International Journal of Environmental Sciences
ISSN: 2229-7359
Vol. 11 No. 20s, 2025
https://theaspd.com/index.php

Mediating Role Of Attitude Between Social Media Exposure, Social Distance And Mental Illness Stigmatization: A Model Fit Perspective

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Abstract– *Stigma toward individuals with mental illness remains a significant societal challenge, often exacerbated by factors related to interpersonal distance and media representation. This study investigates the interplay between social distance, social media exposure and attitudes in shaping mental illness stigma. A total of 380 public university students around the Klang Valley, Malaysia were involved in this study through simple random sampling. The questionnaires used are Stigma and Self-Stigma Scales (SASS), Community Attitude Towards Mental Illness (CAMI) scale and Effects of Social Media Use on Perception on Mental Illness (ESMUPMI) and Social Distance on People with Mental Illness (SDPMI). A structural equation modeling approach was employed to test the proposed framework, with attitude posited as a mediator between social media and stigma. The analysis confirms the strong validity and reliability of the instruments, with results demonstrating no collinearity issues, sufficient convergent and discriminant validity and no common method bias, ensuring model robustness. The model demonstrated a good fit, explaining 42.8% of the variance in stigma ($R^2 = 0.428$). Results revealed that social media significantly influences stigma indirectly through attitudes ($p<0.05$), highlighting the critical mediating role of student perception. Social distance was also found to have a direct association with stigma levels. These findings underscore the importance of targeting student attitudes in media-based interventions to effectively reduce stigma and promote mental health awareness. Implications for policy, advocacy and future research are discussed.*

Keywords– *Index Terms–(keywords: mental health, attitude, stigma, , social distance, education)*

I. INTRODUCTION

Stigma toward mental illness refers to negative perceptions and discriminatory behavior directed at individuals with mental health issues. It involves societal misconceptions, prejudices and unfair treatment, often resulting in low self-esteem, shame and reluctance to seek help [1]. Among university students, such stigma can significantly impact their well-being and may pose challenges as they transition into the workforce. Therefore, addressing mental illness stigma within this population is critical.

Mental health has become the second most pressing health issue in Malaysia after heart disease [2]. Social labeling, such as calling individuals with mental illness "crazy" or "dangerous," persists. According to [3], 40% of Malaysians are expected to experience mental health problems in the future. The COVID-19 pandemic has further exacerbated mental and physical health conditions, leading to increased levels of stress, depression and anxiety [4] thereby intensifying public stigma.

Moreover, research by [5] highlights that one in three Malaysians have experienced mental health problems, with the highest prevalence among youth. Globally, one in four individuals are affected by mental disorders at some point in life, yet nearly two-thirds never receive treatment. In light of these issues, this study aims to investigate the following research objectives:

1. To determine the reliability and validity of the Stigma and Self-Stigma Scales, Attitude Toward People with Mental Illness, Effects of Social Media Use on Perception of Mental Illness and Social Distance Toward People with Mental Illness.
2. To determine whether attitude towards mental illness acts as a mediator in the research model.

3. To develop a model of mental illness stigma that adequately fits the research data sample using Smart-PLS SEM.

II. MATERIALS AND METHODS

The research design in this study adopts a quantitative approach using the survey questionnaire method. The study population consists of students from four Public Universities in the Klang Valley area, aged 20 to 35 years (72% female and 28% male). The Klang Valley was selected because statistics indicate a high prevalence of mental health cases in this region. This is based on data showing a high number of patients seeking mental health treatment in the Klang Valley, as reported by the Public Health and Environment Exco [6]. Based on Raosoft calculations, the appropriate sample size is 379. To further strengthen the sample size, the researcher also referred to the G*Power application. The population in this study is 23,657 individuals and according to G*Power analysis, the minimum required sample size is 119. This calculation is based on G*Power with four predictors, regression, an effect size of 0.15, an alpha value of 0.05 (95% confidence interval) and a beta (β) value of 0.3 (70%). Based on the two analyses above, Raosoft recommends a sample size of 379 G*Power suggests 119 and Krejcie & Morgan's table recommends 377. However, the researchers have collected additional data to ensure more accurate results. A larger sample size will yield more precise results [7]. Therefore, the sample size for this study is set at 380 individuals.

In this study, the simple random sampling method is appropriate for addressing the research questions, as it ensures that each respondent has an equal chance of being selected.

a) Stigma and Self-Stigma Scales (SASS): This instrument consists of 36 items using a 5-point Likert scale, designed to measure students' stigma toward mental health individuals. The original SASS instrument is from the study by [8]. The items are categorized into six sections; Stigma Toward Others, Emotional Stigma, Stigma Expectations, Self-Stigma, Avoidance of Coping and Help-Seeking Behavior.

b) Attitude On People with Mental Illness (AMI): This instrument was designed by [9] and consists of three sub-constructs; Benevolence, Stereotypes and Restrictions. It includes 22 items using a 5-point Likert scale, with some items (questions 1, 3, 4, 8, 9, and 10) being reverse-coded.

c) Effects of Social Media Use on Perception on Mental Illness:

This instrument was developed by [10] and revised by [11]. It includes three sub-constructs; Perception of Mental Illness Portrayal on Social Media, Social Media Usage and Views Toward Mental Health Patients. The instrument consists of 20 items using a 5-point Likert scale. The alpha coefficient for this instrument is 0.7 for each sub-scale, indicating high validity [1; 10; 12].

d) Social Distance on People with Mental Illness (SDPMI): This instrument was designed by [13] and consists of two sub-constructs using a 5-point Likert scale; Personal Relationships and Social Relationships.

The data were analyzed using descriptive statistics, including frequency and percentage, using SPSS-25. In addition, this study also conducted an inferential test by using a structural equation model with the partial least square method using SmartPLS version 4 software.

III. RESULT

Respondents' Demographic Profile

Table 1 Respondents' Gender

Gender	Frequency	Percentage (%)
Male	106	28.0
Female	274	72.0
Total	380	100.0

Based on Table 1, the gender analysis of respondents shows that of the 380 students involved in this study, 106 (28%) were male, while the remaining 274 (72%) were female students.

Assessment of Measurement Model

Validation analysis was conducted on the hypothesized structural model using Smart PLS-SEM version 4. The Harman Single Factor Test method can be implemented through factor analysis without rotation. The researcher found that the first factor explained 34.056% and the value obtained in this study is less than 50%, indicating that there is no issue with common method bias. The assessment of the reflective measurement model can be conducted through three procedures. The first procedure determines

construct reliability using internal consistency values such as Cronbach's alpha and Composite Reliability (CR) [14]. The second procedure evaluates convergent validity, which involves the Average Variance Extracted (AVE) value and Outer loading (item loading) value [14]. The third procedure determines discriminant validity using three criteria: Cross-loading, Fornell-Larcker and Heterotrait-Monotrait (HTMT).

Table 2 The summary result of construct validity and reliability

	Average Composite			
	Loadings Alpha		Extracted	
			(CR)	(AVE)
Social	0.768		0.970	0.680
Social	0.762		0.923	0.668
Stigma	0.781		0.990	0.725

Objective 1: To determine whether four instruments used in this research both valid and reliable for conducting research on the sample.

The analysis found that all four instruments achieved high Cronbach's Alpha values, indicating that the instruments functioned well with the respondents. A Cronbach's Alpha value of 0.7 or higher indicates acceptable internal consistency[15]. Therefore, the findings demonstrate that the reliability of the instruments is very high, with Cronbach's Alpha values exceeding the 0.7 threshold.

In addition, based on the Composite Reliability (CR) values, the obtained values exceeded 0.70, meeting the acceptable threshold suggested by [14]. The Average Variance Extracted (AVE) values also exceeded 0.5, and further, the convergent validity of the study model was determined based on the outer loading values for each item in the study model. The outer loading values for each item in the study model exceeded 0.708. This indicates that the study model has achieved the required internal consistency standards. In the normality analysis, the researcher conducted univariate skewness and kurtosis tests. The findings for skewness and kurtosis were as follows: Social Media (skewness = -1.188, kurtosis = 1.115), Social Distancing (skewness = -0.223, kurtosis = -0.747), Attitude (skewness = -1.599, kurtosis = 1.944), and Stigma (skewness = -0.298, kurtosis = -1.126). Based on the recommendations of [14], multivariate skewness ($\beta < 3.00$) and kurtosis ($\beta < 20.00$) tests were also conducted. The results of Mardia's multivariate skewness ($\beta = 4.829$, $p < 0.01$) and Mardia's multivariate kurtosis ($\beta = 35.0818$, $p < 0.01$) indicated that the kurtosis of the data was non-normally distributed [16]. Therefore, [17] suggested the need to report path coefficients, standardized validity, t-values and p-values for the structural model using a bootstrapping method with 10,000 samples (Ramayyah et al., 2018). The results of the Kolmogorov-Smirnov and Shapiro-Wilk tests showed that all probability values were < 0.05, indicating that the data were non-normally distributed.

The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy and Bartlett's Test of Sphericity yielded a KMO value of 0.945, while Bartlett's Test of Sphericity was significant with a Chi-Square value of 42109.060 at 3081 degrees of freedom. Moreover, discriminant validity was assessed using the Fornell and Larcker criterion [14], which involves comparing the correlation between constructs with the square root of the Average Variance Extracted (AVE). After comparing these values as shown in Table 2, the researcher found that the square root of the AVE was greater than the correlation values between constructs. This indicates that the required discriminant validity, based on the Fornell-Larcker criterion, was achieved in this study [14].

Table 3 Discriminant Validity (Fornel & Larker Criterion)

	Social Media	Social Distance	Attitude	Stigma
Social Media	**0.824**			
Social Distance	0.016	**0.817**		
Attitude	0.012	0.044	**0.880**	
Stigma	0.128	0.183	0.120	**0.851**

The HTMT value test being below 0.90 indicates that discriminant validity is also achieved based on the Heterotrait-Monotrait (HTMT) ratio test criterion at the HTMT.90 level < 0.90 [18].

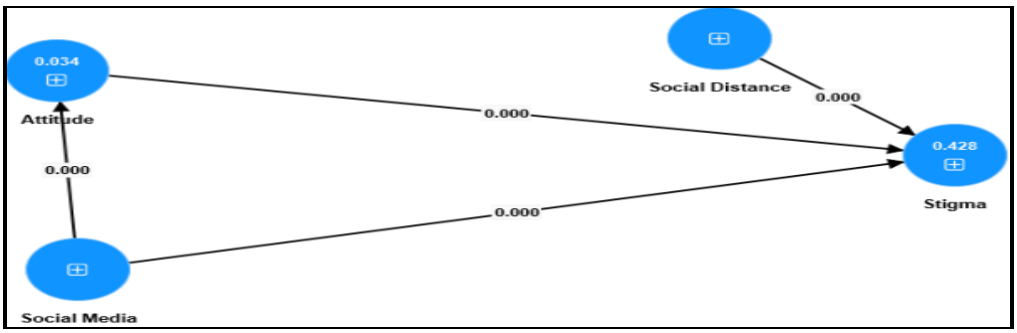
As additional analysis in the validation process, [19] suggested conducting PLS Predict. PLS Predict is a predictive analysis on items or constructs using the 10-fold procedure to obtain prediction accuracy values. This study also found that the PLS-LM value is relatively lower than the LM value. This indicates that the predictive power is high because the PLS-LM value is lower than the LM value. To proceed with the structural model evaluation, the researcher used the Bootstrapping procedure with 10,000 subsamples. The test type used was one-tailed and the significance level was set at 0.05 [14; 20].

Table 4 Heterotrait Monotrait Test (HTMT)

	Social Media	Social Distance	Attitude	Stigma
Social Media Social Distance	0.054			
Attitude	0.042	0.052		
Stigma	0.113	0.186	0.112	

Therefore, the analysis confirmed the strong validity and reliability of the measurement instruments. The results showed no issues of collinearity, demonstrated adequate convergent and discriminant validity, and indicated no presence of common method bias, thereby supporting the overall robustness of the model.

Objective 2: To determine whether attitude towards mental illness acts as a mediator in the research model. **Ha2:** Attitude toward mental illness significantly mediates the relationship between social media exposure and mental illness stigma.



A mediation analysis was conducted to examine whether attitude mediates the relationship between social media use and mental illness stigma. The results indicated a significant indirect effect of social media use on stigma through attitude, $\beta = 0.45$, $p < .05$. A bootstrapping procedure with 10,000 samples was used

to estimate the confidence interval for the indirect effect. The 95% bias-corrected confidence interval ranged from 0.14 to 0.32, which does not include zero, indicating significant mediation.

Objective 3: To develop a model of mental illness stigma that adequately fits the research data sample using Smart-PLS SEM. **Ha2**: The developed a model of mental illness stigma fits (is suitable for) the research data.

This study's structural model evaluated the fundamental constructs' model relations by analyzing path coefficients, t-statistics, p-value and variance. Path significances were estimated via the bootstrapping method using 380 cases and 10,000 resamples at the chosen 5% significance level. An R^2 value of 0.428 indicates that the model explains 42.8% of the variance in mental illness stigma among university students.

Table 5

Hypothesis	Std. Beta	Std. Dev.	t-value	p-value	PCI LL	PCI UL	f2	R2	Q2
Attitude > Stigma	0.035	7.560	0.000	0.215	0.334	0.126	0.428	0.423	
0.264									
Social Media > Stigma	0.032	18.072	0.000	0.529	0.634	0.565			
0.569									
Social Distance > Stigma	0.033	4.269	0.000	-0.190	-0.083	0.036			
0.142									

Analysis of structural model

This means that the combination of social distance, social media and attitude as independent variables, along with attitude as a mediator, accounts for nearly half of the changes in stigma levels. $f^2 = 0.565$ indicates a large effect of social media on stigma. This research followed the rule of thumb of [21] that considered R^2 to be high, moderate, and low, with rates of predictive accuracy of 0.26, 0.13, and 0.02. According to [21], this study's R^2 values are high since it is above 0.26 (0.458). The model has good explanatory power ($R^2 = 0.428$) and predictive relevance ($Q^2 = 0.423$). Ha_2 predicts that the research model on mental illness stigma has a good fit with the research data. The test results show that the SRMR (Standardized Root Mean Square Residual) value for both the Saturated and Estimated models is 0.050, indicating that the developed model fits the study data.

There is no significant difference in fit between the Saturated Model and the Estimated Model. This implies that the Estimated Model is parsimonious and adequately captures the underlying structure of the data. The results affirm that the research model on mental illness stigma aligns well with the research data. The SRMR (0.050) indicates a good fit, meaning the estimated model is acceptable. Ramayah et al. (2018) states that the SRMR value must be below 0.08.

IV. DISCUSSION

This study revealed that attitude toward mental illness mediates the relationship between social media, social distance and stigma, explaining 42.8% of the variance in mental illness stigma among university students. The remaining 57.2% may be influenced by unmeasured variables such as cultural norms, personal experiences and mental health literacy. Among the predictors, social media demonstrated the strongest direct influence on stigma, followed by attitude, indicating the central role of both external and internal factors in shaping students' perceptions. The findings underscore attitude as a key psychological mechanism through which social factors like media exposure and interpersonal distancing influence stigma. This aligns with previous research indicating that student attitudes significantly affect their social distancing behaviors toward individuals with mental illness [10; 22]. Although social media may contribute to shaping these attitudes, it is the internalized beliefs and feelings that is attitudes that ultimately translate into stigmatizing behavior.

Framed within Engel's Biopsychosocial Model, the study positions social media as a social component, attitude as a psychological component and social distance as both. This theory highlights the bidirectional

relationship between individuals and their environment, where social influences such as media narratives and public discourse can shape internal attitudes and behaviors toward mental illness. As [1] point out, even knowledgeable individuals may still stigmatize mental health patients due to deep-seated negative perceptions. Despite increased mental health awareness, students continue to maintain a degree of social distance from individuals with mental illness, suggesting that information alone does not necessarily transform attitudes [22]. [23] found that personal experience reduces stigma, yet [24] argued that education level does not guarantee more accepting attitudes, highlighting the complexity of attitude formation and the importance of mediating variables in stigma-related models.

Social media's powerful role in influencing stigma is evident, both positively and negatively. While platforms can spread mental health awareness, they also propagate harmful stereotypes such as portraying individuals with mental illness as dangerous or permanently impaired [12]. These misrepresentations contribute to public fear and avoidance behaviors, as confirmed by [25]. The model emphasizes that environmental influences shape internal beliefs and behaviors. Even with increased awareness, students continue to socially distance from individuals with mental illness, suggesting that information alone does not change attitudes. While personal experiences can reduce stigma [23], education alone is insufficient to foster positive attitudes [24]. Moreover, social media often reinforces stigma by spreading stereotypes that associate mental illness with danger or weakness (Johnson, 2022), thereby influencing both public fear and social avoidance [25].

CONCLUSION

This study contributes to the growing body of literature on mental illness stigma by examining the interconnected roles of social distance, social media exposure and attitudes among Malaysian university students. The findings reveal that attitudes serve as a significant mediator in the relationship between social media and stigma, while social distance directly influences stigma levels. These results suggest that efforts to reduce mental illness stigma must address not only media portrayals but also interpersonal dynamics and student perceptions. The validated model, which accounts for 42.8% of the variance in stigma, underscores the robustness of the research framework and instruments used. These insights highlight the necessity for policy makers, educators, and mental health advocates to design targeted interventions that foster more informed, empathetic attitudes among youth. Future research should consider longitudinal and experimental designs to further explore causality and to evaluate the long term effectiveness.

Acknowledgement

This research was made possible by the resources and expertise provided by Sultan Idris Education University**.**

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