

Factors that influence social media interaction among university students: emotional and mental well-being

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ABSTRACT

Social media usage is becoming popular among students, which is used both for academic and entertainment. However, the excessive use of social media can increase the level of stress, anxiety, and depression. The social media interaction can also lead the students to compare themselves with influencers. This study aims to identify the factors and the significant relationship between the factors of social media interaction and emotional and mental well-being. This research used a quantitative research and hypothesis-driven approach. The existing theories, such as social capital theory and social comparison theory were adapted for the online survey questionnaires. The collected data were analysed using partial least square-structural equation modelling (PLS-SEM) to analyse the two objectives of this research. Based on the findings, twelve (12) constructs were identified as the factors that contribute to social media interaction on university students' emotional and mental well-being by assessing and validating the constructs using PLS-SEM. Then, there are thirteen (13) out of twenty-three (23) hypothesis were significant relationships based on the final model testing using PLS-SEM bootstrapping method. Ten (10) paths of direct effect, two (2) paths of mediating analysis, and one (1) path of moderating analysis were significant relationships and supported the alternative hypothesis. It is recommended for future studies to also explore other analysis techniques, theories, or models, and the changes to other group such as older generations or working adults.

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1. INTRODUCTION

Nowadays, social media usage had become a central component for university students in their daily life influencing both of their academic and entertainment purposes. The usage of social media is highly beneficial in assisting students in the maintenance of relationships with their current peers and the acquisition of information that can reduce their feelings of loneliness during their university years [1].

In addition, according to [2], the use of social media among students are also to expand their knowledge and change opinion about the current issue and make it as a part in their daily life. A lot of social media platforms were popular that are being used among university students such as Instagram, TikTok, Facebook, Twitter, and WhatsApp. Most of the adult that is above eighteen (18) years old tend to use social media in their daily routine for personal growth and entertainment purposes through communication with others which can affect their self-esteem, social comparison, and mental health outcomes [3]. This is because

they have more emotional experience when interact with social media by comparing their life with others which can lead to low self-esteem, anxiety, depression and loneliness.

Then, the students tend to compare themselves with others especially watching the influencer on social media that have better life [4]. The rising trend of becoming influencer may affect the students emotional and mental well-being because they will feel pressure if the influencer is more successful than them. The excessive social media use will lead to anxiety, depression, stress and low self-esteem, if an individuals keep comparing themselves to others [5]–[7].

Despite the existence of certain negative consequences of social media, such as addiction, misinformation, and privacy concerns, university students experience stress that is associated with mental health issues. Most of the students spend their time between two (2) to twelve (12) hours assessing the social media which can impact their academic focus as they will feel tired and unable to focus during learning process [2]. Although it is challenging to balance the positive and negative impacts, it is important to ensure that social media can be a safe place for university students and a supportive environment for their learning process.

Most of the past research has discussed many impacts link between social media interaction and emotional and mental well-being of an individual and there is still a need for more research on how social media platforms can impact students emotional and mental well-being differently. While comprehensive research has been done on social media interaction among university students and their well-being, there is still a lack of research regarding the limited focus on university students. This is because they often overlook the age group that mainly uses social media for entertainment and academic purposes as the researcher mostly focuses on the broader population [8]. Prior research also provides contradict findings on the significant relationship between social media interaction and emotional and mental well-being which has not been thoroughly examine. Therefore, this research was further explored on what are the factors and significant relationship between social media interaction and emotional and mental well-being among university students.

Social media has grown over time because it has many uses such as sharing ideas, thoughts, and information as it can be accessed anywhere and anytime by using smartphones. Social media has become a popular medium among students in higher education since it can be used to promote their academic performances for the benefit of the student experience through reaching out to educators, peers, influencer and resources. There are two problems that were identified based on the past research.

- The excessive use of social media that causes addiction can lead to negative outcomes for the overall quality of life for university students [8]. This can affect the emotional and mental states of university students by increasing the levels of stress, anxiety, and depression symptoms [6]. While social media provides educational and connectivity benefits to university students, excessive use can have a severe impact on their mental health, including symptoms like fear of missing out (FOMO) among them because they will always try to check on the updates from the social media content that they post [9].
- Although the usage of social media is increasing among university students, there is still a lack of comprehensive research on the relationship between social comparison and the impact on psychological well-being [10]. Students tend to compare themselves with others especially influencer when they engage in social media which can lead to low self-esteem [7]. This raises concern when the students feel not satisfied with what they have as they will feel pressure when they use the content as a reference from social media influencers. Despite the negative impact of social comparison, some compare themselves to those who are worse than them to make them feel relief and can boost their confidence which makes them feel better [11].

This will impact the university student's academic performance as they cannot stay focused during the learning process [12]. They cannot concentrate and absorb the information shared by the educators making them unable to perform and interact well. So, understanding the problem of social media interaction is significant in promoting awareness towards a more positive interaction when university students engage with social media as they understand the negative impact on their mental health.

2. RESEARCH CONCEPTUAL MODEL

In this study, the chosen research conceptual model encompasses the social capital theory and social comparison theory based on Figure 1. The theories serve as a basis for comprehending the interrelations between variables and direct the development of research questions or hypotheses. Social capital theory is significant as the framework provides an understanding of how social networks can contribute to individual well-being [6]. Social comparison theory greatly influences social media as most individuals compare their abilities, achievements, and social status which can lead to low self-esteem and negative health outcomes such as stress, anxiety, and depression [7]. This research strives to enhance the existing body of research and

aid in understanding the emotional and mental well-being of university students through the integration of established theories that relate to social media interaction, and emotional and mental well-being.

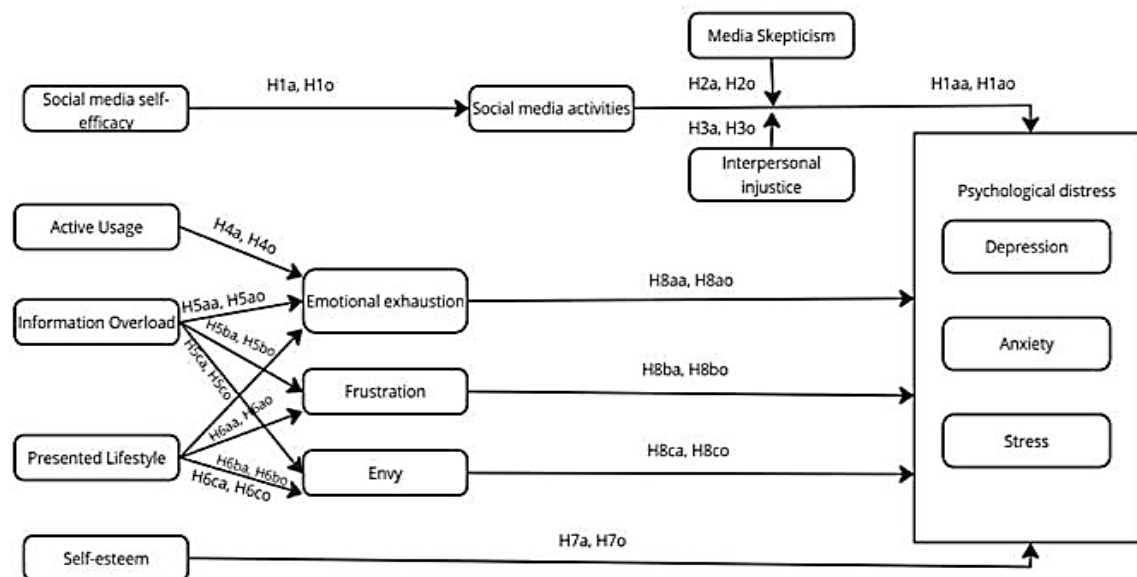


Figure 1. The research conceptual model adapted from social capital theory and social comparison theory

The constructs involved are discussed as the followings based on [6], [7]:

- Social media self-efficacy: This refers to when the individual can navigate using social media confidently for interaction with others and the content shown in the social media.
- Information overload: The amount of information from the social media platform that can be used for the individual for various purposes in their daily life.
- Presented lifestyle: These aspects represent when an influencer is a reference for the individual as most of the influencer shows their beauty, wealth, and life in social media aim to attract individuals to follow them.
- Social media activities: This is where individuals engage in social media such as commenting, liking, posting, and sharing posts directly to their peers or influencers on the social media platform.
- Media skepticism: A tendency for individuals to doubt the accuracy, precision, and intentions of information they encounter in the media, particularly on social media.
- Active usage: The interactive behavior of an individual in giving their opinion on social media rather than only scrolling through it which can lead to positive and negative impacts on well-being.
- Self-esteem: The belief in the capabilities of coping when there are negative emotions from being compared with others which can lead to psychological distress.
- Interpersonal injustice: The unfair treatment from users in social media including, cyberbully can have a negative impact such as psychological distress during the interaction.
- Emotional exhaustion: The feeling of losing energy and emotions when excessive use of social media.
- Frustration: It is a response that occurs when an individual is unable to meet expectations especially when engaging with social media.
- Envy: It is a response of feeling when an individual compares themselves with others in social media such as emotions of dissatisfaction, resentment, and desire to have people things or life.
- Psychological distress: This element highlights how social media can lead to psychological distress such as depression, anxiety, and stress due to exposure to issues, false information, and offensive material on social media.

In summary, the primary variables of the investigation are the independent, dependent, mediating and moderating variables of the research objective and question. These concepts are the fundamental components that are essential for the resolution of the research problem. The research questions and objectives of this investigation are established upon this research conceptual model.

3. RESEARCH METHOD

The research framework or process is a sequence of phases that must be commenced to carry out any research section. The aim and objectives of this research are attained by conducting the research framework. The activities embarked for each of the processes can be shown in the flowchart. The research will involve four phases: the preparation and planning phase, the data collection phase, the data analysis and documentation phase. The first phase starts by finding the issue and problem based on the existing research. An extensive review of the preliminary study of existing literature related to social media interaction among university students: and emotional and mental well-being will be conducted to gain a preliminary impact and concept on the initial insights. The second phase entails the collection of data following the research methodology's strategy, which is achieved through the development of the conceptual and theoretical framework using the social capital theory and social comparison theory. The sampling strategy will be established, which will encompass the target population of university students, a collected sample size of 379 students, and selection criteria that prioritize postgraduate students and undergraduate students that is above eighteen (18) years old from UiTM Shah Alam. The sample size that will be involved in the research findings was determined using Rule of thumbs 1:5 [13]. Then, survey questionnaires will be developed, and the Google form will be used to capture the output of the research. Then, the third phase undergo an analysis process to identify patterns, relationships, and trends that effectively address the research questions. The quantitative data analysis technique that will be employed in this study will be derived from surveys, and statistical analysis techniques will be implemented. SPSS, a data analysis software, will be applied for data cleaning, test for normality and descriptive statistics on the data frequency of the respondents and constructs. Another software used to analyse the direct effect, interaction effect for mediation and moderation variable in this research is SmartPLS. The chosen software will facilitate the management of extensive datasets and the execution of statistical computations. The techniques such as partial least square- structural equation modelling (PLS-SEM) will be used to examine the factors and the significant relationship between the factors of social media interaction and emotional and mental well-being. Bootstrapping method in PLS-SEM will be used to analyse the second objective. There are three paths to access for the hypothesis which are direct effect, interaction effect of mediating analysis and moderating analysis. The result of the path coefficient, t-value and p-value were compared to the threshold to determine the significant relationship. Therefore, this phase will result in achieving each of the two primary research objectives. The data will be analyzed, and the results will be recorded to offer a valuable perspective and conclusion. The last phase is the findings of the research are compiled in a final research thesis document. It is important to document the information related to this research as it will become evident as a reference. A well-documented research document ensures a clear and thorough outline of the research. Ethical considerations are crucial to ensure that the participants who participate in the research are comprehensively informed in the data collection and that personal information will not be disclosed without their permission. The findings must be recorded in a report accurately to avoid any fabrication of the data.

4. FINDING AND DISCUSSION

4.1. Sampling result

This study was conducted using online survey that is created using google form on the target population of students above eighteen (18) years old at UiTM Shah Alam. Email was used as a main platform to distribute the survey questionnaire to both postgraduate and undergraduate students. The duration of the data collection is from 1 May 2025 to 24 May 2025. The past research proposed using the rule of thumbs of ratio 1:5 to calculate the appropriate sample size [13]. There were twelve (12) construct and 66 items, therefore based on the ratio the sample size is calculated by multiplying the 66 items to five (5) which refers as five (5) respondents per item and the minimum sample size is 330. However, there were 379 respondents' responses to the google form which had exceed the minimum sample size. Therefore, it is sufficient and better for this investigation to utilize a total sample size of 379 university students because it can reduce bias and increase the quality of the research. However, after removing the outlier the final number of the respondents is 363 students.

4.2. Reliability test

Each of the construct will be accessed on its reliability and validity to shows that the overall model was fit for structural model testing. All the Cronbach alpha is more than 0.7 based on Table 1 which indicates that the items consistently access the same construct [14]. The twelve (12) constructs had also exceeded the threshold of 0.7 on the composite reliability (CR) and the average variance extracted (AVE) value is above 0.5 which can be explained that the construct is in the same concept.

Table 1. Reliability and validity of constructs

Construct	Cronbach's alpha
Active Usage	0.941
Emotional Exhaustion	0.967
Envy	0.957
Frustration	0.972
Information Overload	0.930
Interpersonal Injustice	0.951
Media Skepticism	0.963
Presented Lifestyle	0.968
Psychological Distress	0.885
Self-esteem	0.921
Social Media Activities	0.952
Social Media Self-efficacy	0.941

4.3. Inferential statistics and multivariate analysis: Partial least square- structural equation modelling

The usage of inferential statistics has been widely used in the research because it is a technique to predict the data collected from the sample population. It will give the correlation between the variable that will be tested in this research whether it is related or not. Normality test is a step to determine whether the collected data is distributed normally and to decide appropriate usage of parametric or non-parametric method [15]. In addition, Skewness demonstrates how symmetrical the data is distributed and Kurtosis quantifies how high or low a distribution is in relation to normal distribution [16]. According to the normality test result, data on the histogram skew more on the left, the point in the P-P plot significant deviation from the line showing that the data is not normally distributed as the acceptable range for normal distribution of Z-score is ± 1.96 [17]. So, it can directly use the PLS-SEM to test the hypothesis, and interpret the relationship between the construct. Therefore, it is significant to choose appropriate correlation coefficient based on the data that had been collected to identify latent or non-linear associations. The multivariate analysis represents as a category for the inferential statistics technique used in this research because it assesses complex relationship among the construct.

4.4. Measurement model evaluation for identification and validate of the factors

The measurement model evaluation was conducted to assess the outer model, discriminant validity using the method of Fornell-Larcker criterion and Heterotrait-Monotrait ratio (HTMT), reliability and validity of the construct based on its Cronbach's alpha, CR and AVE. This evaluation is to ensure that each of the construct that were identified as the factors based on the past research were validate before being used for the hypothesis testing. The outer model indicates the examine of factor loadings in each item of the construct which can refers as the consistent measure of each construct. The ideal loading should be above 0.70 because it shows that it is strong and reliable indicator to be use in the research [13]. The item that is in the range of 0.4 to 0.7 is retained and acceptable because the AVE is above 0.5 and the CR is also above threshold of 0.70. The discriminant validity was applied to determine whether the construct is unique from one another [18]. It is ensured that the construct is appropriate measured without having excessive amount of correlation with the construct that is unrelated with it which will help the data were captured accurately. Therefore, the HTMT were applied for accessing the discriminant validity. The Fornell-larcker criterion shows that the value is acceptable because the square root of the AVE for each of the construct which can be seen diagonally is larger than its correlation with another construct. According to [19], the use of HTMT criterion is to produce a higher quality measuring tool and prevent misinterpretation of cause and impact in the modelling analysis. The HTMT ratio shows the value is less than 0.9 and it is acceptable because it is more sensitive and reliable test.

4.5. Structural model assessment for examining the relationship

The Structural Model Assessment in PLS-SEM entails assessing the relationships among latent constructs to ascertain their importance, applicability, and capacity for prediction [20]. This can be assessed using the bootstrapping method in SmartPLS to identify the path on each of the relationship. Lateral collinearity which also known as predictor-criterion refers to have strong correlation [21]. The assess of lateral collinearity is to reduce from misleading interpretation of the results which can lead to wrong conclusion. The result of VIF which are less than 5.0 and is acceptable according to [18] because it does not affect the validity of the model. The structural model is significant in understanding the relationship of the variable by evaluating its strength, model capacity for explanation and correlation of the construct. The structural model can be measured and analyse based on its path coefficient, R^2 and f^2 . According to [22], the path coefficient is typically in the range between -1 and +1 when calculated using bootstrapping test. The path coefficient shown were according to the guidance from [13], it shows that the β value ≥ 0.5 is refer

as a very strong relationship and the path are information overload to emotional exhaustion and information overload to frustration. Then, the β in the range of 0.30-0.49 indicates that it has a strong relationship between construct such as the result of the path for interpersonal injustice to psychological distress, presented lifestyle to envy, and social media self-efficacy to social media activities. Moderate relationship where the β is in between the range of 0.02-0.29 which are the path of information overload to envy and self-esteem to psychological distress. β in between 0.10 and 0.19 interpret as weak relationship for path emotional exhaustion to psychological distress, frustration to psychological distress and presented lifestyle to emotional exhaustion. While the β that is lower than 0.10 considered as very weak relationship such as path of active usage to emotional exhaustion, envy to psychological distress and media skepticism to psychological distress. The acceptance of null hypothesis or alternative hypothesis can be concluded by interpreting its p-value, t-value and the confidence interval. The alternative hypothesis is accepted when the p-value is less than <0.05 and the path is significant relationship between the constructs. This can be concluded that for the direct effect relationship all the paths were significant except for H4, H8a and H8c because the p-value is larger than 0.05, t-value below 1.96.

4.6. Significant relationship on the factors for direct effects

H1: social media self-efficacy has a significant relationship on social media activities, the findings show that social media self-efficacy has a significant relationship on social media activities ($t=40.008$, $p=0.000$). The value of path coefficient is 0.820 which indicates strong relationship between the constructs. This indicates that higher social media self-efficacy level is positively associated with increased in social media activities. This differs in the findings from [6] which only focuses on the mediating effect without assessing the direct path. The differences in this research are by examining both its direct and mediating effect to provide full understanding on the significant relationship for all of the path.

H1(a): Social media activities have a significant relationship on psychological distress, the results show that social media activities have a significant relationship on psychological distress ($t=2.402$, $p=0.016$). The value of path coefficient is -0.140 which indicates weak relationship between the constructs. This indicates that higher social media activities level is positively associated with increased in psychological distress. These results were contrast with the findings from [6], who reported that the indirect effect of social media activities mediate the relationship between another construct and psychological distress.

H4: Active usage has a significant relationship on Emotional exhaustion. The result of the study indicates that active usage has no significant relationship on Emotional exhaustion which does not support the hypothesis. The t-value of 1.631 which is less than 1.96, and the p-value of 0.103, which is greater than 0.05. This contrast with [7], which mentioned that active usage had negative influence on the emotional exhaustion.

H5(a): Information overload has a significant relationship on emotional exhaustion. The findings show that information overload has a significant relationship on emotional exhaustion ($t=16.557$, $p=0.000$). The value of path coefficient is 0.661 which indicates a very strong relationship between the constructs. This indicates that higher information overload level is positively associated with increased in emotional exhaustion. It is consistent with the work of [7] indicates the influence of information overload and emotional exhaustion.

H5(b): Information overload has a significant relationship on frustration. The findings show that information overload has a significant relationship on frustration ($t=10.942$, $p=0.000$). The value of path coefficient is 0.538 which indicates a very strong relationship between the constructs. These findings align with [7], who reported that information overload had significantly influence on frustration.

H5(c): Information overload has a significant relationship on envy. The findings show that information overload has a significant relationship on envy ($t=4.004$, $p=0.000$). The value of path coefficient is 0.216 which indicates moderate relationship between the constructs. This indicates that higher information overload level is positively associated with increased in envy. This findings from [7], does not focus on envy because the construct is connected to the presented lifestyle of the influencers.

H6(a): Presented Lifestyle has a significant relationship on emotional exhaustion. The findings show that presented lifestyle has a significant relationship on emotional exhaustion ($t=3.323$, $p=0.001$). The value of path coefficient is 0.150 which indicates weak relationship between the constructs. This indicates that higher presented lifestyle level is positively associated with increased in emotional exhaustion. These findings align with [7], who reported that presented lifestyle contribute to emotional exhaustion.

H6(b): Presented Lifestyle has a significant relationship on frustration. The findings show that presented lifestyle has a significant relationship on frustration ($t=2.945$, $p=0.003$). The value of path coefficient is 0.162 which indicates weak relationship between the constructs. This indicates that higher presented lifestyle level is positively associated with increased in frustration. These findings differ with findings from [7], who reported that presented lifestyle does not have significant directly to frustration.

H6(c): Presented Lifestyle has a significant relationship on envy. The findings show that presented lifestyle has a significant relationship on envy ($t=7.421$, $p=0.000$). The value of path coefficient is 0.384 which indicates strong relationship between the constructs. This indicates that higher presented lifestyle level is positively associated with increased in envy. These findings were supported by [7], who reported that presented lifestyle significantly influence envy because can lead to negative responds.

H7: Self-esteem has a significant relationship on psychological distress. The findings show that self-esteem has a significant relationship on psychological distress ($t=5.408$, $p=0.000$). The value of path coefficient is -0.334 which indicates moderate relationship between the constructs. This indicates that higher self-esteem level is positively associated with increased in psychological distress.

H8(a): Emotional exhaustion has a significant relationship on psychological distress. The results of the study mentioned that emotional exhaustion has no significant relationship on psychological distress which does not support the hypothesis. The t-value of 1.401 which is less than 1.96, and the p-value of 0.161, which is greater than 0.05.

H8(b): Frustration has a significant relationship on psychological distress. The findings show that frustration has a significant relationship on psychological distress ($t=2.076$, $p=0.038$). The value of path coefficient is 0.151 which indicates weak relationship between the constructs. This indicates that higher frustration level is positively associated with increased in psychological distress.

H8(c): Envy has a significant relationship on psychological distress. The result of the study shows that envy has no significant relationship on psychological distress which does not support the hypothesis. The t-value of 0.490 which is less than 1.96, and the p-value of 0.624, which is greater than 0.05.

4.7. Interaction effect: Relationship of mediating analysis

H1 and H1(a): Social media activities positively mediate the relationship between social media self-efficacy and psychological distress. The results show that social media activities significantly mediate the relationship between social media self-efficacy and psychological distress ($t=2.367$, $p=0.018$). The value of path coefficient is -0.115 which indicates weak relationship between the constructs. This indicates that higher social media activities level is positively associated with increased in social media self-efficacy and psychological distress. These findings align with [6], who reported that social media activities positively mediate the relationship between social media self-efficacy and psychological distress.

H4(a) and H8(a): Emotional exhaustion positively mediates the relationship between active usage and psychological distress. The result of the study shows that emotional exhaustion has no mediate relationship between active usage and psychological distress which does not support the hypothesis. The t-value of 0.979 which is less than 1.96, and the p-value of 0.328, which is greater than 0.05. This contrasts with [7], which only mentioned the direct effect of emotional exhaustion to psychological distress and active usage to psychological distress.

H5(a) and H8(a): Emotional exhaustion, positively mediates the relationship between information overload and psychological distress. The result of the study shows that the emotional exhaustion has no mediate relationship between information overload and psychological distress which does not support the hypothesis. The t-value of 1.385 which is less than 1.96, and the p-value of 0.166, which is greater than 0.05. This contrasts with [7], which supported that emotional exhaustion mediates the positive relationship.

H5(b) and H8(b): Frustration positively mediates the relationship between information overload and psychological distress. The results show that frustration significant mediates relationship between information overload and psychological distress ($t=1.995$, $p=0.046$). The value of path coefficient is 0.081 which indicates very weak relationship between the constructs. This indicates that higher frustration level is positively associated with increased in information overload and psychological distress.

H5(c) and H8(c): Envy positively mediates the relationship between information overload and psychological distress. The results shows that envy has no mediate relationship between information overload and psychological distress which does not support the hypothesis. The t-value of 0.466 which is less than 1.96, and the p-value of 0.642, which is greater than 0.05. This contradicts the research by [7], which mentioned that envy mediates the link between information overload and psychological distress.

H6(a) and H8(a): Emotional exhaustion positively mediates the relationship between the presented lifestyle and psychological distress. The result of the study shows that emotional exhaustion has no mediate relationship between presented lifestyle and psychological distress which does not support the hypothesis. The t-value of 1.233 which is less than 1.96, and the p-value of 0.218, which is greater than 0.05.

H6(b) and H8(b): Frustration positively mediates the relationship between the presented lifestyle and psychological distress. The result of the study shows that frustration has no mediate relationship between presented lifestyle and psychological distress which does not support the hypothesis. The t-value of 1.549 which is less than 1.96, and the p-value of 0.121, which is greater than 0.05.

H6(c) and H8(c): Envy positively mediates the relationship between the presented lifestyle and psychological distress. The result of the study shows that envy has no mediate relationship between presented

lifestyle and psychological distress which does not support the hypothesis. The t-value of 0.484 which is less than 1.96, and the p-value of 0.628, which is greater than 0.05.

4.8. Interaction effect: Relationship of moderation analysis

H2: Media Skepticism positively moderates the relationship between social media activities and psychological distress. The result of the study shows that media skepticism has no moderate relationship between social media activities and psychological distress which does not support the hypothesis. The t-value of 0.173 which is less than 1.96, and the p-value of 0.863, which is greater than 0.05. These findings were supported by [6], which mentioned that media skepticism did not significantly moderate the relationship between social media activities and psychological distress.

H3: Interpersonal injustice positively moderates the relationship between social media activities and psychological distress. The results show that interpersonal injustice has moderate relationship between social media activities and psychological distress ($t=1.985$, $p=0.047$). The value of path coefficient is 0.099 which indicates very weak relationship between the constructs. This indicates that higher interpersonal injustice level are positively moderates with the increased relationship between social media activities and psychological distress and supported by [7].

Therefore, the findings of this study were consistent with past research of [23] because it discusses that the social media had a positive significant relationship to psychological distress especially it can lead to increasing in anxiety and it is consistent with the work of [7] indicates the influence of information overload and emotional exhaustion. The findings were also supported from [24] who had reported that social media activities serve as a positive mediator between social media self-efficacy and psychological distress. Then, these findings align with [7], who reported that frustration mediates the effect of information overload on psychological distress. and were supported by [6], which mentioned that media skepticism did not significantly moderate the relationship between social media activities and psychological distress. The finding of this study aligns with [6], who highlighted that interpersonal injustice has significant moderating effect between social media activities and psychological distress. However, there were also contradict findings from the past author which only focuses on the mediating effect without assessing the direct path. The difference in this research is by examining both its direct and mediating effect to provide full understanding on the significant relationship for all the path [6]. The findings also contrast with [7], which mentioned that active usage had negative influence on the emotional exhaustion, and it is similar from the finding from [25], as the author mentioned that processing a large amount of information can significantly contribute to frustration. This findings from [7], does not focus on envy because the construct is connected to the presented lifestyle of the influencers and mentioned that envy mediates the link between information overload and psychological distress. In addition, the finding of this study contrasts with past author of [7], which reported and confirmed that frustration mediates the relationship between presented lifestyle and psychological distress. The author also mentioned that envy act as mediator that influence the relationship between presented lifestyle and psychological distress.

5. CONCLUSION

This section concludes the studies based on the findings of the research. The research on social media interaction and emotional and mental well-being was summarized in this chapter on the achievement of the research objective, implications, challenges, limitations, and recommendations for future work. The first objective is to identify the factors related to the social media interaction and emotional and mental well-being of university students. The objective was successfully achieved. There are five categories of factors that were synthesized from past research, and it is classified as behavioral, contextual, social, psychological, and individual factors. Then, in this research, the construct of social media self-efficacy, social media activities, media skepticism, interpersonal injustice, and psychological distress were adapted from the social capital theory, and the construct of information overload, presented lifestyle, emotional exhaustion, frustration, envy, self-esteem, and active usage were adapted from social comparison theory. All the constructs were related to both social media interaction and emotional and mental well-being because all the items in the construct were used in analysing and validating by assessing the value of outer loading in PLS-SEM, and it shows that the item is related to the factor. The second objective is to examine the relationship between the factors related to social media interaction and the emotional and mental well-being of university students. The objective was successfully achieved. There are ten (10) direct paths that was tested significant relationship using PLS-SEM. The ten (10) direct path were social media self- efficacy has a strong significant relationship on social media activities, social media activities has a weak significant relationship on psychological distress, information overload has a very strong significant relationship on emotional exhaustion, information overload has a very strong significant relationship on frustration,

information overload has a moderate significant relationship on envy, presented lifestyle has a weak significant relationship on emotional exhaustion, presented lifestyle has a weak significant relationship on frustration, presented lifestyle has a strong significant relationship on envy, self-esteem has a moderate significant relationship on psychological distress, and frustration has a weak significant relationship on psychological distress. Then, two (2) interactions of mediating paths are significant relationships based on the mediating analysis, and the two (2) paths were social media activities positively mediate weak relationship between social media self-efficacy and psychological distress, and frustration positively mediates a very weak relationship between information overload and psychological distress. For the moderation analysis, only one (1) interaction of the moderating path is a significant relationship, which is interpersonal injustice positively moderating a very weak relationship between social media activities and psychological distress. Some of the constructs did not have a significant relationship because not all constructs directly cause an impact on the emotional and mental well-being of university students.

The implication of the research which also known as the importance, impact and its relevance of the research findings towards the real-life environment and academic theory. This research contributes significantly to university students as it will increase their understanding of the factors of social media interaction towards their mental health. Based on the findings, this research indicates it is successfully being explored towards the emotional and mental well-being with the use of PLS-SEM bootstrapping method to analyse the mediating and moderating interaction of the construct. Then, this finding supports the social media comparison theory construct, like presented lifestyle and envy as part of the relationship between social media interaction and the increasing level of stress, depression, and anxiety of university students. Based on the problem statement of this research, most of the students tend to compare themselves with the influencer, which can lead to a negative impact on their mental health. Therefore, these findings can help university students to have a healthier lifestyle as they are able to choose, filter, and avoid the content that makes them feel triggered if they compare themselves with influencers who are better than them. This can promote a healthier lifestyle and better support their emotional and mental well-being when navigating social media content. There is very strong significant relationship from the findings of the direct effect between information overload to emotional exhaustion and frustration. Information overload, such as scrolling multiple sources, repeatedly checking social media, and receiving many feedback after updating content on social media, can lead to emotional fatigue and irritation. By identifying these findings, it can help university students to recognize the essential content when assessing and sharing social media that is only related to their academic purposes. This can promote self-awareness and healthier use of social media, which will help them to be more productive in their daily life without feeling fatigued when using social media. Therefore, the findings from this research can be a baseline for university students to decide which factors can give more impact on their emotional and mental well-being. The understanding of the overall relationship will provide a better exposure and awareness of the potential factors that will lead to an increase in the level of stress, depression, and anxiety.

Although this research was successfully carried out, there were some challenges that were faced when conducting this research. One of the biggest challenges is the difficulty in achieving the target sample size of 379 students during the data collection phase. The survey questionnaire was distributed using the shared link from the Google Form to the UiTM Shah Alam students' email, which limits access, as some of the students are not aware of it. So, it is time-consuming to have the respondent's willingness to respond and those who are available to participate in answering the survey questionnaire. In addition, it is challenging to ensure the reliability and validity of all the constructs in SmartPLS because SmartPLS involved with complex testing and the loading of the construct shows positive and negative output in each of the items, which can lead to difficulty in making a final decision. The decision must be made critically to make sure that the unrelated items of the construct are removed. The complexity of the model testing for mediator and moderation analysis in PLS-SEM involves the use of the bootstrapping method. The bootstrapping model used for mediator and moderation analysis needs to have a sufficient number of samples to acquire accurate confidence intervals of the results.

This research explored the factors and their significant relationship on the factors of social media interaction and emotional and mental well-being of university students. However, there are still improvements needed to help make the research conceptual model stronger without any confusion on the analysis technique used. Further studies can consider the other factor analysis and constructs used for social media interaction and emotional and mental well-being, such as the factor analysis in SPSS and also adding constructs like cyberbullying. This is because cyberbully had also become a great concern even in modern lifestyles because the frequency of using social media is increasing, especially among younger university students, and it can easily impact their emotional and mental well-being to become a bully or be bullied by others. These studies can also change the scope to not only focus on university students but also on other individuals, such as working adults or the elderly generation, because the use of social media is already popular among all generations. The findings from the collected data were from the theory of social capital and social comparison.

So, for the future work, it can also extend to other theories or models such as uses and gratification theory, self-determination theory, five-system model, or three stage model so that the result can give more impact to the interaction between social media and emotional and mental well-being of university students.

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REFERENCES

- [1] L. Thomas, E. Orme, and F. Kerrigan, "Student loneliness: the role of social media through life transitions," *Computers and Education*, vol. 146, 2020, doi: 10.1016/j.compedu.2019.103754.
- [2] N. Nordin, "understanding behavioral patterns of social media usage among Malaysian undergraduate students," *Asia-Pacific Journal of Information Technology and Multimedia*, vol. 14, no. 1, pp. 107–118, 2025, doi: 10.17576/apjitm-2025-1401-07.
- [3] G. Rossi, C. Fiorilli, G. Angelini, and T. G. Capitello, "Social media in the adult population: Potential outcomes and its relationship with self-esteem and well-being - A systematic literature review," *Computers in Human Behavior Reports*, vol. 17, 2025, doi: 10.1016/j.chbr.2024.100555.
- [4] B. F. Piko, V. Müller, H. Kiss, and D. Mellor, "Exploring contributors to FoMO (fear of missing out) among university students: The role of social comparison, social media addiction, loneliness, and perfectionism," *Acta Psychologica*, vol. 253, 2025, doi: 10.1016/j.actpsy.2025.104771.
- [5] D. A. Al Qudah, B. Al-Shboul, A. Al-Zoubi, R. Al-Sayyed, and A. I. Cristea, "Investigating users' experience on social media ads: perceptions of young users," *Heliyon*, vol. 6, no. 7, 2020, doi: 10.1016/j.heliyon.2020.e04378.
- [6] W. Tian, F. De Costa, A. R. A. Rahiman, and T. Roh, "Linking components of social media usage to psychological distress: Integrating the situational theory of problem-solving and social capital theory," *Journal of Retailing and Consumer Services*, vol. 84, 2025, doi: 10.1016/j.jretconser.2024.104187.
- [7] L. Reis, "Information overload and presented lifestyle in social media: a stress-perspective on the effects on mental health," *SIGMIS-CPR 2022 - Proceedings of the 2022 Computers and People Research Conference: Redefining the IT Profession and the Human Role of the IT Professional*, 2022, doi: 10.1145/3510606.3550203.
- [8] V. A. T. Dam *et al.*, "Quality of life and mental health of adolescents: Relationships with social media addiction, fear of missing out, and stress associated with neglect and negative reactions by online peers," *PLoS ONE*, vol. 18, no. 6 June, 2023, doi: 10.1371/journal.pone.0286766.
- [9] M. West, S. Rice, and D. Vella-Brodrick, "Adolescent social media use through a self-determination theory lens: A systematic scoping review," *International Journal of Environmental Research and Public Health*, vol. 21, no. 7, 2024, doi: 10.3390/ijerph21070862.
- [10] W. Saqib and P. Gazerani, "Social media use and consumption of prescription-free medications for anxiety, sleep, and pain among Norwegian university students," *European Journal of Investigation in Health, Psychology and Education*, vol. 14, no. 8, pp. 2205–2225, 2024, doi: 10.3390/ejihpe14080147.
- [11] J. K. Lee, "The effects of social comparison orientation on psychological well-being in social networking sites: Serial mediation of perceived social support and self-esteem," *Current Psychology*, vol. 41, no. 9, pp. 6247–6259, 2022, doi: 10.1007/s12144-020-01114-3.
- [12] A. Yeşiltepe, S. D. Çam, and B. C. Demirkiran, "Social Media Addiction Among Nursing Students and Its Related Factors," *Makara Journal of Health Research*, 2023, doi: 10.7454/msk.v27i1.1417.
- [13] J. Hair and A. Alamer, "Partial least squares structural equation modeling (PLS-SEM) in second language and education research: Guidelines using an applied example," *Research Methods in Applied Linguistics*, vol. 1, no. 3, 2022, doi: 10.1016/j.rmal.2022.100027.
- [14] S. Memon and M. A. Shaikh, "Investigating the quality of data using situated learning theory and communication mediation model: PLS-SEM approach to estimate the reliability and validity of the constructs," *Media Education (Mediaobrazovanie)*, vol. 17, no. 3, 2021, doi: 10.13187/me.2021.3.485.
- [15] P. Mishra, C. M. Pandey, U. Singh, A. Gupta, C. Sahu, and A. Keshri, "Descriptive statistics and normality tests for statistical data," *Annals of Cardiac Anaesthesia*, vol. 22, no. 1, pp. 67–72, 2019, doi: 10.4103/aca.ACA_157_18.
- [16] F. Orcan, "Parametric or non-parametric: Skewness to test normality for mean comparison," *International Journal of Assessment Tools in Education*, vol. 7, no. 2, pp. 255–265, 2020, doi: 10.21449/ijate.656077.
- [17] George D. and Mallery P., *SPSS for windows step by step: a simple guide and reference (13.0) update*, 10th, illust. ed. Allyn & Bacon, 2005.
- [18] M. Rönkkö and E. Cho, "An updated guideline for assessing discriminant validity," *Organizational Research Methods*, vol. 25, no. 1, pp. 6–14, 2022, doi: 10.1177/1094428120968614.
- [19] M. R. Ab Hamid, W. Sami, and M. H. Mohamad Sidek, "Discriminant validity assessment: Use of Fornell & Larcker criterion versus HTMT criterion," *Journal of Physics: Conference Series*, vol. 890, no. 1, 2017, doi: 10.1088/1742-6596/890/1/012163.
- [20] Y. Haji-Othman, M. S. Sheh Yusuff, and M. N. Md Hussain, "Data analysis using partial least squares structural equation modeling (PLS-SEM) in conducting quantitative research," *International Journal of Academic Research in Business and Social Sciences*, vol. 14, no. 10, 2024, doi: 10.6007/ijarbss/v14-i10/23364.
- [21] N. Kock and G. S. Lynn, "Lateral collinearity and misleading results in variance-based SEM: An illustration and recommendations," *Journal of the Association for Information Systems*, vol. 13, no. 7, pp. 546–580, 2012, doi: 10.17705/1jais.00302.
- [22] F. Magno, F. Cassia, and C. M. Ringle, "A brief review of partial least squares structural equation modeling (PLS-SEM) use in quality management studies," *TQM Journal*, vol. 36, no. 5, pp. 1242–1251, 2024, doi: 10.1108/TQM-06-2022-0197.
- [23] Y. Jiang, "Problematic social media usage and anxiety among university students during the COVID-19 pandemic: The mediating role of psychological capital and the moderating role of academic burnout," *Frontiers in Psychology*, vol. 12, 2021, doi: 10.3389/fpsyg.2021.612007.
- [24] D. Ostic *et al.*, "Effects of social media use on psychological well-being: A mediated model," *Frontiers in Psychology*, vol. 12, 2021, doi: 10.3389/fpsyg.2021.678766.
- [25] Y. Alfasi, "Attachment style and social media fatigue: The role of usage-related stressors, self-esteem, and self-concept clarity," *Cyberpsychology*, vol. 16, no. 2, 2022, doi: 10.5817/CP2022-2-2.

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