

Cyberbullying Victimization and Depression, Anxiety, and Stress Symptoms: Resilience as a Protective Factor

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ABSTRACT

As digital communication develops rapidly, cyberbullying has become a greater threat to psychological well-being, especially of young people. The present study examines the effects of cyberbullying victimisation on symptoms of stress, anxiety, and depression. A cross-sectional survey was conducted among 561 young adults aged between 18 and 30 years old from public and private higher education institutions in Malaysia. Participants completed the Cyberbullying Experiences Survey, the Depression Anxiety Stress Scale, and a Brief Resilience Scale. The study found that 73% of participants experienced at least one type of cyberbullying within a year. The most common type of cyberbullying was public humiliation (54%), followed by malice (47%), unwelcome contact (42%) and deception (41%). The multiple regression analyses indicated that cyberbullying victimisation was a significant positive predictor of stress ($\beta = .208, p < .01$), anxiety ($\beta = .215, p < .001$), and depression ($\beta = .174, p < .01$), while resilience was a significant negative predictor of all three psychological outcomes ($\beta_s = -.242$ to $-.266$). The interaction analyses revealed that resilience significantly attenuated the association between cyberbullying victimisation and depression ($\beta = .084, p < .05$). However, the interaction effects for anxiety and stress were not statistically significant. Results suggest that resilience had small but significant buffering effects on depressive symptoms. The findings suggest programmes to promote mental health and prevent cyberbullying on campus to create safer and more inclusive digital spaces.

Keywords: *Cyberbullying victimisation, adverse online experiences, depression, anxiety, social media.*

INTRODUCTION

Cyberbullying is a significant social and global public health issue, and there is a growing body of evidence suggesting that online victimisation is linked to negative psychological and emotional outcomes in various demographic groups. Unlike traditional bullying, digital harassment leaves victims with no safe space, exposing them to constant abuse that can quickly spread online and last indefinitely. This ongoing stress can lead to serious mental health problems, such as anxiety, depression, and a higher risk of suicidal thoughts, as well as physical issues like trouble sleeping and unexplained pain. Since the harm affects not only victims but also shapes the behaviour of perpetrators and impacts the wider community, public health experts now see cyberbullying as a widespread problem that needs coordinated prevention and intervention efforts.

A study across 44 countries, including parts of Europe, Central Asia, and Canada, found that one in eight adolescents, or approximately 12%, admitted to cyberbullying others (Cosma et al., 2024). And almost one in five children report being victims of cyberbullying, with the

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number of young people affected in some countries rising by 50 per cent or more recently (United Nations, 2026). Malaysia is one of the countries with the highest number of cyberbullying reports in the globe. Cyberbullying and online violence are the second most common kind of violence faced by young people in Asia. In Malaysia, three in ten young people have encountered online victimisation (UNICEF, 2019). Also, most cyberbullying occurs on social networks, including Facebook (47%), Instagram (36%), Twitter (16%) and others (UNICEF, 2019).

Cyberbullying is any type of behaviour, action, statement or gesture that deliberately and repetitively causes harm through the use of electronic equipment, including computers and mobile phones (Hinduja & Patchin, 2017). Bullying conduct is destructive and involves sending, uploading, and spreading negative, harmful, false, mean contents, threats, rumours, sexual remarks, derogatory labels or hate speech about someone else by means of instant messages, emails, social networks or websites (Smith, 2019). In the context of internet games, some studies have identified the occurrence of cyberbullying, which in some countries is a very widespread manifestation (Hao et al., 2025). Cyberbullying includes cyberharassment and cyberstalking. Cyberharassment can be defined as an act of any one incident to intentionally humiliate, attack, threaten, offend or maliciously embarrass an individual or group online, whereas cyberstalking refers to the use of electronic communications to stalk or harass an individual or group (United Nations Office on Drugs and Crime, 2020). Cyberstalking may involve getting unwelcome or frightening instant messages, emails or texts from a known or unknown individual on the internet or through electronic communication (Doane et al., 2013). Doane et al. (2013) have presented four categories of cyberbullying by taking into account cyberharassment and cyberstalking, which are public humiliation, malice, unwanted contact and deception.

Several factors were found to influence cyberbullying perpetration. At the individual level, gender is an important factor in cyberbullying perpetration, where males are more likely to cyberbully others than females (Mason et al., 2025; Wang et al., 2025). This phenomenon could be explained by a more powerful empathic response in females than in males. Male was also highly involved in the perpetration of traditional bullying with significant overlap with cyberbullying evident in several studies (Mason et al., 2025). Bullies have repeatedly shown a tendency for rage (aggressive personality) and normative ideas about aggressiveness (traditional bullying or cyberbullying). Normative attitudes toward violence have been shown to significantly impact cyberbullying, particularly among individuals with narcissistic personality disorder (Cwieluch & Blachnio, 2021). Online bullies had a higher neuroticism trait (the trait inclination to feel unpleasant effects, e.g., rage, anxiety, irritability, and emotional instability) than non-bullies (Escortell et al., 2020).

As some studies have indicated, individual lifestyle choices and routine behaviours provide the possibility of cyberbullying (Aizenkot, 2022; Vale et al., 2022). According to Vale et al. (2022), it is possible to distinguish primary victims of cyberbullying from their online interaction characteristics, for example, regularity of publishing content and willingness to communicate with others. The more you engage in digital spaces, the more likely you are to be targeted for online abuse. Likewise, Aizenkot (2022) suggested that virtual exposure variables, such as the use of social networking sites, the number of followers or friends and the time spent online, may encourage bullying perpetrators to act.

Students' everyday digital habits can create opportunities for cyberbullying. Their experiences may differ from those of young people in general because higher education shapes how university students use digital spaces and interact online. In Malaysia, many

university students experience cyberbullying as victims or witnesses (Arif et al., 2024; Mahasneh et al., 2024). Reported victimization rates vary widely, from 6.9% to 84.3%; some studies estimate rates of 20% to 40%. Rates may differ by university policies, students' digital habits, and location (Arif et al., 2024; Sun et al., 2024). Psychological outcomes such as anxiety have also been linked to cyberbullying victimization and perpetration among university students (Albikawi, 2023). This suggests a broader association between digital experiences and mental health. Nonetheless, compared with people in high-density living conditions, those in medium- and low-density conditions had lower odds of anxiety, and those in low-density conditions also had lower odds of stress (Chan et al., 2021).

The truth is that experiences of bullying are generally linked to a variety of emotional and mental health concerns that undermine young people's capacity, health, and well-being (Hinduja & Patchin, 2022). Studies have shown the impact of online victimisation on depression and anxiety (Escortell et al., 2020; Maurya et al., 2022; Hammami & Katapally, 2022). Specifically, adolescents who experience cyberbullying are reported to be twice as likely to develop symptoms of depression (Maurya et al., 2022). The long-lasting depression that might be caused by feeling victimized online escalates the risks of drug addiction (Hammami & Katapally, 2022) and suicidal ideation (Hinduja & Patchin, 2019; Maurya et al., 2022; Hammami & Katapally, 2022). Being a victim of cyberbullying may negatively affect school attendance and academic achievement on a social level (Escario et al., 2022). However, the impact of cyberbullying does not appear to be the same for all individuals exposed to it, suggesting that individual protective characteristics may be important in mitigating the negative effects of online victimisation. Among them, resilience has been identified as an important psychological resource that can promote positive adjustment and decrease vulnerability to depression, anxiety, and stress after experiences of cyberbullying.

Resilience is conceptualised as a dynamic process through which individuals are able to adapt positively despite challenges, trauma or extreme stress (Werner, 1992). Fergus and Zimmerman (2005) define resilience as a dynamic developmental process that allows individuals to attain positive adaptation in the face of significant adversity, and it is the result of interaction of risk and protective factors. Risk factors are associated with an increased likelihood of negative developmental or psychological outcomes. Protective factors buffer the effects of risk by either having a direct positive effect on adjustment (compensatory effects) or by buffering the association between risk exposure and negative outcomes (protective effects). This view implies that resilience is best conceived in light of adversity and emphasises the role of individual strengths and environmental resources in healthy adaptation to difficult life circumstances.

Online victimisation is an important psychosocial risk factor for cyberbullying. It impairs the emotional health of young adults and increases their vulnerability for depression, anxiety and stress. As a protective factor, resilience allows individuals to better regulate their emotions with the use of adaptive coping methods and to maintain psychological functioning when exposed to cyberbullying (Dailey & Roche, 2025). This paradigm thus provides a strong theoretical ground for investigating whether resilience mitigates the deleterious psychological implications of cyberbullying among young adults in the Malaysian higher education institutions. Specifically, the present study intends to examine the association between cyberbullying victimisation and symptoms of depression, anxiety and stress, and to assess the potential role of resilience as a protective factor to buffer these harmful psychological effects among young adults.

METHODOLOGY

Population and Sample

This study focused on young adults in higher education institutions in the Klang Valley, Malaysia. The study was carried out in five institutions, three public universities and two private universities. Specific eligibility criteria were used for participant recruitment. To be eligible for the study, the participants must have (1) be a full-time or part-time student at the selected institution; (2) be between 18 and 30 years old; (3) be a Malaysian or international student; (4) have at least one social media or instant messaging account; and (5) actively use at least one social media or instant messaging platform. The only exceptions were university staff and those who failed to provide informed consent on the online survey.

Research Design and Instruments

The data collection was done through the cross-sectional online survey method. The online questionnaire was created on Google Forms and contained six sections. The first section included a brief introduction, defined the purpose of the survey and provided instructions for its completion. The second section was a consent form. The form provided information so that participants could make an informed decision about sharing their data. The third section collected seven demographic variables such as gender, age, institution, level of education, marital status and two items regarding social media use (see Table 1). The fourth section collected data on experiences of cyberbullying victimisation through the Cyberbullying Experiences Survey (CES) Victimization Scale, and the fifth section measured emotional states with the Depression, Anxiety, and Stress Scale 21 (DASS-21). Section six assessed resilience using the Brief Resilience Scale (BRS), which is a measure of the ability to recover or “bounce back” from stressful experiences.

The CES Victimization Scale was developed by scholars in the United States to assess experiences of cyberbullying victimisation over the past year (Doane et al., 2013). The scale was also back-translated into the Malaysian language in this survey. The scale was first translated from English into Malay by the research team. An independent translator fluent in both languages then back-translated the Malay versions into English. The research team compared the back-translations with the original scales and resolved any differences through discussion to preserve the meaning of each item. Their suitability for the Malaysian linguistic context was assessed through expert review, which confirmed the final version and its suitability for the Malaysian linguistic context. The scale contains 21 items divided into four different subscales or types of cyberbullying victimisation: public humiliation, malice, unwanted contact, and deception. Participants indicated their experiences of cyberbullying on a six-point Likert scale ranging from 0 (never) to 5 (every day/almost every day). This systematic approach enables the researchers to obtain an accurate measure of the prevalence of cyberbullying. Based on the mean, participants were classified into three groups: non-victims (no cyberbullying experience), low-level victims (scores below the mean), and high-level victims (scores above the mean). This classification allows for a better understanding of cyberbullying prevalence. A pilot study was also conducted. A pilot study initially recruited 30 participants; however, only 24 were included in the analysis because some responses were incomplete and some participants had not provided signed consent. For Cronbach's alpha test, the recommended minimum sample size requirement based on the ideal effect sizes shall be 24 subjects (Bujang et al., 2024). All subscales reported Cronbach alpha coefficients between .74 and .86 (see Table 1).

Table 1: Reliability of the CES victimisation scale

Subscale	Items	Alpha Cronbach
Public humiliation	4, 7, 10, 14, 15, 16, 17, 18, 21	.779
Malice	11, 12, 13, 19, 20	.867
Unwanted contact	3, 5, 8, 9	.846
Deception	1, 2, 6	.741

DASS-21 is a popular scale that has been widely used to measure the negative emotional states of depression, anxiety, and stress applied to you over the past week. DASS-21 is the shortest version of DASS42 that was developed by Lovibond and Lovibond (1995), and this scale was translated into the Malaysian language (Musa et al., 2007). DASS-21 consisted of 21 items that were divided into three different scales, i.e., depression, anxiety, and stress. Each subscale contains seven items, and participants responded to all items on a 4-point Likert-type scale. For reliability, it shows that the Cronbach's alpha of each sub-scale for anxiety, depression, and stress was .87, .92, and .89, respectively (Thiyagarajan et al., 2022).

The BRS was developed by Smith et al. (2008). The BRS is a six-item self-report measure that was developed specifically to assess an individual's ability to recover or "bounce back" from stress and adversity and not to assess personal characteristics or protective factors associated with resilience. Participants indicated their level of agreement to each item on a five-point Likert scale from 1 (strongly disagree) to 5 (strongly agree). The scale consists of three positively worded items and three negatively worded items. The negatively worded items are reverse scored before determining the overall resilience score. Higher mean scores show greater resilience and a greater ability to bounce back from stressful experiences. The BRS has shown acceptable internal reliability with Cronbach's alpha ranging from .80 to .90 (Smith et al., 2008).

Research Procedure

The study was conducted in compliance with the Code of Practice on Investigations Involving Human Participants and was approved by the Research Ethics Committee of Universiti Kebangsaan Malaysia (Approval No. UKM PPI/111/8/JEP-2021-872). After obtaining institutional approval from the five higher education institutions, which comprised three public universities and two private universities in Klang Valley, Malaysia, a representative from each of the participating universities was appointed as an enumerator to help in participant recruitment and to distribute the online survey to eligible students. The survey link was disseminated by the researchers and the enumerators through instant messaging platforms like WhatsApp and Telegram. The participation was voluntary, and all the responses were collected anonymously to ensure the privacy and confidentiality of the participants. All participants were provided with an information sheet at the beginning of the online survey that outlined the study objectives, procedures, confidentiality and the voluntary nature of participation. Electronic informed consent was obtained from all participants prior to survey completion, and all data were fully anonymised before analysis.

The online questionnaire required approximately 10–15 minutes to complete. Participants were asked for comments or feedback about the survey at the end of it. Data collection took place over a 5-month period (February-June 2022). In total, there were 567 responses, but six questionnaires were excluded because they were incomplete. Hence, the final sample size for analysis was 561 participants. Data were screened, coded and analysed

using Statistical Package for the Social Sciences (SPSS). Descriptive statistics were used to summarise participant characteristics and prevalence of cyberbullying victimisation, and non-parametric inferential analyses were used to examine the relationships between cyberbullying victimisation, resilience and symptoms of depression, anxiety and stress.

RESULTS

The final sample included 561 participants (42.8% females and 57.2% males) aged between 18 and 30 years (mean age = 22 years). The majority of the participants (84.4%) were enrolled in undergraduate degree programmes and 11.6% were enrolled in postgraduate degree programmes. The minority of the participants were enrolled in diploma programmes (5.0%). The descriptive analysis indicates that the majority of the participants identified themselves as “very active” internet users (32.3%), and a little over 50% were classified as “active” internet users. Most reported spending three to six hours a day on social media (49.6%) and seven to 10 hours a day (19.1%). Just over 10% reported the use of social media daily for more than 11 hours, while slightly more than 5% reported the use of social media for the entire day. Conversely, 15.9% of the participants were classified as “less active” (less than two hours of daily social media use).

Table 2: Descriptive statistics of the CES Victimization scale

Victimisation forms	Minimum	Maximum	Mean		Std. Deviation
			Statistic	Std. Error	
Public humiliation	0	36.00	3.42	.21	4.97
Malice	0	21.00	3.59	.21	5.01
Unwanted contact	0	17.00	2.61	.17	3.99
Deception	0	13.00	1.93	.12	2.86
	Non-victim	Low (below mean)	High (above mean)		Total
Public humiliation	258 (45.9%)	110 (19.6%)	193 (34.4%)		561
Malice	300 (53.4%)	57 (10.2%)	204 (36.3%)		561
Unwanted contact	328 (58.5%)	52 (9.3%)	181 (32.2%)		561
Deception	333 (59.4%)	1 (0.2%)	227 (40.4%)		561
Overall	150 (26.74%)	225 (40.10%)	186 (33.16%)		561

Table 2 shows the descriptive statistics for the CES victimisation scale. Data on cyberbullying victimisation were collected using the CES Victimization Scale, which identifies four types of cyberbullying: public humiliation, malice, unwanted contact, and deception. Overall, the results suggest that 73% of the participants reported at least one type of cyberbullying during a year. Specifically, 54% reported at least one incident of public humiliation, followed by malice (47%), unwanted contact (42%) and deception (41%).

Table 3: Descriptive statistics of the CES Victimisation scale

Symptoms	Minimum	Maximum	Mean		Std. Deviation
			Statistic	Std. Error	
Depression	0	52.00	10.40	.42	9.99
Anxiety	0	44.00	10.20	.38	9.09
Stress	0	44.00	11.55	.39	9.41
	Normal	Mild	Moderate	Severe	Extremely severe
Depression	313 (55.8%)	70 (12.5%)	97 (17.3%)	31 (5.5%)	50 (8.9%)
[Cut-off scores]	[0-9]	[10-13]	[14-20]	[21-27]	[28+]
Anxiety	254 (45.3%)	50 (8.9%)	123 (21.9%)	44 (7.8%)	90 (16.0%)
[Cut-off scores]	[0-7]	[8-9]	[10-14]	[15-19]	[20+]
Stress	384 (68.4%)	69 (12.3%)	52 (9.3%)	35 (6.2%)	21 (3.7%)
[Cut-off scores]	[0-14]	[15-18]	[19-25]	[26-33]	[34+]

Average scores for all forms ranged from 1.93 to 3.56, indicating that the average frequency of cyberbullying victimisation was between two and four times a year. About 30% reported a score of 0 for cyberbullying victimisation. Table 2 also illustrates the distribution of participants across three levels of cyberbullying victimisation: non-victims (participants who reported never experiencing victimisation), low (participants with scores below the mean), and high (participants with scores above the mean). The percentage of participants reporting high scores for cyberbullying victimisation ranged from 32% to 40%.

This research also collected data of symptoms of depression, anxiety and stress of the participants using the DASS-21. Table 3 gives descriptive statistics of the DASS-21 and distribution of subjects in five severity ratings, i.e., normal, mild, moderate, severe and extremely severe. The mean scores reported by participants ranged from 10.2 to 11.55. This demonstrates the majority of reported normal, mild and moderate levels of depression, anxiety and stress symptoms. However, between 10% and 24% of participants reported high levels of these symptoms.

Table 4: The differences in depression, anxiety and stress between cyberbullying victimisation groups

Negative emotions	Mean and Standard Deviation			Kruskal-Wallis H	Asymp. Sig
	Non-victim	Low victim	High victim		
Depression	8.31 (9.07)	10.31 (8.93)	12.22 (11.53)	6.81	.033
Anxiety	7.99 (8.12)	10.06 (8.08)	12.16 (10.46)	14.22	<.001
Stress	9.24 (8.72)	11.51 (8.54)	13.46 (10.50)	10.66	.005
N	150	225	186		

To explain the effect of cyberbullying victimisation on the symptoms of depression, anxiety, and stress, the Kruskal-Wallis test was used. This non-parametric test was used to compare the distributions of depression, anxiety, and stress scores among three groups of cyberbullying victimisation: non-victims, low victims (score below the mean), and high victims (score above the mean). Depression, anxiety and stress were rated on five levels (normal, mild, moderate, severe and extremely severe) as per the guidelines of DASS-21. The Kruskal-Wallis test results are shown in Table 4. There were significant differences in depression, $H(2) = 6.81$, $p < .05$; anxiety, $H(2) = 14.22$, $p < .01$; and stress, $H(2) = 10.66$, $p < .05$, among three

groups of cyberbullying victimisation (non-victims, low victims, and high victims). Further descriptive mean comparisons showed differences in the average levels of depression, anxiety and stress across groups. The high victim group scored the highest for all three emotional states, followed by the low victim group, with the non-victim group scoring the lowest for all three emotional states.

Association analyses were undertaken to explore the association between victimisation of cyberbullying and symptoms of depression, anxiety and stress. Cyberbullying victimisation was divided into two groups (non-victims and victims), and the emotional state variables were divided into three levels: normal/mild, moderate, and severe. The results of the Pearson chi-square, likelihood ratio and Somers' d analyses are shown in Table 5. All three tests found significant associations between cyberbullying victimisation and symptoms of depression, anxiety and stress. Specifically, the results of the Pearson chi-square test indicated significant differences by victimisation status in the distribution of depression, $\chi^2 = 6.42$, $p < .05$, anxiety, $\chi^2 = 10.05$, $p < .05$, and stress, $\chi^2 = 8.52$, $p < .05$. The results showed that victims of cyberbullying were more likely to report higher levels of depression, anxiety and stress than non-victims.

The cross-tabulations revealed some other differences between the two groups. Among victims of cyberbullying, approximately 16.5% had severe symptoms of depression, compared with 8.0% of those who were not victims. Likewise, about 27% of victims reported severe anxiety; this percentage was about twice the percentage of non-victims. For stress, around 11% of victims reported severe symptoms, versus 6% of non-victims. Overall, these results suggest that experiences of cyberbullying victimisation are related to greater emotional distress.

Table 5: Association tests of cyberbullying victimisation and depression, anxiety and stress

Symptoms	Cyberbullying victimisation (%)			Chi-Square	Likelihood Ratio	Somers' d*
	Non-victim n=150	Victim n=411	Total N=561			
Depression						
Normal & Mild	75.3	65.7	68.3	6.42 $p = .04$	6.92 $p = .03$	.107 $p = .011$
Moderate	16.0	17.8	17.3			
Severe	8.7	16.5	14.4			
Total	100	100	100			
Anxiety						
Normal & Mild	62.7	51.1	54.2	10.05 $p = .007$	10.75 $p = .005$	.146 $p = .002$
Moderate	22.7	21.7	21.9			
Severe	14.7	27.3	23.9			
Total	100.0	100.0	100.0			
Stress						
Normal & Mild	88.7	77.9	80.7	8.52 $p = .014$	9.39 $p = .009$	.106 $p = .002$
Moderate	4.7	10.9	9.3			
Severe	6.7	11.2	10.0			
Total	100.0	100.0	100.0			

* The symptoms of depression, anxiety and stress as dependent variables.

Table 6: Regression models examining cyberbullying and resilience interactions on motional states

Predictor	B	SE	β	t	Sig.
DV: Stress					
Constant	11.652	.377		30.919	<.001
Cyberbullying	.147	.029	.208	5.097	<.001
Resilience	-4.180	.686	-.247	-6.097	<.001
Cyberbullying x Resilience	.071	.037	.079	1.926	.055
Model fit: R^2 =					
DV: Anxiety					
Constant	10.293	.364		28.248	<.001
Cyberbullying	.147	.028	.215	5.271	<.001
Resilience	-3.959	.663	-.242	-5.972	<.001
Cyberbullying x Resilience	.060	.035	.070	1.703	.089
Model fit: R^2 =					
DV: Depression					
Constant	10.522	.401		26.211	<.001
Cyberbullying	.131	.031	.174	4.252	<.001
Resilience	-4.786	.730	-.266	-6.554	<.001
Cyberbullying x Resilience	.080	.039	.084	2.059	.040
Model fit: R^2 =					

Note. B = unstandardised regression coefficient; SE = standard error; β = standardized coefficient

Table 5 also provides the results of Somers' d, an ordinal measure of the strength and direction of the association between cyberbullying victimisation (independent variable) and emotional states (dependent variables). Analyses revealed significant positive correlations between cyberbullying victimisation and depression, anxiety, and stress, with Somers' d coefficients ranging from .10 to .15. While these effect sizes are small, they do suggest that experiencing cyberbullying is consistently associated with higher levels of depression, anxiety and stress.

Resilience was examined as a moderator of the association between cyberbullying victimisation and symptoms of depression, anxiety and stress by using multiple regression analysis. Cyberbullying victimisation, resilience and the interaction term between cyberbullying victimisation and resilience were entered concurrently into the regression model. The overall regression model was statistically significant for depression. Cyberbullying victimisation positively predicted depressive symptoms ($B = 0.210$, $\beta = .174$, $t = 4.118$, $p < .001$), and resilience negatively predicted depression ($B = -0.311$, $\beta = -.266$, $t = -6.286$, $p < .001$). The interaction term was not significant ($B = 0.079$, $\beta = .081$, $t = 1.919$, $p = .055$). However, the interaction between cyberbullying victimisation and resilience was statistically significant ($B = 0.080$, $\beta = .084$, $t = 2.060$, $p = .040$), indicating that the relationship between cyberbullying victimisation and depressive symptoms was moderated by the level of resilience of individuals.

Cyberbullying victimisation was a significant predictor of anxiety ($B = .242$, $\beta = .215$, $t = 5.029$, $p < .001$), while resilience was negatively associated with anxiety ($B = -.266$, $\beta = -.242$, $t = -5.656$, $p < .001$). However, the interaction effect of cyberbullying victimisation and resilience was not significant ($B = 0.068$, $\beta = .072$, $t = 1.704$, $p = .089$), suggesting that resilience does not significantly buffer the impact of cyberbullying victimisation on anxiety symptoms. Similarly, the cyberbullying victimisation was positively associated with stress symptoms ($B = 0.239$, $\beta = .208$, $t = 4.927$, $p < .001$). Stress was adversely related to resilience ($B = -0.290$, $\beta = -.265$, $t = -6.235$, $p < .001$). The interaction term was not statistically significant ($B = 0.079$, β

= .081, $t = 1.919$, $p = .055$), indicating that resilience had no significant effect on the link between cyberbullying victimisation and stress symptoms. Overall, the results indicated cyberbullying victimisation was correlated with increased depression, anxiety and stress, while resilience was independently correlated with decreased sadness, anxiety and stress. Furthermore, resilience was a significant moderator solely for depressive symptoms, partially corroborating its role as a protective factor. However, no significant interaction effects were seen for anxiety or stress.

DISCUSSION

The results showed that 73% of the participants reported at least one type of cyberbullying during a year. This is in line with some recent studies that reported a high incidence of cyberbullying among youth, especially among college and university students (Luo et al., 2023; Mahasneh et al., 2024) and in Malaysia (Arif et al., 2024; Sivabalan et al., 2020). Given the widespread use of social media and the internet, there is an opportunity for online victimisation. Previous research has suggested that increased daily use of the internet is more likely to be associated with online hostility and cyberbullying (Craig et al., 2020). The present survey suggests that around 50% of the respondents use social media up to 6 hours in a day, roughly 20% of the respondents use social media up to 10 hours daily, and 5% of the respondents spend more than half a day on social media.

Young people cannot live without social media today, which is an important platform for communication, obtaining information, learning, entertainment, and social contact. Teenagers are motivated to use social media to build their identities, to maintain social relationships, to learn new things, and to participate in online groups (Shankleman et al., 2021). This large participation is not surprising, given that most university students are part of the generation of digital natives, who have been socialised in a digital environment with continuous information from the internet, social networking sites, and mobile devices. The average age of higher education students is between 25 and 34 years (Organisation for Economic Co-operation and Development, 2023), while more than half (56%) of the world's internet users are aged between 18 and 34 years (Kemp, 2022). Moreover, internet use among university students has also become nearly universal, with online communication being an integral part of academic and social life. As university students spend more time in these digital environments, they are exposed to online places where disinhibited behaviour is likely to occur more often and are thus more vulnerable to online victimisation (Mahasneh et al., 2024). Thus, long-term use of social media does not inevitably lead to a victimisation by cyberbullying, but could increase the exposure to online contexts where aggressive acts are more likely to happen.

Some research has claimed that the risk of being a target of cyberbullying is clearly proportional to the time spent online but also in digital contexts, posing specific dangers (Sun et al., 2024; Hao et al., 2025). Digital settings (especially social media) are naturally risk-tolerant, and consequently, people attack, abuse, harass, troll, or humiliate one another over time. Simply put, the digital environment makes people susceptible to committing cyberbullying. Moreover, the unlimited shareability of posts, messages, photographs, or videos (e.g., sharing the URLs, screenshots, and screen recordings) and the significant interest in provocative posts may enhance the probability of cyberbullying perpetration and the possibility of becoming a bully. Public humiliation, when targets are publicly chastised on the internet, may also be provocative posts (Doane et al., 2013). In the present study, the form

of public humiliation was more widespread than other kinds of cyberbullying. Half of the participants reported being victims of public humiliation.

In this study, we observed that regardless of the type of cyberbullying victimisation, those who encountered cyberbullying were more likely to express symptoms of depression, anxiety, and stress than those who had not experienced it. The results are consistent with past research that has documented a link between experiences of cyberbullying and poorer psychological well-being, as well as greater emotional distress among young people (Hinduja & Patchin, 2022; Escortell et al., 2020; Maurya et al., 2022; Hammami & Katapally, 2022). However, not all cyberbullying victims experienced higher levels of emotional distress. More than half of the victims in the current study only had normal or mild symptoms of depression, anxiety and stress, indicating that exposure to cyberbullying does not always result in severe psychological outcomes.

The present study adds to the existing literature by showing that resilience moderates the association between cyberbullying victimisation and depression. This finding is consistent with the resilience concept of Fergus and Zimmerman (2005), which sees resilience as a process of dynamic interplay between protective and risk factors in the face of difficulties that allows for positive adaptation. One important risk factor is being a victim of cyberbullying, and one protective factor that can decrease the likelihood of negative psychological outcomes is resilience. The emotional impact of a negative experience may be moderated by whether you have protective resources and how strong they are. Previous studies have found resilience to be an important protective trait and to have a buffering effect on the psychological consequences of cyber victimisation (Hinduja & Patchin, 2017; Santos et al., 2021; Islam et al., 2022; Sun et al., 2022). Research by Santos et al. (2021) shows that higher levels of resilience correlate with positive adaptation to major adversities. Positive adaptation is the ability to regulate feelings, cope with stress, develop healthy relationships, and function in the face of risk. High resilience is associated with the increased use of adaptive cognitive and behavioural coping mechanisms, which enable individuals to effectively manage stressful situations (Santos et al., 2021; Sun et al., 2022). Cyberbullying victims exhibit higher levels of loneliness and social isolation (Han et al., 2021). However, positive coping was found to mediate the relationship between cyberbullying victimisation and psychological distress by reducing loneliness (Han et al., 2021). Additionally, positive mental health has been associated with greater resilience, which has been linked to decreased odds of suicidality and self-harm among victims of cyberbullying (Islam et al., 2022). Collectively, these data corroborate the argument made by Fergus and Zimmerman (2005) that psychological outcomes are driven not just by exposure to risk, but also by the protective systems available to individuals. In our study resilience was a protective factor against depressive symptoms in particular, which helps to explain that despite exposure to victimisation, many victims of cyberbullying only reported normal or low levels of depression.

When compared to depression, resilience was not found to be a major moderator of the relationship between cyberbullying victimisation and symptoms of anxiety and stress. Thus, whereas greater resilience was associated with less worry and tension, the amount of resilience in the current study was inadequate to attenuate the impact of cyberbullying victimisation on these emotional reactions. One explanation may be in the conceptualisation of resilience in this study. The idea of resilience utilised here is based on the ability to recover or “bounce back” from adversity (Smith et al., 2008) and not general protective resources such as coping mechanisms, emotional control, social support, or problem-solving skills.

Often, anxiety and stress are instantaneous psychological and physiological responses to situations considered as hazardous or unknown, notably in relation to cyberbullying (Robinson, 1990). Such responses may be independent of an individual's subjective capacity to recover from adversity, reflecting short-term emotional arousal rather than long-term psychological recovery. This means that the ability to bounce back may be more essential to recovering from distress than cushioning the first sensation of anxiety and stress from cyberbullying. Moreover, anxiety and stress are complex emotional responses, influenced by various contextual factors and social circumstances (Robinson, 1990). Cyberbullying victims may experience persistent anxiety and stress about being victimised again, uncertainty about being victimised in the future, and shame or concern about their online reputation. In addition to personal resilience, these persistent anxieties and stress may need additional protective resources such as effective coping, positive social interactions, timely psychological help, and a safe social environment. So, resilience may not be enough to buffer the short-term emotional effects of cyberbullying on anxiety and stress.

Resilience did not moderate the effects of cyberbullying victimisation on anxiety and stress. However, significant positive correlations were found between cyberbullying victimisation and symptoms of depression, anxiety and stress, pointing to the negative psychological impact of cyberbullying. The importance of resilience and other protective resources for mental health.

The significance of resilience in this study has crucial implications for creating digital resilience. The present study did not focus on digital resilience but rather on resilience as a general psychological resource. The findings show that by enhancing people's ability to cope with adversity, we may also improve their capacity to manage hazards in the online environment. Cyberbullying is an online phenomenon, which raises the possibility that resilience building may be a means to the development of digital resilience, that is, the capacity to identify, respond, recover, and learn from adverse experiences online (Hinduja & Patchin, 2022; Sharma et al., 2022). Digital resilience is the capacity to provide people with the emotional, cognitive and behavioural skills to successfully cope with the challenges of the online environment and to protect their psychological health. Resilience has historically been conceived largely in terms of offline challenges. But with cyberbullying on the rise, there needs to be an understanding of how to be resilient in digital situations. Hinduja and Patchin (2022) defined digital resilience as "the presence of positive attitudes and behaviours that enable people to cope with negative interpersonal events in the online world" (p. 2). It emphasises the value of responsible digital citizenship, the development of healthy online relationships, and resilience to negative online experiences (Sharma et al. 2022). Higher levels of digital resilience predict that people will be better able to stay calm, disregard malevolent behaviours, obtain enough assistance and recover from cyberbullying when confronted by negative online interactions. Poor digital resilience can also have negative consequences such as maladaptive coping, emotional pain, and ongoing psychological problems.

CONCLUSION

The study results show that cyberbullying is on the rise among young adults. Nearly three-quarters of the participants reported being victimised online, and that experiencing cyberbullying was strongly correlated with higher levels of depression, anxiety and stress. The study also makes a substantial contribution to the knowledge of resilience as a moderator by demonstrating that resilience moderated the association between cyberbullying victimisation and depression but not anxiety or stress. Given these findings, it is suggested that the

protective effect of resilience is selective, with a greater benefit in reducing depressive symptoms than the more rapid emotional responses associated with anxiety and stress. Nevertheless, higher resilience was related to greater psychological well-being, demonstrating its function as a personal resource to buffer adversity.

The findings suggest the need for combined interventions to prevent cyberbullying and to provide quick assistance to victims. While the study focused primarily on university students, the implications of the findings are relevant to the government, educational institutions, families and communities in creating safer digital environments for children and young people. The governments should focus on improving reporting systems, enhancing preventative measures and ensuring that victims receive adequate psychological and legal support. Also, the findings provide empirical policy-level evidence for continued national efforts to combat cyberbullying. Malaysia has laws, such as the Communications and Multimedia Act 1998 and the Penal Code, but these do not cover every aspect of cyberbullying as an online abuse. More robust legal and regulatory structures with designated institutional mechanisms for reporting and responding to cyberbullying would better protect victims and hold abusers to account.

Malaysia's legal framework, including the Communications and Multimedia Act 1998 and the Penal Code, provides a basis for addressing some forms of online harassment and bullying. Universities could complement these laws by incorporating clear definitions of prohibited digital conduct into their information technology policies and student codes of conduct. In developing these policies, institutions could use relevant provisions, such as Sections 211 and 233 of the Communications and Multimedia Act and Penal Code provisions addressing criminal intimidation, stalking, and abusive communications, as reference points, while ensuring that internal disciplinary standards are clearly defined and consistent with applicable law. Policies should also explain how students can report incidents, how evidence will be handled, what support is available to affected students, and when cases may be referred to law enforcement. By aligning these measures with applicable law and internal discipline, this approach could strengthen digital resilience, help students protect their online reputations, and ensure timely institutional support while keeping university disciplinary processes distinct from criminal proceedings.

The findings presented suggest that efforts to assist victims of cyberbullying should not focus solely on enhancing resilience. But, in addition to resilience as an important human resource, programmes that foster adaptive coping skills, emotion regulation, social support and access to professional mental health services might also be needed to reduce anxiety and stress. Future work should investigate if the traits interact with resilience to prevent the psychological effects of cyberbullying. Moreover, research on digital resilience and psychological resilience may provide a more holistic understanding of how young adults may be better helped to navigate increasingly complicated online contexts.

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