

Investigating the Predictive Effects of Depression and Self-Esteem on Suicide Ideation among Malaysia East Coast Undergraduate Students

Fatin Nor Amalina Othman¹, Raja Zirwatul Aida Raja Ibrahim^{1,*}, Azlina Abu Bakar²,
Siti Sarawati Johar³, Zainuddin Abu Bakar⁴, Jumadil Saputra¹

¹Faculty of Business, Economics and Social Development, Universiti Malaysia Terengganu, Malaysia

²Faculty of Human Development, Sultan Idris Education University, Malaysia

³College Center for General Studies and Co-Curriculum, Universiti Tun Hussein Onn Malaysia, Malaysia

⁴Faculty of Social Sciences and Humanities, School of Education, Universiti Teknologi Malaysia, Malaysia

Received March 3, 2023; Revised July 18, 2023; Accepted August 15, 2023

Cite This Paper in the Following Citation Styles

(a): [1] Fatin Nor Amalina Othman, Raja Zirwatul Aida Raja Ibrahim, Azlina Abu Bakar, Siti Sarawati Johar, Zainuddin Abu Bakar, Jumadil Saputra, "Investigating the Predictive Effects of Depression and Self-Esteem on Suicide Ideation among Malaysia East Coast Undergraduate Students," *Universal Journal of Public Health*, Vol. 11, No. 5, pp. 538 - 548, 2023. DOI: 10.13189/ujph.2023.110502.

(b): Fatin Nor Amalina Othman, Raja Zirwatul Aida Raja Ibrahim, Azlina Abu Bakar, Siti Sarawati Johar, Zainuddin Abu Bakar, Jumadil Saputra (2023). *Investigating the Predictive Effects of Depression and Self-Esteem on Suicide Ideation among Malaysia East Coast Undergraduate Students*. *Universal Journal of Public Health*, 11(5), 538 - 548. DOI: 10.13189/ujph.2023.110502.

Copyright©2023 by authors, all rights reserved. Authors agree that this article remains permanently open access under the terms of the Creative Commons Attribution License 4.0 International License

Abstract Today, suicide is a significant, urgent and serious issue in public health. Studies on suicide ideation in Malaysian young adults were rarely conducted for the public due to cultural and religious factors. Numerous studies on depression and suicide among young people in Malaysia have often been conducted in developed and high-population densities such as Kuala Lumpur, Selangor, Pulau Pinang, Sabah, and Sarawak. In contrast, states on the East Coast of Malaysia recorded fewer studies on suicide and depression by researchers. Thus, this study investigates the relationships and predictive effects of depression and self-esteem on suicide ideation among undergraduate students. Data were gathered from a sample of 439 (18.5% male; 81.5% female) undergraduate students aged 19-26 with an average age of 22 (SD=1.33) who completed measures on depression, self-esteem, suicide ideation and socio-demographic profiles. In addition to descriptive statistics, quantitative data employed correlation and regression analysis using SPSS software. The results found a significant relationship between depression, self-esteem, and suicide ideation. Furthermore, regression analysis revealed that depression and self-

esteem were predictive factors of suicide ideation among students. This study contributes to the corpus of literature on the predictor factors for suicide ideation in the context of Malaysian students. Furthermore, the current study's findings offer a better understanding of how relevant parties should be aware of the importance of mental health promotion and help-seeking behaviour, especially in the educational setting.

Keywords Depression, Self-Esteem, Suicide Ideation, Undergraduate Students, East Coast of Malaysia

1. Introduction

The World Health Organization (WHO) and United Nations Development Program (UNDP) declared suicide as a significant, urgent, and serious public health issue [1]. It is a growing mental health issue, accounting for 703,000 premature global fatalities [2], contributing to 1.4% of worldwide mortality [3]. The suicide rate is so high that one

person dies every 40 seconds, which means 16 deaths are recorded per 100,000 population [4], making it the world's 15th major cause of death [5]. In its Comprehensive Mental Health Action Plan, WHO was committed to lowering the suicide rate by one-third by 2030 [6]. It was declared effective after suicide rates declined by 36% globally between 2000 and 2019, with declines ranging from 17% to 49% in different parts of the world except for the United States, where recorded growth in suicide rates of 17% within the same period [2]. Conversely, Malaysia consistently increased the suicide fatality rate from 4.40 per 100 000 population in 2013 to 5.80 per 100 000 people in 2019 [7]. The reported prevalence rates in Malaysia expose that it is currently dealing with a significant social issue related to suicide.

Suicide affects all age groups, but it is more in older individuals than in younger ones. Yet, it remains one of the most common causes of death worldwide throughout late adolescence and early adulthood [5]. Suicide among adolescents and young adults of 15 to 29 years old has arisen as a serious public health concern, and it is now the fourth leading cause of death in this age group [8]. By addressing the severity issues, suicide is currently the 15th leading cause of death across all age groups and the fourth major mortality factor among adolescents and young adults between the stated age brackets [9].

The findings on the severity of suicide among young people raise concern to local researchers in Malaysia, as almost 30% (9.31 million) of the Malaysian population comprises young people aged between 15 and 29 [10]. However, the most recent and exact statistic of Malaysian young adults' involvement in suicide-related behaviours remains unknown as Malaysia lacks high-quality and official data explaining the prevalence of suicide regardless of age group [10]. Unfortunately, one involvement with suicide-related behaviours has a countereffect on others around them. Each fatality is expected to affect at least 135 of the deceased family members and network of friends' emotional and self-functioning through the bereavement period. Also, it is linked to various negative mental health outcomes, including depression, psychiatric admission, and attempted suicide [11].

Suicide ideation, a form of suicide behaviour, is a broad phrase encompassing many thoughts, desires, and preoccupations with death and suicide [12]. Young adults have the highest incidence of suicide ideation and are far more likely to have developed a suicide plan and attempt than any other age group [13]. It means that suicidal thoughts are a significant indicator of mental health problems and a mild early warning indication that could lead to more serious suicide attempts in the future to young well-being [14]. The enormous pressures of instability, feeling in-between, and identity explorations that define emerging adulthood (young adult) from other stages of human development may be to blame for the rising suicide rate among young adults [15]. The preventive measures

planned and taken by countries and organisations are useless if we do not know the factors that lead to suicidal thoughts in young adults. Therefore, the first step in developing successful intervention programmes is identifying the determinants of suicide ideation in the target age group.

Depression is regarded as one of the most widely recognised indicators of suicide ideation, as previous and recent studies have proven a significant link between them [16]. It has also been indicated as the most common mental health issue among young adults linked to suicidality. It is a critical factor in the progression from suicide ideation to a suicide attempt [17]. The prevalence of young adults diagnosed with depression reported an increment of 70% over the past 25 years [18]. The most recent report by WHO estimated that 5% of the general young adult population diagnosed with depression commit suicide within 15 years of their first depressive episode, seven times more likely than those without a diagnosis of depression [19]. It can be dangerous to one's health as the effect of depression is usually persistent and has a moderate or severe intensity, thus significantly hindering a person's quality of life [20]. Therefore, it is crowned as the primary cause of disability among young people globally and a key contributor to the worldwide disease burden [21].

While depression level was reported to be a stronger predictor of suicide ideation, self-esteem level, on the other hand, was considered a more prevalent predictor of depression [19]. Self-esteem plays an important role in reducing suicidal thoughts and preliminary suicide attempts through a reduction in depression levels. In contrast, negative self-esteem is linked to an increased risk of depression, thus associated with a higher incidence of suicide ideation [22]. Individuals' degree of self-esteem varies across their lifespan [23]. However, adolescents and young adults are the 'high-risk' age group developing low self-esteem [24]. The transitional phase to adulthood is considered one of the most important and crucial stages in a person's development [25]. They must prepare for adulthood independently with little support from others, especially family and friends. Failure to meet other expectations and settle into adulthood is seen as a form of embarrassment and negatively affects their self-esteem [25]. Low self-esteem is associated with a higher risk of depression and thus is an essential indicator of some behaviours, such as suicide ideation in young adults.

Studies on suicide ideation in Malaysian young adults were rarely conducted for the public due to cultural [26] and religious factors [27]. These restricted the researchers and public access to suicide-related data among Malaysian [10]. The validity of data on suicide-related fatalities in Malaysia has also been doubted, as most are categorised as sudden death [28] rather than suicide. Unless there is mounting evidence of the deceased's desire to commit suicide [10], besides that, many studies on depression and suicide among young people in Malaysia have often been

conducted in developed and high-population density such as Kuala Lumpur, Selangor, Pulau Pinang, Sabah, and Sarawak [29]; [7]. In contrast, states on the East Coast of Malaysia recorded fewer studies on suicide and depression [30]. Moreover, numerous pieces of research on self-esteem have been performed on adolescents and rarely on young adults [31].

Therefore, the current study aims to fill the gaps by examining the factors of suicidality among young adults, specifically university students. It examines the relationship between depression, self-esteem, and suicide ideation among young adults. In addition, the predictive effects of depression and self-esteem on young adults' suicide ideation were examined. The present study hypothesised that depression would positively correlate with depression, while self-esteem would negatively correlate with young adults' suicide ideation. It was also hypothesised that depression and self-esteem would predict suicide ideation in young adults. This study also described the prevalence rate and level of depression, self-esteem, and suicide ideation among young adults at the university in Terengganu, Malaysia.

2. Literature Review

2.1. Theoretical Background

The Three-Step Theory of Suicide explains that a suicide attempt is determined by four factors, namely pain, hopelessness, connectedness, and the individual's ability to commit suicide [32]. They believed that the development of suicide ideation to attempt occurs within three steps controlled by the above factors. This theory was made based on three (3) main principles that are (a) suicide ideation develops through the combination of pain and hopelessness, (b) connectedness is crucial in acting as the protective factor to counter the escalation of suicide ideation in an individual experiencing excruciating pain and hopelessness and, (c) suicide ideation will only progress to a suicide attempt when dispositional, acquired, and practical factors to sufficiently generate a high capacity of one's ability to withstand the pain and fear during their attempt to end their life.

In addition, Baumeister's Theory of Escaping the Self explains the processes directing one towards suicide. It was developed based on the concept that one will always try to escape from negative interpretations and implications related [33]. Baumeister [34] explained this process of self-blame and self-esteem, which then progressed into suicide, in detail. Individual failure in meeting the public, plus their self-made standards and expectations, have pushed them into shame and humiliation. This feeling of shame and humiliation is so powerful, leading to the development of negative thoughts to end their failure, known as suicidal thoughts or ideation. Self-blame, shame, and humiliation eventually lower one's self-esteem. Low self-esteem level

has been associated with a heightened risk of suicide.

2.2. Depression and Suicide Ideation

Depression is a significant mental health condition impacting those suffering [35]. Suicidal thoughts are one of these ripple consequences of depression since they might result in suicide attempts or actual suicide. Suicidal behaviours are often linked to mental disorders [36]. The most common mental health issues linked to suicidal behaviours are depression, anxiety, and stress [37]. As Kielan et al. [38] revealed, suicide is one of the leading causes of death for people with depressive disorders. More specifically, data show that major depressive disorder and other mood disorders affected about 60% of suicide victims [39].

Previous studies proved that depression and suicide ideation have a positive and significant relationship with one another, that is, higher depression levels cause a rise in suicide ideation [40], [41]. The relationship between the stated variables has been studied among subjects of various age groups. A mixed-method survey by Kim & Kihl [42] found that suicide ideation was commonly associated with older adults that suffered from higher depression levels. Meanwhile, Ogboghodo et al. [43] reported that young adults who were depressed were more likely to have suicidal thoughts than those without depression.

Compared to the other age bracket, the relationship between depression and suicide ideation among young adults, especially those studying in university or college, has been mentioned more than the others. For example, university students who had suicide ideation were considerably more likely to have depression than participants who did not have such thoughts [44]. In addition, Hasan et al. [45] also found that medical students in Bangladesh that experienced depressive symptoms were more likely to have suicide ideation. Therefore, the following hypothesis is proposed:

Ha1: Depression is positively associated with suicide ideation.

2.3. Self-Esteem and Suicide Ideation

Self-esteem is another crucial idea in positive psychology that describes how someone feels about their value and significance [46], thus playing an important role in keeping one's mental well-being. Previous studies have proven that adolescents with low self-esteem are much more likely to have suicidal thoughts than those with high self-esteem [47]. In the context of university students, Dat et al. [48] revealed that suicide ideation of Japanese university students was negatively associated with their self-esteem level. Similarly, Owusu-Ansah et al. [49] also found that positive self-esteem resulted in a lower prevalence of suicide ideation in Ghana university students, which supported self-esteem as a protective factor against suicide ideation among young adults, especially university students.

Even though numerous in-depth studies on self-esteem have been conducted in the past, the impact of self-esteem on one's mental health status has rarely been discussed and investigated. So, there is a shortage in the literature regarding the relationship between self-esteem and mental health issues, especially on suicide ideation [13]. Thus, the following hypothesis is postulated:

Ha2: Self-esteem is negatively associated with suicide ideation.

Ha3: Depression and self-esteem are predictors of suicide ideation.

3. Materials and Methods

3.1. Design of the Study and Participants

In this quantitative study, depression, self-esteem, and suicide ideation were measured using the convenience sampling method. Considering the COVID-19 pandemic and Movement Control Order (MCO) at the time of the study, an online survey invitation was created using Google Forms. A total of 770 invitation links were randomly sent to undergraduate students in the Faculty of Business, Economics and Social Development (FBESD), Universiti Malaysia Terengganu (UMT) via Telegram messages. The survey was voluntary, and the participants were assured of the confidentiality of their information and responses. A total of 455 students participated in this study, but only 439 responses from the students (age in years: $M = 22.13$ years, $SD = 1.33$) were included in the final analysis.

3.2. Measures

3.2.1. Socio-demographic Information

The survey questionnaire included a set of socio-demographic data. For this study, gender, age, ethnicity, religion, marital status, academic courses, year, current semester, household income and funding sources were included in the analysis.

3.2.2. Beck Depression Inventory II (BDI-II)

Depression score was measured using the Malay adaptation of the Beck Depression Inventory II (BDI-II), which was translated to respect the cultural and religious perspectives of Malaysian that consisted of mainly Muslim and Malay [50]. BDI-II, a self-reporting inventory, was used to assess the behavioural manifestation and severity of depression in adolescents and adults [51]. It consists of 20 items, with responses on a 0-3 scale [52], with 0 being the minimum and 60 being the maximum score [50]. Higher scores indicate a higher intensity of depressive symptoms. The interpretation of BDI-II is based on the summed point of value where the following cut-off points were applied [52]: 0-10: normal; 11-16: mild depression; 17-20: borderline to clinical depression; 21-30: moderate depression; 31-40: severe depression; and 41-60: extreme

depression. The reliability of the adapted scale measured with Cronbach's alpha coefficient was 0.99.

3.2.3. Beck Rosenberg Self-Esteem Scale (RSES)

The level of self-esteem was measured using the Malay version Rosenberg Self-Esteem Scale (RSES), translated by Jamil [53]. The test consists of 10 items divided into positive and negative questions containing five items each [54] to assess overall self-worth and self-respect [55]. The responses for the RSES were given on a four-point Likert scale, ranging from 1 (strongly disagree) to 4 (strongly agree), producing a cumulative score from 10 to 40 (Morley, 2019), whereby higher scores indicate high self-esteem [56]. The cut-off score for RSES is 30, where a score below 30 suggests low self-esteem [57]. In validation studies among the Malaysian population, the scale was determined to be a reliable tool [58]. The Cronbach's alpha coefficient for the current study was 0.86.

3.2.4. Yatt Suicide Attitude Scale (YSAS)

Yatt Suicide Attitude Scale (YSAS) is a newly developed questionnaire to determine the presence of suicide ideation and attempt [59]. It contains 10 items divided into the ideation and suicide attempt subscale [59]. Each subscale contains 5 items. Item's responses are given on a scale of 1 (never) to 5 (often). The current study only adopted suicide ideation-related items to assess the respondent's suicide ideation. The total score for suicide ideation items in YSAS ranged from 5 to 25. A higher score indicated that the respondents often think about suicide. The cut-off score for RSES is 15, where a score of 15 and above suggests the presence of suicide ideation. The reliability of RSES measured with Cronbach's alpha coefficient was 0.88.

3.3. Data Analysis

Descriptive and inferential statistical procedures were applied to extract the answers to the research questions. Multiple regression analysis explored the statistical relationship and predictive effects between the study's independent variables and suicide ideation. All significance levels were two-tailed, and significance values less than 0.01 were considered statistically significant. Data were analysed with the SPSS program, version 28.0. Furthermore, Harman's single factor test was conducted [60] to check the potential of a common method bias. As the first-factor loading only accounted for 33.76%, which is less than 50-60% of the variance among variables [61], thus, there was no common method bias in this study.

4. Results

4.1. Demography Profile of Respondents

For demographic data, out of the total number of respondents, 81.5% were female students. Most

participants were Malay (87.9%) and Muslim (90.7%). Almost all the participants were single (99.3%). Most students enrolled in marketing (32.6%) and counselling (32.3%) courses. First-year students dominate the number of participants who responded to the questionnaire (43.1%) (see Table 1).

Table 1. Demography profile of respondents

		Freq.	Percentage
Gender	Male	81	18.5
	Female	358	81.5
Age	19 years old	1	0.2
	20 years old	18	4.1
	21 years old	164	37.4
	22 years old	101	23.0
	23 years old	70	15.9
	24 years old	69	15.7
	25 years old	10	2.3
	26 years old	6	1.4
Ethnicity	Malay	386	87.9
	Chinese	21	4.8
	Indian	15	3.4
	Others	17	3.9
Religion	Muslim	398	90.7
	Buddha	19	4.3
	Hindu	14	3.2
	Christian	8	1.8
Marital Status	Single	436	99.3
	Married	3	0.7
Course	Bac. of Economics	56	12.8
	Bac. of Marketing	143	32.6
	Bac. of Accounting	39	8.9
	Bac. of Counselling	142	32.3
	Bac. of Policy Studies	37	8.4
	Bac. of Tourism	22	5.0
Academic Year	1 st year	189	43.1
	2 nd year	117	26.7
	3 rd year	56	12.8
	4 th year	77	17.5

4.2. Descriptive Analysis on the Level of Studied Constructs

Table 2 displays the results of descriptive statistics for the studied variables. The result shows that 50.8% (n = 223) of participants identified with normal symptoms, while the percentage having mild depression was 20.5% (n = 90).

Some 10.5% (n = 46) and 16.4% (n = 72), respectively, had borderline and moderate depressive symptoms. Roughly 1.8% (n = 8) of students suffered from severe depression level.

Table 2. The result of depression levels

Depression Level	Freq.	Percentage
Normal	223	50.8
Mild	90	20.5
Borderline	46	10.5
Moderate	72	16.4
Severe	8	1.8

Table 3 displays the results of the descriptive analysis and the level of self-esteem. The students' self-esteem levels were 75.4% (n = 331), and were classified as high, while the remaining were at low levels (24.6%; n = 108).

Table 3. The result of self-esteem levels

Self-Esteem Level	Freq.	Percentage
High	331	75.4
Low	108	24.6

Table 4 displays the prevalence of respondents based on suicide ideation. The results indicated that most participants were identified without suicide ideation (99.3%; n = 436). Roughly 0.7% (n = 3) had a suicidal thought.

Table 4. The result of the presence of suicide ideation

Suicide ideation	Freq.	Percentage
Present	3	0.07
Absent	436	99.3

Table 5 displays that depression is positively correlated with suicide ideation ($r = 0.52$; $p < 0.01$), whereas self-esteem is negatively associated with suicide ideation ($r = -0.49$; $p < 0.01$).

Table 5. The result of the descriptive statistics and correlation between depression, self-esteem, and suicide ideation

Variable(s)	Mean	Standard Deviation	Suicide Ideation
Depression	11.53	8.58	0.52**
Self-esteem	34.71	6.89	-0.49**

Note: ** Correlation is significant at the 0.01 level (2-tailed)

The result of multiple regression analysis in Table 6 shows that suicide ideation is significantly predicted by depression ($\beta = 0.36$; $p < 0.001$) and self-esteem ($\beta = -0.24$; $p < 0.001$). The predictors (depression and self-esteem) accounted for 30% of the variance in the measure of suicide ideation ($R^2 = 0.30$).

Table 6. The result of regression analysis

Model	Unstandardised Coefficients		Standardised Coefficients		
	B	SE	B	t	Sig.
Constant	8.50	0.84		10.15	<0.01
Depression	0.10	0.02	0.36	6.36	<0.01
Self-Esteem	-0.09	0.02	-0.24	-4.25	<0.01
R	0.55		Adjusted R Square		0.30
R2	0.30		Std. Error of the Estimate		2.05

Note: Dependent variable: Suicide Ideation.

5. Discussion

The current study found a relatively small fraction (0.7%) of undergraduate students in FBESD, UMT experiences suicide ideation. The current finding is much lower than the prevalence rate of suicide ideation found in Malaysia [62].

The significant difference between the results of the current study and the results of previous studies might be influenced by the dishonesty of the respondents in answering the questions they were asked about suicidality. It is because discussions about suicide are still generally limited in Malaysia, especially on the East Coast, as Islam prohibits its followers from harming themselves, including suicide [62]. This limitation could affect the respondents' choice of answers in this study and further affect the results of the current study because they are afraid of being judged negatively by the community, even though the researcher guaranteed the confidentiality of their information before data collection. Therefore, cultural differences, as well as the social acceptance of issues related to suicide, greatly impact the study results [63]. The low percentage of young adults with suicide ideation in this study suggested that it might not be a serious issue for university students. However, it still requires attention to take early preventive steps before it's too late.

This study sought to determine how depression and self-esteem impacted Malaysian young adults purchasing university degrees. The results of the current study show an association between depression and suicide ideation. This result was consistent with previous studies [40], [42], [45], in the current study, depression showed a positive and significant relationship with suicide ideation with a moderate proportion between these two variables. It showed that as the severity of depression increases, so does the presence of suicide ideation.

Previous studies examining the relationship between these two variables have revealed factors that influence depression and suicide ideation in individuals. Hasan et al. [45] have generally listed depression and suicidal thoughts as symptoms of mental health problems in university students. In addition, Hasan et al. [45] found that students who study subjects that are difficult and critical to the market, such as medicine, often suffer from depression. Nevertheless, university students, in general, are exposed

to mental health problems, including depression and suicidal thoughts, which are the focus of the current study. It is because the learning environment and educational procedures that were time- and energy-consuming put them under pressure, which further worsens mental health due to significant discomfort and burnout [45].

There is also concern that age factors play a role in mental health problems among university students, as young students [64], especially in their first year of university [45]. More prone to depression and suicidal thoughts due to changes in the learning environment and difficulty adjusting to the environment [40]. However, previous studies showed that academic stress is not the only factor for poor mental health among university students. It depends on internal factors of individuals, such as their ability to cope with stressful situations, the social support they receive, and the level of satisfaction they have achieved in their lives [45].

The combination of these factors increases the stress level among students, which further promotes the development of burnout among them [45]. Burnout is related to depression, while depression is the trigger and key factor for suicidal thoughts among university students [65], [66]. Students with depression may suffer from feelings of being a burden, helpless [42] and hopeless [40] to others and being excluded from the social group, social isolation, interpersonal difficulties, and poor self-perception [40]. These negative feelings of burden and belonging are associated with a high prevalence of suicide ideation among university students [40]. The results of the current study showed that the number of students with suicidal thoughts was much lower than the number of students with depression. It may be because the depression in the students in this study is not so severe that they contemplate suicide.

The research results show that self-esteem was negatively related to suicide ideation among university students. The results of this study are consistent with the prior studies that also found a significant relationship between self-esteem and suicide ideation [29], [48]. This result shows that an increase in the self-esteem of university students leads to a decrease in their suicidal thoughts. Gender inequality is one factor in determining the relationship between self-esteem and suicide ideation [47].

It is because in some countries, female students, in particular, face various obstacles due to the culture and customs in their country that have a negative impact on the development of their mental health [67], not to mention that female students are more prone to developing an emotionally unstable personality compared to male students [47]. However, this does not mean that no male students are in the same situation, but their number may be lower than that of female students.

In addition, the relationship between low self-esteem and suicide ideation among students is fostered by a learning environment that is unpleasant and unsuitable for them and by academic pressures due to competition and curriculum loads that increase from year to year [47], [67]. The economic status of students and their families also affects their self-esteem [47]. Students from low-income families often have self-esteem issues because they have difficulty financing their studies while depending on their families to cover university expenses. Student loans or scholarships cannot cover all expenses throughout the semester due to the high cost of living. Some students take the opportunity to work alongside their studies to earn extra income. However, 113 work fatigue affects their academic performance [47], which also influences the decline in individual self-esteem.

The current study results show that depression and self-esteem are predictive factors of suicide ideation in university students. This study's results are consistent with prior studies' [29], [49]. However, there is a slight difference between the results of the current study and Ibrahim et al. [20] study, in which only depression was identified as a predictive factor for suicide ideation, but not self-esteem.

The present study found that suicide ideation was associated with those suffering from higher depression levels than those who did not [68]. Depression and self-esteem are among the most significant factors associated with suicide ideation [69]. University students are exposed to various factors that affect their psychological well-being. The main factor for depression among university students, which has been frequently cited in previous studies, is the excessive academic load and poor academic performance [45], [47] and the low-income class of the student's family [47].

The above factors burden the students so much that they feel powerless against them. Over time, they lost hope of being able to continue living. Suicidal thoughts began to dominate their thoughts because they felt they could not solve the problems they faced, which could lead them to actions in the sense of the Three-Step Theory of Suicide [32], according to which ideation precedes actions. Suicidal thoughts usually come before a suicide attempt. A complete suicide requires at least one attempt it is carried out [70]. In other situations, however, suicidal thoughts are only a fleeting desire to end one's life. Most people who have suicidal thoughts do not attempt suicide, and those who do attempt suicide do not die as a result of their

attempt, which is consistent with the explanation in the Three-Step Theory of Suicide [70]. Therefore, this theory is considered the most appropriate to explain the relationship between depression and suicide ideation. Students are often exposed to various things that can jeopardise their mental balance. Students who have just started studying at the university have to deal with an environment and system that is new and strange to them compared to their school days [40]. Therefore, some university students have problems adapting to this situation. This situation sometimes puts them under pressure when they feel they are far behind others and keep forcing themselves to catch up with their fellow students. In addition, academic stress [45] increases and becomes more difficult as the years and semesters of study increase, leading to a low confidence level to cope with life as a university student, which negatively affects their self-esteem. Low self-esteem is one of the triggering factors for depression in university students [69]. Therefore, it is safe to say that self-esteem can also predict suicidal thoughts in university students.

The predictive model in this study found that self-esteem was a significant predictor of adolescent suicide ideation, supporting the role of self-esteem in determining behavioural outcomes, including suicide ideation. Consistent with Baumeister's Theory of Escaping the Self, the results state that university students are less likely to have suicidal thoughts when they have higher self-esteem. However, those with low self-esteem were found to have higher levels of depression. It suggests that university students' self-esteem is an important protective factor against depression because it helps them cope with depressive symptoms. Baumeister's

Theory of Escaping the Self assumes suicide to escape oneself from distress and an unmanageable mental state. It was posited to explain that suicide is a series of processes rather than one of the symptoms of a mental illness [71]. This theory states that a person's suicidal behaviour is usually triggered by failing to meet expectations, which leads to self-reproach [72], which is associated with self-hatred; feelings of inadequacy, humiliation, and rejection along with guilt, are the most common factors leading to suicidal behaviour [73]. It provokes feelings of worthlessness and rejection by others, leading to negative self-evaluation [29]. Low self-esteem is a highly associated and well-established factor leading to an individual's involvement in suicidal behaviours [7]. Baumeister Theory of Escaping the Self is the best model to explain the relationship between self-esteem and the development of suicidal behaviour [71].

6. Conclusions

The starting point of suicide is suicide ideation. Thus, it is crucial to highlight this issue even though the prevalence of university students in Terengganu with suicide ideation

is relatively small compared to other studies. So, determining the factors capable of predicting the future development of suicide ideation among university students is considered the first step in planning better preventive steps to cater for this issue. Therefore, this study aimed to evaluate the predictive effects of depression and self-esteem on suicide ideation in young adults, specifically university students. This study found that depression and self-esteem significantly predict young adults' suicide ideation. Depression is addressed as a risk factor for suicide ideation, while self-esteem is the protective factor.

6.1. Research Limitations and Suggestions

Despite the benefits generated by this study, it has some limitations. First, respondents in the current study were recruited from one higher institution; therefore, there is a need to widen the respondents with different profiles to validate the current findings. Second, this study is a quantitative-based cross-sectional design where all findings are based on self-reported data. However, Harman's one-factor test supported that a common method bias is not a serious threat to data validity. Finally, future studies might employ the third variable (e.g., resilience) that buffers suicide ideation to expand the existing literature in the context of Malaysian respondents.

6.2. Research Implications

The current study highlighted the role of depression and self-esteem as predictors of suicide ideation in young adults. The findings can be used to improve their awareness of the importance of maintaining good mental health and well-being as a student in a higher education institution. This study can enhance their understanding of the challenges and issues that significantly impact their mental health and self-esteem as they adapt from adolescence to adulthood. Thus, it also encourages them to seek help to prevent and overcome this issue. Moreover, this study provides insights into the severity of mental health issues among young adults from eastern cultural perspectives.

Acknowledgements

The author would like to thank Universiti Malaysia Terengganu and reviewers for their constructive comments.

REFERENCES

- [1] B. Barone Gibbs *et al.*, "Physical Activity as a Critical Component of First-Line Treatment for Elevated Blood Pressure or Cholesterol: Who, What, and How? A Scientific Statement From the American Heart Association," *Hypertension*, vol. 78, no. 2, pp. e26–e37, Aug. 2021, doi: 10.1161/HYP.000000000000196.
- [2] World Health Organization, *Global status report on alcohol and health 2018*. World Health Organization, 2019.
- [3] S. Khazaei, V. Armanmehr, S. Nematollahi, S. Rezaeian, and S. Khazaei, "Suicide rate in relation to the Human Development Index and other health related factors: A global ecological study from 91 countries," *J. Epidemiol. Glob. Health*, vol. 7, no. 2, p. 131, 2017, doi: 10.1016/j.jegh.2016.12.002.
- [4] S. O. Akca, O. Yuncu, and Z. Aydin, "Mental status and suicide probability of young people: A cross-sectional study," *Rev. Assoc. Med. Bras.*, vol. 64, no. 1, pp. 32–40, Jan. 2018, doi: 10.1590/1806-9282.64.01.32.
- [5] J. Bilsen, "Suicide and Youth: Risk Factors," *Front. Psychiatry*, vol. 9, p. 540, Oct. 2018, doi: 10.3389/fpsy.2018.00540.
- [6] S. Saxena, M. K. Funk, and D. Chisholm, "Comprehensive mental health action plan 2013–2020," *East. Mediterr. Heal. J.*, vol. 12, no. 7, pp. 461–463, Jul. 2015, doi: 10.26719/2015.21.7.461.
- [7] B. Lew, K. Chistopolskaya, A. Osman, J. M. Y. Huen, M. Abu Talib, and A. N. M. Leung, "Meaning in life as a protective factor against suicidal tendencies in Chinese University students," *BMC Psychiatry*, vol. 20, no. 1, p. 73, Dec. 2020, doi: 10.1186/s12888-020-02485-4.
- [8] C. B. Cha, P. J. Franz, E. M. Guzmán, C. R. Glenn, E. M. Kleiman, and M. K. Nock, "Annual Research Review: Suicide among youth – epidemiology, (potential) etiology, and treatment," *J. Child Psychol. Psychiatry*, vol. 59, no. 4, pp. 460–482, Apr. 2018, doi: 10.1111/jcpp.12831.
- [9] C. O'Beaglaich, J. McCutcheon, P. F. Conway, J. Hanafin, and T. G. Morrison, "Adolescent Suicide Ideation, Depression and Self-Esteem: Relationships to a New Measure of Gender Role Conflict," *Front. Psychol.*, vol. 11, p. 111, Feb. 2020, doi: 10.3389/fpsyg.2020.00111.
- [10] N. Bahar *et al.*, "Suicide among the youth in Malaysia: What do we know?," *Asia-Pacific Psychiatry*, vol. 7, no. 2, pp. 223–229, Jun. 2015, doi: 10.1111/appy.12162.
- [11] A. Spillane, K. Matvienko-Sikar, C. Larkin, P. Corcoran, and E. Arensman, "What are the physical and psychological health effects of suicide bereavement on family members? An observational and interview mixed-methods study in Ireland," *BMJ Open*, vol. 8, no. 1, p. e019472, Jan. 2018, doi: 10.1136/bmjopen-2017-019472.
- [12] B. Harmer, S. Lee, and T. H. S. Duong, "A. Suicidal ideation.[SI]: StatPearls, 2022." 2021.
- [13] M. Olfson *et al.*, "Suicide After Deliberate Self-Harm in Adolescents and Young Adults," *Pediatrics*, vol. 141, no. 4, Apr. 2018, doi: 10.1542/peds.2017-3517.
- [14] D. Sánchez Teruel, M. A. Robles Bello, and J. A. Camacho Conde, "Self-inflicted injuries in adolescents and young adults: A longitudinal approach," *Psicothema*, vol. 32, no. 3, pp. 322–328, 2020.
- [15] O. A. Olatunji, E. S. Idemudia, and B. D. Olawa, "Family support, self-efficacy and suicidal ideation at emerging adulthood: a mediation analysis," *Int. J. Adolesc. Youth*, vol. 25, no. 1, pp. 920–931, Dec. 2020, doi: 10.1080/02673843.2020.1779762.
- [16] S. Scardera *et al.*, "Association of Social Support During

- Adolescence With Depression, Anxiety, and Suicidal Ideation in Young Adults,” *JAMA Netw. Open*, vol. 3, no. 12, pp. 1–12, Dec. 2020, doi: 10.1001/jamanetworkopen.2020.27491.
- [17] A. E. Hermosillo-de-la-Torre *et al.*, “Psychosocial Correlates of Suicidal Behavior among Adolescents under Confinement Due to the COVID-19 Pandemic in Aguascalientes, Mexico: A Cross-Sectional Population Survey,” *Int. J. Environ. Res. Public Health*, vol. 18, no. 9, pp. 1–17, May 2021, doi: 10.3390/ijerph18094977.
- [18] B. Keles, N. McCrae, and A. Grealish, “A systematic review: the influence of social media on depression, anxiety and psychological distress in adolescents,” *Int. J. Adolesc. Youth*, vol. 25, no. 1, pp. 79–93, Dec. 2020, doi: 10.1080/02673843.2019.1590851.
- [19] D. Nunes and A. Faro, “O papel da autoeficácia, da autoestima e do autoconceito na depressão em adolescentes,” *Ciencias Psicológicas*, vol. 15, no. 2, pp. 1–13, Nov. 2021, doi: 10.22235/cp.v15i2.2164.
- [20] N. Ibrahim, N. Amit, N. Che Din, and H. C. Ong, “Gender differences and psychological factors associated with suicidal ideation among youth in Malaysia,” *Psychol. Res. Behav. Manag.*, vol. Volume 10, pp. 129–135, Apr. 2017, doi: 10.2147/PRBM.S125176.
- [21] E. Boers, M. H. Afzali, N. Newton, and P. Conrod, “Association of Screen Time and Depression in Adolescence,” *JAMA Pediatr.*, vol. 173, no. 9, p. 853, Sep. 2019, doi: 10.1001/jamapediatrics.2019.1759.
- [22] M. Zakhour *et al.*, “Suicidal ideation among Lebanese adults: scale validation and correlates,” *BMC Psychiatry*, vol. 21, no. 1, p. 100, Feb. 2021, doi: 10.1186/s12888-021-03111-7.
- [23] Y. Ogihara and T. Kusumi, “The Developmental Trajectory of Self-Esteem Across the Life Span in Japan: Age Differences in Scores on the Rosenberg Self-Esteem Scale From Adolescence to Old Age,” *Front. Public Heal.*, vol. 8, p. 132, Aug. 2020, doi: 10.3389/fpubh.2020.00132.
- [24] Y. Ogihara, “A decline in self-esteem in adults over 50 is not found in Japan: age differences in self-esteem from young adulthood to old age,” *BMC Res. Notes*, vol. 12, no. 1, p. 274, Dec. 2019, doi: 10.1186/s13104-019-4289-x.
- [25] S. Canbaz and Ö. Terzi, “The Prevalence of Suicidal Ideation in Adolescents and Associated Risk Factors: An Example from Turkey,” *Adv. Ther.*, vol. 35, no. 6, pp. 839–846, Jun. 2018, doi: 10.1007/s12325-018-0720-2.
- [26] L. Ongeri *et al.*, “Sociocultural perspectives on suicidal behaviour at the Coast Region of Kenya: an exploratory qualitative study,” *BMJ Open*, vol. 12, no. 4, pp. 1–9, Apr. 2022, doi: 10.1136/bmjopen-2021-056640.
- [27] C. Lehmann, C. Leung, I. Miller, and S. Girguis, “An Action Research Framework for Religion and the Stigma of Suicide,” *Religions*, vol. 12, no. 10, pp. 1–32, Sep. 2021, doi: 10.3390/rel12100802.
- [28] A. M. Almansour and S. Siziya, “Suicidal ideation and associated factors among school going adolescents in Swaziland,” *Afr. Health Sci.*, vol. 17, no. 4, p. 1172, Jan. 2018, doi: 10.4314/ahs.v17i4.26.
- [29] C. W. Cong and W. S. Ling, “The predicting effects of depression and self-esteem on suicidal ideation among adolescents in Kuala Lumpur, Malaysia,” *J. Heal. Transl. Med.*, vol. 23, no. 1, pp. 60–66, 2020.
- [30] M. N. Shahira, H. Hanisshya, Z. M. Lukman, R. Normala, C. Azlini, and M. Y. Kamal, “Psychological well-being among university students in Malaysia,” *Int. J. Res. Innov. Soc. Sci.*, vol. 2, no. 12, pp. 133–137, 2018.
- [31] S. Jiang and A. Ngien, “The Effects of Instagram Use, Social Comparison, and Self-Esteem on Social Anxiety: A Survey Study in Singapore,” *Soc. Media + Soc.*, vol. 6, no. 2, pp. 1–10, Apr. 2020, doi: 10.1177/2056305120912488.
- [32] M. Tsai, H. Lari, S. Saffy, and E. D. Klonsky, “Examining the Three-Step Theory (3ST) of Suicide in a Prospective Study of Adult Psychiatric Inpatients,” *Behav. Ther.*, vol. 52, no. 3, pp. 673–685, May 2021, doi: 10.1016/j.beth.2020.08.007.
- [33] T. M. Dixon and R. F. Baumeister, “Escaping the Self: The Moderating Effect of Self-Complexity,” *Personal. Soc. Psychol. Bull.*, vol. 17, no. 4, pp. 363–368, Aug. 1991, doi: 10.1177/0146167291174002.
- [34] R. F. Baumeister, “Suicide as escape from self,” *Psychol. Rev.*, vol. 97, no. 1, pp. 90–113, 1990, doi: 10.1037/0033-295X.97.1.90.
- [35] L. Brådvik, “Suicide Risk and Mental Disorders,” *Int. J. Environ. Res. Public Health*, vol. 15, no. 9, p. 2028, Sep. 2018, doi: 10.3390/ijerph15092028.
- [36] K. N. Anderson *et al.*, “Adverse Childhood Experiences During the COVID-19 Pandemic and Associations with Poor Mental Health and Suicidal Behaviors Among High School Students — Adolescent Behaviors and Experiences Survey, United States, January–June 2021,” *MMWR. Morb. Mortal. Wkly. Rep.*, vol. 71, no. 41, pp. 1301–1305, Oct. 2022, doi: 10.15585/mmwr.mm7141a2.
- [37] N. Salari *et al.*, “Prevalence of stress, anxiety, depression among the general population during the COVID-19 pandemic: a systematic review and meta-analysis,” *Global Health*, vol. 16, no. 1, p. 57, Dec. 2020, doi: 10.1186/s12992-020-00589-w.
- [38] A. Kielan, M. Jaworski, A. Mosiołek, J. Chodkiewicz, Ł. Świącicki, and B. Walewska-Zielecka, “Factors Related to the Level of Depression and Suicidal Behavior Among Men With Diagnosed Depression, Physically Ill Men, and Healthy Men,” *Front. Psychiatry*, vol. 12, p. 644097, Jun. 2021, doi: 10.3389/fpsy.2021.644097.
- [39] R. J. Baldessarini, “Epidemiology of suicide: recent developments,” *Epidemiol. Psychiatr. Sci.*, vol. 29, p. e71, Nov. 2020, doi: 10.1017/S2045796019000672.
- [40] F. Fekih-Romdhane, C. ElKhouni, H. Sassi, and M. Cheour, “The Role of Personal Factors and Learning Environment in Suicidal Ideation Among Tunisian Medical Students,” *Crisis*, vol. 42, no. 1, pp. 20–31, Jan. 2021, doi: 10.1027/0227-5910/a000678.
- [41] N. A. M. Tamizi and A. Perveen, “The Role of Stress, Depression and Social Support in Students’ Suicidal Ideation among University Students in Malaysia,” vol. 9, no. 1, pp. 1–11, 2021.
- [42] B. J. Kim and T. Kihl, “Suicidal ideation associated with depression and social support: a survey-based analysis of

- older adults in South Korea,” *BMC Psychiatry*, vol. 21, no. 1, p. 409, Dec. 2021, doi: 10.1186/s12888-021-03423-8.
- [43] E. Ogboghodo, V. Omuemu, O. Odijie, and O. Odaman, “Cold chain management: An assessment of knowledge and attitude of health workers in primary health-care facilities in Edo State Nigeria,” *Sahel Med. J.*, vol. 21, no. 2, pp. 75–82, 2018, doi: 10.4103/smj.smj_45_17.
- [44] A. Pak, O. A. Adegboye, A. I. Adekunle, K. M. Rahman, E. S. McBryde, and D. P. Eisen, “Economic Consequences of the COVID-19 Outbreak: the Need for Epidemic Preparedness,” *Front. Public Heal.*, vol. 8, p. 241, May 2020, doi: 10.3389/fpubh.2020.00241.
- [45] M. T. Hasan *et al.*, “Depression, sleeping pattern, and suicidal ideation among medical students in Bangladesh: a cross-sectional pilot study,” *J. Public Health (Bangkok)*, vol. 30, no. 2, pp. 465–473, Feb. 2022, doi: 10.1007/s10389-020-01304-0.
- [46] Z. L. Ąbisics Ąk-Erd Ąyi, I. Veres-Balajti, A. Somhegyi, and K. Kósa, “Self-Esteem Is Independent Factor and Moderator of School-Related Psychosocial Determinants of Life Satisfaction in Adolescents,” *Int. J. Environ. Res. Public Health*, vol. 19, no. 9, pp. 55–65, May 2022, doi: 10.3390/ijerph19095565.
- [47] D. T. Nguyen, E. P. Wright, C. Dedding, T. T. Pham, and J. Bunders, “Low Self-Esteem and Its Association With Anxiety, Depression, and Suicidal Ideation in Vietnamese Secondary School Students: A Cross-Sectional Study,” *Front. Psychiatry*, vol. 10, p. 698, Sep. 2019, doi: 10.3389/fpsy.2019.00698.
- [48] N. T. Dat *et al.*, “The mediating role of hopelessness in the relationship between self-esteem, social anxiety, and suicidal ideation among Japanese university students who visited a university health care center,” *J. Affect. Disord. Reports*, vol. 6, p. 100192, Dec. 2021, doi: 10.1016/j.jadr.2021.100192.
- [49] F. E. Owusu-Ansah, A. A. Addae, B. O. Peasah, K. Oppong Asante, and J. Osafo, “Suicide among university students: prevalence, risks and protective factors,” *Heal. Psychol. Behav. Med.*, vol. 8, no. 1, pp. 220–233, Jan. 2020, doi: 10.1080/21642850.2020.1766978.
- [50] F. Mukhtar and T. P. S. Oei, “Exploratory and confirmatory factor validation of the Dysfunctional Attitude Scale for Malays (DAS-Malay) in Malaysia,” *Asian J. Psychiatr.*, vol. 3, no. 3, pp. 145–151, Sep. 2010, doi: 10.1016/j.ajp.2010.07.007.
- [51] Z. E. Garc Ą-Batista, K. Guerra-Pe Ąa, A. Cano-Vindel, S. X. Herrera-Martinez, and L. A. Medrano, “Validity and reliability of the Beck Depression Inventory (BDI-II) in general and hospital population of Dominican Republic,” *PLoS One*, vol. 13, no. 6, p. e0199750, Jun. 2018, doi: 10.1371/journal.pone.0199750.
- [52] M. U. Barut *et al.*, “Evaluation of Sexual Function in Women with Hypogonadotropic Hypogonadism Using the Female Sexual Function Index (FSFI) and the Beck Depression Inventory (BDI),” *Med. Sci. Monit.*, vol. 24, pp. 5610–5618, Aug. 2018, doi: 10.12659/MSM.910304.
- [53] M. Jamil, “Validity and reliability study of Rosenberg self-esteem scale in Seremban school children,” *Malaysian J. Psychiatry*, vol. 15, no. 2, pp. 35–39, 2006.
- [54] G. Lo Coco, L. Salerno, S. Ingoglia, and G. A. Tasca, “Self-esteem and binge eating: Do patients with binge eating disorder endorse more negatively worded items of the Rosenberg Self-Esteem Scale?” *J. Clin. Psychol.*, vol. 77, no. 3, pp. 818–836, Mar. 2021, doi: 10.1002/jclp.23065.
- [55] T. Gnambs and U. Schroeders, “Cognitive Abilities Explain Wording Effects in the Rosenberg Self-Esteem Scale,” *Assessment*, vol. 27, no. 2, pp. 404–418, Mar. 2020, doi: 10.1177/1073191117746503.
- [56] A. Syropoulou, N. Vernadakis, M. Papastergiou, and T. Kourtessis, “Psychometric evaluation of the Rosenberg Self-Esteem Scale in primary school students with mild intellectual disability: First evidence,” *Res. Dev. Disabil.*, vol. 114, p. 103964, Jul. 2021, doi: 10.1016/j.ridd.2021.103964.
- [57] M. Mohammadzadeh, H. Awang, H. Kadir Shahar, and S. Ismail, “Emotional Health and Self-esteem Among Adolescents in Malaysian Orphanages,” *Community Ment. Health J.*, vol. 54, no. 1, pp. 117–125, Jan. 2018, doi: 10.1007/s10597-017-0128-5.
- [58] S. Mohd-Sidik, M. Akhtari-Zavare, U. Periasamy, L. Rampal, S. I. Fadhilah, and R. Mahmud, “Effectiveness of chemotherapy counselling on self-esteem and psychological affects among cancer patients in Malaysia: Randomized controlled trial,” *Patient Educ. Couns.*, vol. 101, no. 5, pp. 862–871, May 2018, doi: 10.1016/j.pec.2018.01.004.
- [59] N. Ibrahim, N. Che Din, N. Amit, S. E. Ghazali, and A. Mohd Safien, “Development and validation of Yatt Suicide Attitude Scale (YSAS) in Malaysia,” *PLoS One*, vol. 14, no. 2, p. e0209971, Feb. 2019, doi: 10.1371/journal.pone.0209971.
- [60] P. M. Podsakoff, S. B. MacKenzie, J.-Y. Lee, and N. P. Podsakoff, “Common method biases in behavioral research: A critical review of the literature and recommended remedies,” *J. Appl. Psychol.*, vol. 88, no. 5, pp. 879–903, 2003, doi: 10.1037/0021-9010.88.5.879.
- [61] W. E. Saris and I. N. Gallhofer, *Design, Evaluation, and Analysis of Questionnaires for Survey Research*. Hoboken, NJ, USA: John Wiley & Sons, Inc., 2007.
- [62] M. A. F. Bin Mazelan and Lee Jun Choi, “The Prevalence and Correlates of Suicidal Ideation among University Students: A Survey,” *J. Cogn. Sci. Hum. Dev.*, vol. 8, no. 1, pp. 157–174, Mar. 2022, doi: 10.33736/jcsd.4374.2022.
- [63] B. Ayubi and M. V. R. Raju, “Prevalence of suicidal ideation among university students, Afghanistan,” *Int. J. Indian Psychology*, vol. 10, no. 3, pp. 7–11, 2020.
- [64] A. Nyundo *et al.*, “Factors associated with depressive symptoms and suicidal ideation and behaviours amongst sub-Saharan African adolescents aged 10-19 years: cross-sectional study,” *Trop. Med. Int. Heal.*, vol. 25, no. 1, pp. 54–69, Jan. 2020, doi: 10.1111/tmi.13336.
- [65] A. Tarmizi and S. Anggian, “Organizational Commitment, Employee Engagement, and Employee Performance: A Literature Review,” *Dinasti Int. J. Educ. Manag. Soc. Sci.*, vol. 4, no. 1, pp. 64–72, 2022.
- [66] N. Madjar, D. Daka, G. Zalsman, and G. Shoval, “Depression symptoms as a mediator between social support, non-suicidal self-injury, and suicidal ideation among Arab adolescents in Israel,” *Sch. Psychol. Int.*, vol.

- 42, no. 4, pp. 358–378, Aug. 2021, doi: 10.1177/0143034321998741.
- [67] W. Yedong, S. P. Coulibaly, A. M. Sidibe, and T. Hesketh, “Self-Harm, Suicidal Ideation and Attempts among School-Attending Adolescents in Bamako, Mali,” *Children*, vol. 9, no. 4, p. 542, Apr. 2022, doi: 10.3390/children9040542.
- [68] M. A. Mamun *et al.*, “Financial threat, hardship and distress predict depression, anxiety and stress among the unemployed youths: A Bangladeshi multi-city study,” *J. Affect. Disord.*, vol. 276, pp. 1149–1158, Nov. 2020, doi: 10.1016/j.jad.2020.06.075.
- [69] G. Shim and B. Jeong, “Predicting Suicidal Ideation in College Students with Mental Health Screening Questionnaires,” *Psychiatry Investig.*, vol. 15, no. 11, pp. 1037–1045, Nov. 2018, doi: 10.30773/pi.2018.08.21.3.
- [70] E. D. Klonsky, B. Y. Saffer, and C. J. Bryan, “Ideation-to-action theories of suicide: a conceptual and empirical update,” *Curr. Opin. Psychol.*, vol. 22, pp. 38–43, Aug. 2018, doi: 10.1016/j.copsyc.2017.07.020.
- [71] W. H. Han, “The Study on Compulsive Buying as Self-Defeating Behavior : Focused on Social Exclusion Factor,” *East Asian J. Bus. Manag.*, vol. 8, no. 2, pp. 57–68, Jun. 2020, doi: 10.20498/eajbe.2020.8.2.57.
- [72] C. D. Mohr, S. N. Haverly, A. Froidevaux, and M. Wang, *The Self at Work*. New York, NY: Routledge, [2018] | Series: SIOP organizational frontiers series: Routledge, 2017.
- [73] K. Sheehy *et al.*, “An examination of the relationship between shame, guilt and self-harm: A systematic review and meta-analysis,” *Clin. Psychol. Rev.*, vol. 73, pp. 101–779, Nov. 2019, doi: 10.1016/j.cpr.2019.101779.