered correctly and to the best of my ability. I confirm that the individual has not been coerced into giving consent, and the consent has been given freely and voluntarily. Kinukumpirma ko na binigyan ang magulang ng pagkakataon na magtanong tungkol sa pag-aaral, at lahat ng tanong na kanyang ibinato ay nasagot nang tama at sa abot ng aking makakaya. Kinukumpirma ko na ang indibidwal ay hindi pinilit na magbigay ng pahintulot, at ang pahintulot ay ibinigay nang malaya at kusang-loob.

**Informed Assent Form For Junior And Senior High School:-**

This informed assent form is for children between the ages of 13 - 17 who are currently a Junior or Senior high student and who we are inviting to participate in research entitled "Impact of Social-Media Usage on Depression Risk Among Adolescents in a Local Context".

**This Informed Assent Form has two parts:**

- Information Sheet (gives you information about the study)
- Certificate of Assent (this is where you sign if you agree to participate)

**You will be given a copy of the full Informed Assent Form:-****Part I: Information Sheet:-****Introduction:**

My name is Chermayne Tate A. Galletes, and I am a pediatric resident and doing a research on the Impact of Social-Media Usage on Depression Risk Among Adolescents in a Local Context. We want to know if the more time spent on social media the more you are likely to be at risk for depression and we believe that this research will help us determine this correlation. Ang pangalan ko ay Chermayne Tate A. Galletes at ako ay isang pediatric resident na nagsasagawa ng pananaliksik tungkol sa Epekto ng Paggamit ng Social Media sa Panganib ng Depresyon sa mga Kabataan sa Lokal na Konteksto. Nais naming malaman kung ang mas matagal na pag gamit ng social media ay nagdudulot ng mas mataas na panganib ng depresyon. Ang pananaliksik na ito ay makakatulong upang matukoy ang kaugnayan ng pag gamit ng social media sa panganib ng depresyon.

I am inviting you to be part of this research study. You can choose whether you want to participate. We have discussed this research with your parent(s)/guardian, and they know that we are also asking you for your agreement. If you are going to participate in the research, your parent(s)/guardian also must agree. But if you do not wish to take



part in the research, you do not have to, even if your parents have agreed. Iniimbitahan kitang makilahok sa pananaliksik na ito. Maaari kang pumili kung nais mong lumahok o hindi. Napag-usapan na namin ito ng iyong mga magulang/tagapag-alaga at alam nila na hihingi rin kami ng iyong pahintulot. Kung sasali ka sa pananaliksik, kailangan ding pumayag ang iyong mga magulang/tagapag-alaga. Ngunit kung ayaw mong lumahok sa pananaliksik na ito, hindi mo kailangang sumali, kahit na pumayag ang iyong mga magulang.

You may discuss anything in this form with your parents or friends or anyone else you feel comfortable talking to. You can decide whether to participate or not after you have talked it over. You do not have to decide immediately. Maaari mong talakayin ang anumang nilalaman ng form na ito sa iyong mga magulang, mga kaibigan, o sinumang komportable kang kausapin. Maaari kang magpasya kung sasali ka o hindi pagkatapos mo silang makausap. Hindi mo kailangang magdesisyon agad-agad. There may be some words you don't understand or things that you want me to explain more about because you are interested or concerned. Please ask me at any time and I will take time to explain. Maaaring may mga salitang hindi mo naiintindihan o mga bagay na gusto mong ipaliwanag ko nang masmabuti. Mangyaring sabihin lamang sa akin upang magkapaglaan ako ng oras upang magpaliwanag.

**Purpose: Why are you doing this research?:-**

In light of the increased number of adolescent depression, we want to determine the social media usage impact on the risk of depression so that this can be used to find ways on how to prevent depression among teenagers.

Dahil sa pagdami ng mga kaso ng depresyon sa mga kabataan, nais naming tukuyin ang epekto ng paggamit ng social media sa panganib ng depresyon upang magamit ito sa paghahanap ng mga paraan kung paano maiwasan ang depresyon sa mga kabataan.

**Choice of participants: Why are you asking me?:-**

We are asking you children of ages between 13-17 years old to participate in the study since you can provide insight on this matter. Your response is highly essential in arriving at a conclusion regarding the goal of this research which is to determine if there is correlation between time spent on social media and risk of developing depression in teenagers. Hinihiling namin sa inyo, mga kabataan na nasa edad 13-17 taong gulang na lumahok sa pananaliksik na ito, dahil maaari kayong magbigay ng mahalagang pananaw tungkol sa bagay na ito. Ang inyong mga tugon ay napakahalaga upang makamit namin ang layunin ng pananaliksik na ito, na tukuyin kung may kaugnayan ba ang oras na ginugugol sa social media at ang panganib ng pagkakaroon ng depresyon sa mga kabataan.

**Participation is voluntary: Do I have to do this?:-**

This research is voluntary. You don't have to be in this research if you don't want to be. If you decide not to be in the research, it's okay and nothing changes. There will be no punishment given and no changes in treatment will be made to you if you refuse to answer. Even if you say "yes" now, you can change your mind later and it's still okay. Ang pananaliksik na ito ay kusang-loob. Hindi mo kailangang lumahok kung ayaw mo. Kung magpasya kang hindi lumahok, ayos lang at walang magbabago. Walang parusang ipapataw at walang pagbabago sa pakikitungo sa iyo kung tatangi kang sumagot. Kahit na sabihin mong "oo" ngayon, maaari mo pa ring baguhin ang iyong desisyon sa kalaunan at ayos lang iyon.

**Procedures: What is going to happen to me?:-**

We are asking you to help us learn about the risk of depression in correlation to social media use. We are inviting you to take part in this research via answering the questionnaires given to you. If you agree, you will be asked to fill out a survey and an informed ascent which will be provided and collected by the researcher at the school grounds. If you do not wish to answer any of the questions included in the survey, you may skip them and move on to the next question. Your name, contact number, and email address will not be required. Rest assured that the information you provide will be kept confidential. Only the researcher will have access to your information and answers. Hinihiling namin sa iyo na tulungan kami upang matukoy ang panganib ng depresyon kaugnay ng paggamit ng social media. Iniimbitahan ka naming lumahok sa pananaliksik na ito sa pamamagitan ng pagsagot sa questionnaire na ibibigay sa iyo. Kung ikaw ay pumayag, hihilingin sa iyo na punan ng sagot ang isang talatanungat at isang informed ascent na ipapamahagi at kokolektahin ng mananaliksik sa loob ng paaralan. Kung ayaw mong sagutin ang alinman sa mga tanong sa survey, maaari mo itong laktawan at magpatuloy sa susunod na tanong. Hindi mo kailangang ibigay ang iyong pangalan, numero ng telepono, o email address. Makatitiyak kang mananatiling kumpidensyal ang impormasyong ibibigay mo. Tanging ang mananaliksik lamang ang magkakaroon ng access sa iyong impormasyon at mga sagot.

**Risks: Is this bad or dangerous for me?:-**

Generally answering this questionnaire is safe. But you might experience social pressure in answering this questionnaire as well as mental or emotional distress. If this happens, you can stop at any time and inform the researchers immediately for support. Sa pangkalahatan, ligtas ang pagsagot sa talatanungan na ito. Ngunit maaari kang makaramdam ng presyur mula sa iba habang sinasagutan ito at maaring magkaroon ng emosyonal or mental na pagkaalisa. Kung mangyari ito, maaari kang huminto anumang oras at ipaalam agad sa mga mananaliksik upang matulungan ka.

**Discomforts: Will it hurt?:-**

There will be instances that you will feel uncomfortable answering the questionnaires, or that it may cause emotional or mental distress to you. If something like this happens, you may stop at any time and inform the researcher immediately for interventions. May mga pagkakataon na maaaring mong maramdaman ang hindi pagiging komportable sa pagsagot sa mga tanong, o maaaring magdulot ito ng emosyonal o mental na pagkabalisa. Kung mangyari man ito, maaari kang huminto anumang oras at agad na ipaalam sa mananaliksik para sa mga interbensyon.

**Benefits: Is there anything good that happens to me?:-**

There will be no direct benefit to you, but your participation is likely to help us find ways to aid policy-makers, non-governmental organizations and other socio-civic organizations plan support and guidelines that will help address adolescent depression. Walang direktang pakinabang sa iyo, ngunit makatulong ang iyong pakikilahok sa paghanap namin ng paraan upang matulungan ang mga tagapagbalangkas ng patakaran, mga hindi pampamahalaang organisasyon, at iba pang mga sosyo-sibikong organisasyon na magplano ng suporta at mga gabay na makakatulong sa pasugpo ng depression sa kabataan.

**Reimbursements: Do I get anything for being in the research?:-**

You will not be given any incentives whether monetary or in any form for participating in this study. Hindi ka bibigyan ng anumang insentibo sa paglahok sa pananaliksik na ito, pinansiyal man o sa iba pang paraan.

**Confidentiality: Is everybody going to know about this?:-**

I will not tell other people that you are in this research, and I won't share information about you to anyone besides the research team. Information about you that will be collected from the research will be put away and no-one, but the researcher will be able to see it. Any information about you will have a number on it instead of your name. Only the researcher will know what your number is and I will lock that information up with a lock and key. It will not be shared with or given to anyone except the SLU SHMC research office. Hindi ko ipapaalam sa iba na ikaw ay kasali sa pananaliksik na ito, at hindi ko ibabahagi ang anumang impormasyon tungkol sa iyo sa kahit na sino maliban sa mga miyembro ng pananaliksik na ito. Ang mga impormasyong makokolekta mula sa iyo ay itatago, at walang makakakita nito maliban sa mananaliksik. Ang anumang impormasyon tungkol sa iyo ay magkakaroon ng numero sa halip na pangalan. Tanging ang mananaliksik lamang ang makakaalam kung anong numero ang nakatalaga sa iyo, at itatago ko ang impormasyon na ito sa ilalim ng lock at susi. Hindi ito ibabahagi o ibibigay sa kahit sino maliban sa opisina ng pananaliksik ng SLU SHMC.

**Compensation: What happens if I get hurt?:-**

If emotional or mental distress happens to you during the research, please inform the researcher immediately for immediate intervention. We will coordinate with your parents/ guardian for proper care. Kung makaranas ka ng emosyonal o mental na pagkabalisa habang isinasagawa ang pananaliksik, ipaalam kaagad ito sa mananaliksik para sa agarang interbensyon. Makikipag-ugnayan kami sa iyong mga magulang o tagapag-alaga para sa tamang pag-aalaga.

**Sharing the Findings: Will you tell me the results?:-**

Your identity will not be linked to any information you submit in our survey, nor will it be shared with anybody outside the study team. When we are finished with the research, I will tell you and your parents about what we learnt. Afterwards, we will be telling more people, scientists and others, about the research and what we found. We will do this by writing and sharing reports and by going to meetings with people who are interested in the work we do. Ang iyong pagkakakilanlan ay hindi maiuugnay sa anumang impormasyong isusumite mo sa aming survey, at hindi rin ito ibabahagi sa kahit sino sa labas ng research team. Kapag natapos na namin ang pananaliksik, ipapaalam ko sa iyo at sa iyong mga magulang kung ano ang aming natutunan. Pagkatapos, ipapaalam namin ito sa mas

maraming tao, kabilang ang mga siyentipiko at iba pa, tungkol sa aming pananaliksik at mga natuklasan. Gagawin namin ito sa pamamagitan ng pagsusulat at pagbabahagi ng mga ulat at sa pagdalo sa mga pagpupulong kasama ang mga taong interesado sa aming ginagawa.

**Right to Refuse or Withdraw: Can I choose not to be in the research? Can I change my mind?:-**

You do not have to take part in this research if you do not want to. No one will be mad or disappointed with you if you say no. It's your choice. You can think about it and tell us later if you want. You can say "yes" now and change your mind later and it will still be okay. We will give you an opportunity at the end of the survey to review your answers, and you can edit or change your answers before submitting them to us. Hindi mo kailangang lumahok sa pananaliksik na ito kung hindi mo nais. Walang sino man ang magagalit kung sasabihin mong hindi. Ito ay nasa sa iyo. Maaari mong pag-isipan muna at ipagbigay alam sa amin ang iyong magiging desisyon sa kalaunan. Puwede kang magsabi ng "oo" ngayon at baguhing ang iyong desisyon sa kalaunan. Bibigyan ka namin ng pagkakataon sa dulo ng survey na suriin ang iyong mga sagot, at maaari mong baguhin ang mga ito bago mo ito isumite sa amin.

**Who to Contact: Who can I talk to or ask questions to?:-**

You can ask me questions now or later. You can leave your questions in the school clinic to be addressed by the researcher. You may directly contact me as well with this number 0915-539-8023. If you want to talk to someone else that you know like your teacher or doctor or auntie, that's okay too. Maaari kang magtanong sa akin ngayon o sa ibang pagkakataon. Maaari mong iwanan ang iyong mga tanong sa klinika ng paaralan upang masagot ng mananaliksik. Maaari mo rin akong direktang kontakin sa numerong ito: 0915-539-8023. Kung nais mong makipag-usap sa ibang tao na kilala mo, tulad ng iyong guro, doktor, o tita, ayos lang din iyon. This proposal has been reviewed and approved by the Saint Louis University – Research Ethics Committee (SLU-REC), which is a committee whose task it is to make sure that research participants are protected from harm. If you wish to find about more about the SLU-REC, contact DR. RAINIER MORENO-LACALLE, Chair of the SLU-REC, 444-8246 Local 387.

**If you choose to be part of this research, I will also give you a copy of this paper to keep for yourself. You can ask your parents to look after it if you want:-**

- ☐ Do you know that you do not have to take part in this study if you do not wish to? You can say No if you wish to. Alam mo ba na hindi mo kailangang lumahok sa pananaliksik na ito kung ayaw mo? Maaari kang magsabi ng "Hindi" kung nais mo.
- ☐ Do you know that you can ask me questions later, if you wish to? Alam mo ba na maaari kang magtanong sa akin, kung gusto mo?
- ☐ Do you know that I have given my contact details so you can ask me any questions regarding this research? Alam mo ba na ibinigay ko ang aking mga contact details para makapagtanong ka tungkol sa pananaliksik na ito?

You can ask me any more questions about any part of the research study, if you wish to. Do you have any questions? Maaari kang magtanong sa akin ng iba pang mga katanungan tungkol sa anumang bahagi ng pananaliksik na ito, kung nais mo. Mayroon ka bang mga tanong?

**PART 2: Certificate of Assent:-**

I understand that the research is about Impact of Social-Media Usage on Depression Risk Among Adolescents in a Local Context. I understand that I will answer a list of questions in the survey form and that this might cause me discomfort, but it will help in determining correlation between time spent on social media with risk of adolescent depression. Naiintindihan ko na ang pananaliksik ay tungkol sa Epekto ng Paggamit ng Social Media sa Panganib ng Pagkakaroon ng Depression sa mga Kabataan sa Lokal na Konteksto. Naiintindihan ko na sasagutin ko ang isang listahan ng mga tanong sa form ng survey at maaaring magdulot ito sa akin ng pagkabalisa ngunit makakatulong ito sa pagtukoy ng kaugnayan ng oras na ginugugol sa social media at panganib ng pagkakaroon ng depression sa mga kabataan.

I have read this information (or had the information read to me), I have had my questions answered and know that I can ask questions later if I have them. Nabasa ko ang impormasyong ito (o naipaliwanag sa akin ang impormasyon), nasagot ang aking mga katanungan, at alam kong maaari pa akong magtanong kung mayroon man akong mga tanong sa hinaharap. I have accurately read out the information sheet to the potential participant, and to the best of

my ability made sure that the child fully understood what s/he is being asked to do in the research project. Tama kong binasa ang impormasyon sa potensyal na kalahok, at sa abot ng aking kakayahan ay sinigurado kong lubos na naintindihan ng bata ang hinihiling na gawin niya sa pananaliksik na ito. I confirm that the child was given an opportunity to ask questions about the study, and all the questions asked by him/her have been answered correctly and to the best of my ability. I confirm that the individual has not been coerced into giving consent, and the consent has been given freely and voluntarily. Kinukumpirma ko na binigyan ang bata ng pagkakataon na magtanong tungkol sa pag-aaral, at lahat ng kanyang mga tanong ay nasagot nang tama at sa abot ng aking makakaya. Kinukumpirma ko na ang indibidwal ay hindi pinilit na magbigay ng pahintulot, at ang pahintulot ay ibinigay nang malaya at kusang-loob.

- How much Time do you spend on social media in 24 hours? Please place a check mark on the appropriate answer.

( ) 0-3 hours                      ( ) 7-9 hours  
( ) 4-6 hours                      ( ) 10 or more hours

- What are the social media platforms you are using? Rank each from 1 – 5, 1 being the most used platform. If platform is not being used, please right 0.

\_\_\_\_\_ Facebook                      \_\_\_\_\_ Tiktok  
\_\_\_\_\_ Messenger                      \_\_\_\_\_ Youtube  
\_\_\_\_\_ Instagram

#### Instructions:

How often have you been bothered by each of the following symptoms during the past two weeks? For each symptom put an “√” in the box beneath the answer that best describes how you have been feeling.

Questions (Mga tanong)	(0) Not at all	(1) Several days	(2) More than Half the days	(3) Nearly every day
1. Feeling down, depressed, irritable, or hopeless?				
2. Little interest or pleasure in doing things?				
3. Trouble falling asleep, staying asleep, or sleeping too much?				
4. Poor appetite, weight loss, or overeating?				
5. Feeling tired, or having little energy?				
6. Feeling bad about yourself – or feeling that you are a failure, or that you have let yourself or your family down?				
7. Trouble concentrating on things like schoolwork, reading, or watching TV?				
8. Moving or speaking so slowly that other people could have noticed?  Or the opposite – being so fidgety or restless that				

you were moving around a lot more than usual?				
9. Thoughts that you would be better off dead, or of hurting yourself in some way?				
<p>In the past year have you felt depressed or sad most days, even if you felt okay sometimes?</p> <p style="text-align: center;"> <input type="checkbox"/> Yes         <span style="margin-left: 150px;"><input type="checkbox"/> No</span> </p>				
<p>If you are experiencing any of the problems on this form, how difficult have these problems made it for you to do your work, take care of things at home or get along with other people?</p> <p> <input type="checkbox"/> Not difficult at all  <input type="checkbox"/> Somewhat difficult  <input type="checkbox"/> Very difficult  <input type="checkbox"/> Extremely difficult         </p>				

<p>Has there been a time in the past month when you have had serious thoughts about ending your life?</p> <p style="text-align: center;"> <input type="checkbox"/> Yes         <span style="margin-left: 150px;"><input type="checkbox"/> No</span> </p>
<p>Have you EVER, in your WHOLE LIFE, tried to kill yourself or made a suicide attempt?</p> <p style="text-align: center;"> <input type="checkbox"/> Yes         <span style="margin-left: 150px;"><input type="checkbox"/> No</span> </p>

**\*\*If you have had thoughts that you would be better off dead or of hurting yourself in some way, please discuss this with anyone who you feel comfortable talking to or your Health Care Clinician, go to a hospital emergency room.**

### **Conclusion:-**

This study demonstrated an association between time spent on social media and adolescent mental health particularly on depression and its severity. Younger adolescents reported higher levels of social media engagement than older adolescents and female adolescents exhibited greater screen time. These patterns were associated with increased vulnerability to depression. Multi-platform use was prevalent among participants. Although depression severity did not differ significantly by the number of platforms used, extensive engagement and multi-platform use remain a potential concern and should not be overlooked. Overall, greater social media use was correlated with both higher prevalence and increased severity of depression. These findings underscore the importance of promoting balanced and mindful social media use to support adolescent mental health. Collaborative efforts involving parents, schools, and relevant stakeholders through targeted gender-sensitive interventions, digital literacy initiatives, awareness campaigns, and the encouragement of offline activities may help adolescents navigate the digital landscape more healthily. Interventions aimed at promoting healthy social media habits must consider both the quantity and quality of platform engagement to effectively support adolescent mental health. Continued research is warranted to further

clarify these relationships and inform evidence-based strategies to mitigate potential adverse mental health outcomes of social media in this vulnerable population.

### **Limitation of The Study:-**

This study is a cross-sectional study thus the variables are taken at a single point in time. It is difficult to track changes over time or determine the directionality of the relationship between social media use and depression. It can determine correlation, but causality cannot be inferred. This study is specific to the local setting and may not generalize to broader populations. Therefore a larger population might be recommended in future studies.

### **Recommendation For Future Research:-**

The authors recommend conduction of longitudinal studies to better understand the causal relationship between social media usage and depression among adolescents. Future research may further analyze usage patterns such as studying the effects of passive scrolling versus active engagement, and their respective impacts on mental health. Expanding the study to diverse cultural and socioeconomic setting as well as incorporating risk factors such as romantic relationships, financial constraints, and family problems may provide more comprehensive understanding of adolescent mental health in relation to social media use. And finally, it is recommended to develop and evaluate interventions such as social media detox programs, digital literacy training, or mental health awareness campaigns to determine their effectiveness in reducing depression risk.

### **Ethical Considerations:-**

This research was subjected to review and approval by the SLU - Research Ethics Committee and Technical Review Board. Confidentiality and privacy were observed. No names were placed in the questionnaire. No participants had adverse reactions or triggers during the duration of the study. No incentives in monetary or any form were given to participants in the study.

### **Disclosure Of Potential Conflict Of Interest:-**

There are no conflicts of interest as well as potential conflicts. The researcher has no affiliation with any pharmaceutical or health facilities outside Saint Louis University – Sacred Heart Medical Center.

### **Financing Of Project And Other Support And Estimated Budget:-**

This research is self-financed. No sponsor, either part or whole, provided any financial aid in this research.

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