

# Gender differences and psychological factors associated with suicidal ideation among youth in Malaysia

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**Abstract:** Suicide is a global phenomenon that has been showing an upward trend in recent years. It is the second leading cause of death among youth. Studies on suicidal ideation warrant greater attention, as it leads to suicide attempts and other health risk behaviors. Thus, the objective of this study was to compare gender differences in suicidal ideation and determine the predictors of suicidal ideation among youth. This cross-sectional study was carried out among 232 youths aged between 15 and 25 years from selected urban areas in Malaysia. The results showed that suicidal ideation was higher among male participants compared with female participants. Age was the predictor of suicidal ideation for males, while depression and loss of motivation, as components of hopelessness, were the predictors of suicidal ideation among females. Hence, it is important that professionals conduct early identification tests for suicidality among young people. This will facilitate the early detection of depression and hopelessness, which is important, in order to prevent suicidal behaviors or other problems before these occur.

**Keywords:** suicidal ideation, youth, depression, hopelessness, gender

## Introduction

In recent years, the suicide rate has been increasing and appears to be a serious public health problem in Malaysia. Statistics show that the suicidal rate has increased by 60% over the past 45 years in Malaysia. It is reported that >800,000 people end their life through suicide and 75% of global suicides occur in low- and middle-income countries.<sup>1</sup> Past research in Malaysia showed that approximately seven people committed suicide per day, and most of them belonged to the youth category.<sup>2</sup> Suicidal ideation most likely happens prior to a suicide attempt or suicide,<sup>3-6</sup> and it involves the tendency to die owing to an inability to cope with life difficulties.<sup>7</sup> According to Reynolds,<sup>8</sup> suicidal ideation is a thought, idea, or plan that can lead to harm or/and death. Suicidal ideation becomes severe and worsens when one fails to overcome a problem.

The National Suicide Registry Malaysia had compiled the statistics of suicide cases from 2007 to 2009, and it was found that suicides are committed due to school issues or intimate problems.<sup>9</sup> According to the National Health and Morbidity Survey conducted by the Ministry of Health Malaysia,<sup>10</sup> 6.3% of the participants reported having suicidal ideation and the youngest age group – 16–19 years old – was most disposed to suicidal thoughts, followed by the 20–24 years age group. The youth category consists of people who are still in their high schools, colleges, universities, and first jobs and are transitioning into adults. There are many reasons that are associated with suicidal ideations among youth, regardless of them being students or working professionals. For example, it could be caused by substance abuse, academic failures, psychological

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disorders, poor social and family relationships, aggression or impulsivity, risky sexual behaviors, and so on.<sup>9,11-14</sup>

One important area of the research is understanding of gender differences in suicidal ideation and suicide behaviors. A previous study showed that males were more likely to die from suicides, while females were more likely to commit suicide attempts.<sup>15</sup> Besides, female adolescents were more likely to have suicidal thoughts and ideation compared with male adolescents.<sup>16,17</sup> Regarding the timing of first onset of suicide attempts, Lewinsohn et al<sup>17</sup> found that the risk of onset for both boys and girls peaked during mid adolescence. However, young women's risk precipitously dropped after age 18, whereas young men's risk only slightly decreased in late adolescence.

During the adolescent stage, males and females develop differently with different skills at different times.<sup>18</sup> There are changes in the actual levels of turbulence once believed to occur at this stage of emotions and concepts.<sup>19</sup> One of the occasions that distinguishes men and women is dealing with problems in life. Even though both genders have the same goal of solving the problem, they will often go about finding a solution in a very different manner to each other.

Previous research shows that hopelessness is associated with suicide<sup>20</sup> and is a predictor of suicide.<sup>21</sup> However, hopelessness could not predict suicide when depression was controlled, which indicates that hopelessness may be linked to suicidal behaviors only under certain circumstances.<sup>22</sup> Apart from this, depression was found to be a prominent factor in suicidal ideation among youth<sup>6,23,24</sup> and was mostly diagnosed among adolescents who attempted suicide.<sup>23,25,26</sup> In past studies, stress, anxiety, and depression positively correlated with suicidal ideation.<sup>27-31</sup>

Suicide is a growing problem among youth today, and it should be prevented as early as possible. Many earlier studies had examined the related psychological and sociodemographic factors and predicted suicidal ideation among youth from different samples. However, studies on youth suicide in Malaysia are still scarce and not many research studies had really focused on gender differences in suicidal ideation.<sup>32</sup> Studying gender differences among youths with suicidal ideation is important for identifying gender-specific risk factors because the stressors experienced between these two genders also differed. Thus, the planning management and prevention should be based on the gender differences. Hence, the aim of this study was to compare gender differences in suicidal ideation and analyze the factors associated with suicidal ideation and predictors of suicidal ideation based on gender differences.

## Methodology

### Research design

This cross-sectional study was carried out with youth from selected urban areas in the states of Wilayah Persekutuan and Selangor, Malaysia, from October to December 2014. The urban areas were selected based on the reported number of suicide cases and were located in locality of low to moderate socioeconomic status.<sup>1</sup> This study was approved by the Universiti Kebangsaan Malaysia Research Ethics Committee (approval number NN-064-2013). The number of participants studied was 232 young people. The inclusion criteria for the selection of the subjects were as follows: aged between 15 and 25 years, able to read and write in Malay or English language, and willing to participate in this study. Written informed consent was obtained from all individual participants included in the study. The purpose of this study was explained, and those who agreed to participate in the study signed a consent form. All the respondents were assured of data confidentiality, and subjects were included on a voluntary basis. Face-to-face interview was conducted at their homes, and upon completion, data were then anonymously keyed into the Statistical Package for the Social Sciences (SPSS) software. The use of face-to-face interview was potential to minimize risk of missing data during the data collection process in the present study.

## Instruments

### Suicidal Ideation Scale (SIS)

The SIS was constructed by Rudd in 1989 to measure the level of severity or tendency of suicidal ideation among young adults. Each item of the SIS is a statement about suicidal ideation from suicidal behavior toward suicide attempts. The scale consists of 10 items, which present critical information about "the presence or absence of suicidal thinking, the intensity of these thoughts, and the presence or absence of prior suicide attempts".<sup>33</sup>

The SIS reported high internal consistency (Cronbach's alpha = 0.86), and overall item-total correlation ranged from 0.45 to 0.74.<sup>34</sup> Moreover, SIS appeared to have good construct validity as there was a positive correlation between the Centre for Epidemiologic Studies Depression Scale (CES-D) and the Beck Hopelessness Scale (BHS).

### 21-Item Depression Anxiety Stress Scale (DASS-21)

DASS-21<sup>35</sup> is a self-administered psychometric test that gauges levels of depression, anxiety, and stress over the previous week. The scale is applicable in both clinical and nonclinical population. There are 21 items in DASS with

three subscales (depression, anxiety, and stress). Each subscale comprises seven items. The Malay-translated version of DASS-21 was developed by Ramli, Mohd, and Zaini.<sup>36</sup> The alpha coefficients of DASS-21 ranged from 0.74 to 0.84. The DASS-21 was further validated through factor analysis, which ranged from 0.39 to 0.73. The correlation among the scales was between 0.54 and 0.68.<sup>36</sup>

### Beck Hopelessness Scale

The BHS was constructed by Beck et al in 1974 to measure three major aspects of hopelessness: feelings about the future, loss of motivation, and expectations. The test is designed for adults, aged 17–80 years, and consists of 20 items. The psychometric analysis indicated high internal consistency, high reliability, and good concurrent validity of the scale.<sup>37</sup> The internal reliability coefficients were shown to be reasonably high (Pearson's  $r = 0.82$ – $0.93$  in seven norm groups), and the BHS test–retest reliability coefficients were found to be modest (0.69 after 1 week and 0.66 after 6 weeks).<sup>38</sup>

### Data analysis

The raw data were keyed into the SPSS version 21. Independent  $t$ -test was carried out to compare suicidal ideation, hopelessness, and psychological distress among males and females. Pearson's correlation was used to test the correlation between the variables, and multiple regression was conducted to examine the role of age, hopelessness, and psychological distress in suicidal ideation among youth.

### Results

The total number of participants was 232. The results in Table 1 show that most participants were aged between 15 and 17 years (44.8%), followed by those aged 18–21 years (27.2%) and 22–25 years (28.0%). The majority were males (55.6%), Malays (83.2%), Muslims (86.6%), and those who had completed upper secondary education (37.9%).

The results of independent  $t$ -test analysis for gender differences based on age, suicidal ideation, hopelessness, and psychological distress indicated that only suicidal ideation, anxiety, loss of motivation, and future expectations showed significant differences in terms of gender. In addition, the findings showed that male participants had a higher mean score than female participants in suicidal ideation, future feeling, loss of motivation, and future expectations, while female participants had a higher mean score than male participants in terms of depression, anxiety, and stress (Table 2).

Pearson's correlations were used to analyze the correlations between suicidal ideation and age, hopelessness, depression, anxiety, and stress for males and females. The overall

**Table 1** Demographic characteristics of the respondents

Characteristics	n	%
Age (years)		
15–17	104	44.8
18–21	63	27.2
22–25	65	28.0
Gender		
Male	129	55.6
Female	103	44.4
Ethnicity		
Malays	193	83.2
Non-Malays	41	16.9
Religion		
Islam	201	86.6
Other religions	31	13.3
Highest education		
No schooling	4	1.7
Primary education	67	28.9
Secondary education	88	37.9
Tertiary education	73	31.5

**Table 2** Gender differences in suicidal ideation, depression, stress, anxiety, and hopelessness

Variables	Gender	n	Mean	SD	t
Suicidal ideation	Male	129	14.89	7.920	2.049*
	Female	103	13.01	6.063	
Depression	Male	129	4.87	2.887	-1.898
	Female	103	5.71	3.680	
Anxiety	Male	129	5.67	3.058	-2.056*
	Female	103	6.59	3.661	
Stress	Male	129	6.84	3.069	-1.919
	Female	103	7.74	3.896	
Future feeling	Male	129	4.60	1.296	0.767
	Female	103	4.48	1.056	
Loss of motivation	Male	129	3.53	2.934	3.526**
	Female	103	2.40	1.957	
Future expectations	Male	129	2.79	1.604	1.977*
	Female	103	2.41	1.271	

Notes: \* $p < 0.05$ ; \*\* $p < 0.01$ .

Abbreviation: SD, standard deviation.

results showed that age was negatively correlated with suicidal ideation ( $r = -0.275$ ). All components in hopelessness (future feeling, loss of motivation, and future expectations) were significantly correlated with suicidal ideation. This finding showed that future feeling was negatively correlated with suicidal ideation ( $r = -0.147$ ), while loss of motivation ( $r = 0.235$ ) and future expectations ( $r = 0.210$ ) were positively correlated with suicidal ideation. In addition, it showed that depression ( $r = 0.281$ ) and anxiety ( $r = 0.171$ ) were positively correlated with suicidal ideation.

The results in Table 3 are divided for males and females. It shows that in males, age is negatively correlated with suicidal ideation ( $r = -0.334$ ), while depression is positively correlated with suicidal ideation ( $r = 0.184$ ). On the other hand,

**Table 3** Correlations of age, hopelessness, and depression with suicidal ideation

Variables	Component	Suicidal ideation (male)	Suicidal ideation (female)
Age	Not applicable	-0.334*	-0.161
Hopelessness	Future feeling	-0.131	-0.204**
	Loss of motivation	0.143	0.386*
	Future expectations	0.168	0.255**
Depression, anxiety, and stress	Depression	0.184**	0.477*
	Anxiety	0.129	0.292*
	Stress	0.045	0.215*

Notes: \* $p < 0.05$ ; \*\* $p < 0.01$ .

hopelessness components (future feeling, loss of motivation, and future expectations), depression, anxiety, and stress were significantly correlated with suicidal ideation among females.

Furthermore, the results using multiple regression showed that age is the only predictor of suicidal ideation among males, explaining 15.4% of the variance in suicidal ideation. On the other hand, depression was the best predictor of suicidal ideation among females, followed by loss of motivation, explaining 34% of the variance in suicidal ideation.

## Discussion

In earlier research studies, findings showed that females reported a higher tendency for suicidal thoughts and ideation compared to male adolescents,<sup>16,17</sup> which opposes the findings of this study. However, the latest findings in Malaysia showed that the level of suicidal ideation among male students is higher compared to female students,<sup>32</sup> which is in agreement with this study. This suggested that the males in this study might be more vulnerable to suicidal ideation, probably due to conduct problems as these seemed to increase the risk of suicidal thoughts, as found in other research works.<sup>12</sup>

The reasons of higher suicidal ideation among men could be attributed to a few factors. 1) In dealing with personal and also work-related stress, men are less likely to share and discuss about their problems or difficulty with their significant people and attending to psychological services compared to women.<sup>39-41</sup> 2) There are gender differences in terms of expression of emotion across cultures. In some Asian culture, men are expected to be reserved in terms of expression of sad emotion compared to women. This reflects to masculine identity of men in Asian cultures where they are expected to be strong not only physically but also emotionally.<sup>42</sup> Therefore, there is a tendency among small number of young people to have suicide thinking when they are under stress. In this stressful situation, they can be overwhelmed by irrational thought, negative emotion, feeling of hopelessness, and lack of social support, problem solving, and coping skills in dealing with their stressful life events.<sup>39,41</sup>

In addition, the findings of this study also showed that age is a predictor of suicidal ideation and is negatively correlated with suicidal ideation. This suggests that the younger they are, the more likely they will have suicidal ideation. It is probably due to depression and other life adversities, which later lead to a suicide.<sup>43</sup> However, Fergusson et al<sup>44</sup> estimated that the lifetime prevalence of suicidal ideation in a large birth cohort of boys climbed from a modest 9.5% at age 16 years to 24.5% at age 21 years. Peak levels of past-year ideation and plans occurred during mid adolescence for girls, but slowly increased through late adolescence for boys.<sup>45</sup> This can also be attributed to their limited coping skills and experience in life and also the way they solve the problem. Usually, women try to solve a problem by relying on the help of those close to them. They talk about their problem, discussing the situation in detail and how they could solve it. On the other hand, men approach problem solving with much less communication, and thus they keep their problem that may lead to suicidal ideation. This may reflect gender differences in the developmental maturity; women normally mature early compared to men. This may indirectly affect the differences in terms of coping skills and problem solving between men and women.<sup>18,46</sup>

Even though in this study males reported higher suicidal ideation compared to females, females suffered from depression at a much higher rate than males, which might show that they are at a higher risk for suicide. However, based on a previous finding,<sup>47</sup> females are less likely to commit suicide compared to males. This can be attributed to the ways in which females deal with problems and interact with others. They tend to share their experiences with friends, discuss their feelings, seek feedback, and take advice.<sup>48</sup> This study also found that females showed higher anxiety and stress than males. This is in line with a past finding that reported that female Vietnamese secondary school students had higher depression and anxiety compared to males.<sup>14</sup> Although it seemed that females had a higher rate of suicidal thoughts, males showed more

tendency to commit suicide due to fearlessness of death and physical pain insensitivity.<sup>43,49,50</sup> The number of cases of suicidal deaths was actually much higher (four times) among males than among females.<sup>51</sup>

The findings of this study showed that hopelessness was significantly correlated with suicidal ideation, similar to other studies.<sup>13,52</sup> In this study, future feelings of hopelessness was negatively correlated with suicidal ideation, while loss of motivation and future expectations were positively correlated with suicidal ideation among female youth in Malaysia. A previous finding had also found that hopelessness is one of the strongest predictors of adolescent suicidal ideation in Hong Kong.<sup>13</sup> According to Rutter and Behrendt,<sup>53</sup> hopelessness can predict suicidal tendency among adolescents. Individuals with high levels of hopelessness may isolate themselves and exhibit a less help-seeking behavior,<sup>52</sup> and hopelessness is also considered as a significant risk factor for suicide.<sup>52,54</sup>

Depression and anxiety are some of the mental health issues that affect adolescents' lives and can lead to family conflicts, substance abuse, social issues, violence, and suicide.<sup>14</sup> The findings in this study showed that there is an increase in suicidal ideation among youth nowadays and suicidal ideation is correlated positively with depression in both males and females. Moreover, this study found that depression was the strongest predictor of suicidal ideation. Earlier studies had also found that depression was the leading factor in suicidal ideation among youth,<sup>6,23,24</sup> as it was found that the majority of the adolescents who attempted suicide met the diagnostic criteria for depression.<sup>23,25,26</sup> In addition, suicidal thoughts increased their risks of psychiatric problems, suicide attempt, and suicide.<sup>55-57</sup> However, Lamis and Lester<sup>58</sup> found that depression is only a risk factor among female undergraduates. Another research found increasing rate of depressive symptomatology among females compared to males during early adolescence.<sup>59,60</sup> A previous study found that 11% of youth were inflicted by depressive disorder by 18 years of age, which was caused by possible risk factors such as substance abuse, issues involving self-esteem, relationship problems, family history, psychological issues, and psychological conditions.<sup>61</sup> Although depression was associated with suicidal ideation, Pinto and Whisman<sup>62</sup> suggested that depressive symptomatology alone was not sufficient to predict the risk for suicide. Based on this study, depressive symptoms combined with hopelessness tend to increase the risk of suicide, particularly among female youth.

The findings of this study also revealed that suicidal ideation was positively correlated with anxiety, similar to the results of several past research on anxiety disorders.<sup>30,63,64</sup>

Greene et al<sup>65</sup> found that generalized anxiety symptoms were associated with suicidality in children and adolescents who were referred for mental health assessments. Another previous study claimed depression and anxiety to be strong predictors of suicidal ideation among youth.<sup>66</sup> It can be influenced by many factors such as high educational stress, lower education and income of parents, and emotional abuse in the family.<sup>14</sup> Stress is also an important factor associated with suicidal ideation, and past studies suggest that stress may be due to academic pressure, family issues,<sup>14</sup> or sexual behaviors and other unhealthy risk behaviors.<sup>67</sup> Similar to any youth population of developing countries, Malaysian youth experience modernization and are affected by globalization. This leads to the needs of the family to improve their socioeconomic status. Therefore, educational achievement is the best platform for the Malaysian youth to secure a job in order to improve the socioeconomic condition of their family. The common expectation of parents from their children is to succeed in education and secure a job.<sup>68,69</sup> This expectation is indirectly potential to promote stress among Malaysian youth.<sup>70</sup> At this stage of development, peer influence is also strong. Therefore, in dealing with stress, Malaysian youth will easily consult with their peer compared to their parents. This may affect their decision and action in problem solving and coping with their stress. Besides this, in Malaysian culture, youth are expected to adhere to the gender role and identity. In terms of expression of emotion between genders, men are expected to be physically and emotionally strong. This is an important reflection of the masculine identity of Malaysian youth.<sup>42</sup>

However, in this study, anxiety and stress were not found to be predictors of suicidal ideation, which is in line with the findings by Ibrahim et al<sup>27</sup> on suicidal ideation among adolescents in Malaysia. Anxiety and stress symptoms might not be strong indicators of suicidal ideation, as they only explain the outcome of worries and stress and might not lead to suicidal behavior.

## Limitations

This study has a few limitations. With regard to research design, the present study applied cross-sectional design; hence, there is no causal relationship established. All measures were taken at one point in time, which means it was impossible to determine the time order of the variables. Our findings are limited to youth population in the urban community. Therefore, the results cannot be generalized to be included in other populations, especially in the rural community. This study just focused on the effect of depression and hopelessness on

suicidal ideation; hence, multiple risk factors should be added to the actual study to assess suicidal ideation. Perhaps, future research can examine the risk factors and protective factors simultaneously, which would help us identify the factors that are strong predictors of suicidal ideation.

## Conclusion

The results from this study provide empirical support to the findings that age, hopelessness, depression, anxiety, and stress are correlated with suicidal ideation and some of the variables become predictors. Hence, strategies and intervention programs should be implemented to strengthen individuals in managing distress and suicidal ideation. Depression and hopelessness, especially loss of motivation, are important factors and should be given due attention in any program related to youth in dealing with circumstances that lead to suicidal behavior, considering that the suicide rate is increasing day by day. If there is no early intervention program, especially on suicidal ideation, it will cause a bad impact and a loss to the country because youth are leaders of tomorrow and an empowered young generation is a pillar of nation's future.

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## Disclosure

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