

# The Influence of Coping Skills on Psychological Distress and Suicide Attitude among University Students in Malaysia

Norhayati Ibrahim<sup>1,2</sup>, A'isyah Mohd Safien<sup>1</sup>, Ching Sin Siau<sup>1</sup>

<sup>1</sup> Health Psychology Program, Faculty of Health Sciences, Universiti Kebangsaan Malaysia, Kuala Lumpur, Malaysia

<sup>2</sup> Research Centre for Healthy Aging and Wellness, Faculty of Health Sciences, Universiti Kebangsaan Malaysia, Kuala Lumpur, Malaysia

**Keywords:** Psychological Distress, Coping Skills, Suicide, University Students.

**Abstract:** Suicide is a leading cause of death among university students worldwide. The reduction of psychological distress and suicidality is related to the adoption of effective coping strategies. This study sought to explore the associations between psychological distress, coping style and suicide attitude among university students in Malaysia. This study was conducted upon 178 students in two universities from public and private settings. Participants completed four self-report questionnaires, namely the Kessler Psychological Distress Scale (K10), Brief COPE and Yatt Suicide Attitude Scale (YSAS). Students from the private university showed significantly higher levels of psychological distress compared to students from the public university, but their suicide attitude did not differ significantly. There is a significant relationship between psychological distress and suicide attitude participant ( $r = .263, p < .001$ ) and the most commonly employed coping strategies among them were the Religion and Positive Reframing domains. Behavioral Disengagement and Self-Blame predicted higher psychological distress, whereas participant were Substance Use, Planning and Self-Blame predicted higher suicide attitude. The suicide rate is rising and young adults need to adopt appropriate and effective coping strategies, especially among university students. Both public and private university students should be targeted for regular screening for psychological distress and suicidality as they are a psychologically vulnerable population.

## 1 INTRODUCTION

Suicide is a public health issue globally, as there are about 800,000 suicide deaths annually (Organization, 2018). Up to 60% of the world's deaths from suicide occur among the Asian population (Beautrais, 2006). Lower and middle-income countries (LMICs) in southern and eastern regions in Asia recorded the highest suicide rate in the world, at 17.7 per 100,000 population. The number of suicide cases in Malaysia is rising, and a systematic review revealed a rate of 6 to 8 per 100,000 population (Armitage et al., 2015). However, suicide prevention research in Asia is scarce (Chen et al., 2011).

Suicide is the second leading cause of death among young people between the ages of 15 to 24 years old (Organization, 2018). Notably, suicide is a leading cause of death among college students (Ross, 1969; Taub and Thompson, 2013), with rising incidence and prevalence in Asian countries (Garlow et al., 2008). Even in Muslim majority countries

where suicide is largely prohibited, suicide ideation and attempt among university students from 12 nations, including Malaysia, was as high as 22% and 8.6% respectively (Eskin et al., 2018). In Malaysia, suicide occurs more commonly among younger Malaysians, as opposed to a higher prevalence among older adults in the US (Maniam et al., 2014). A study among adolescents in Malaysia reported that 12.6% of the participants indicated severe suicidal ideation (Ibrahim et al., 2014). Another study among Malaysian medical students reported about 7% were suicidal (Tan et al., 2015). As suicide is a significant problem among university students, it is imperative to examine the factors leading to suicidal ideation and its protective factors in Malaysia (Abdollahi et al., 2015).

There were a number of factors which predicted suicidality among university students, among which stress is a salient issue (MacKean, 2016). Being a university student involves an important transition to living independently and facing challenges academically (Shamsuddin et al., 2013). (MacKean, 1

06) stated that university students are exposed to two sources of stressors: stress related to the transition from high school to university, and stress related to the transition from adolescence to adulthood. Stressors which originate from academic (personal expectations, performance and homework) and non-academic issues (body image, social issues, relationships, violence and death) (Chao, ) could lead to psychological distress.

In Malaysia, according to (Shamsuddin et al., 2013) study on 506 university students across four universities in the Klang Valley, 18.6% reported moderate and 5.1% reported severe or extremely severe stress. Another study among medical students in Malaysia indicated that 29.6% reported suffering from stress, of which the top 10 sources of stress were related to academic problems (Yusoff et al., 2010). Other stressors affecting young people originate from relationship problems, family problems, academic issues, and emotional problems (Smith et al., 2015). The relationship between psychological distress and suicide have been well-established (Grover et al., 2009; Zhang et al., 2012) and stressful life events are power predictors of suicidality (Bantjes et al., 2016).

Coping refers to an individual's cognitive and behavioral efforts to master, reduce, or tolerate internal and external stressors (Folkman and Lazarus, 1980). Folkman and Lazarus (1980) proposed two methods an individual usually employs to deal with negative situations: problem-focused coping, where efforts, by any means, are made to change the stressful situation, and emotion-focused coping, in which an individual tries to reduce the negative emotional state without changing the actual circumstances. Problem-focused coping includes Confrontative Coping, Seeking Social Support and Plan Full Problem-Solving, whereas emotion-focused coping includes Self-Control, Seeking Social Support, Distancing, Positive Appraisal, Accepting Responsibility, and Escape/Avoidance. Another model of coping proposed by (Carver et al., 1989) grouped Active Coping, Planning, Restraint Coping, Seeking Social Support for Instrumental Reasons, and Suppression of Competing Activities into problem-focused coping and Positive Reinterpretation and Growth, Religion, Humor, Acceptance, and Seeking Social Support into emotion-focused coping. They also introduced a new domain of coping strategy, namely Dysfunctional Coping which comprises of Venting of Emotions, Denial, Behavioral Disengagement, Mental Disengagement and Alcohol/Drug Use (Carver et al., 1989).

Coping styles have been associated with university students' level of psychological distress and suicidality. Therefore, it is important for researchers to look into the types of coping skills practiced by universities students. Recognition of this factor will help in reducing the direct effect of psychological distress as discussed above. This study aims to examine the level of psychological distress, suicide attitude and coping styles of university students, and the interrelationship between these variables.

## 2 METHODS

### 2.1 Research Design

This cross-sectional study using survey method was carried out among university students from March to April 2019.

### 2.2 Participants

A total of 178 Malaysian students from a public and a private university were recruited.

### 2.3 Instruments

#### 2.3.1 Psychological Distress

Students' stress level was measured using the Kessler Psychological Distress Scale (K10) which was developed by (Kessler and Mroczek, 3 10) to screen for psychological distress in the general population. The scale consists of 10 questions addressing the level of anxiety and depressive symptoms a person may have experienced in the recent four-week period. Each item was assessed with a 5-point Likert Scale ranging from 1="none of the time" to 5="all of the time". The internal reliability of this scale is high with Cronbach's alpha value of .0.91 among a student sample in Malaysia (Rajiah et al., 2014). The reliability value of the K10 scale for schizophrenia caregivers in Malaysia was 0.87 (Ong et al., 2016).

#### 2.3.2 Suicide Attitude

The Yatt Suicide Attitude Scale (YSAS) was developed in Malaysia to measure suicidal ideation and suicide attempt (Ibrahim et al., ). This questionnaire consisted of 10 items, of which five items questioned the participants' experiences with suicidal ideation and suicide attempt respectively. Participants answer on a 5- point Likert scale ranging

from 1="Never" to 5="Very Frequently". The questionnaire was validated among Malaysian youth aged between 18 and 25 years old, confirming the two-factor structure of suicidal ideation and suicide attempt. The reliability of this scale was further evaluated in a group of 219 Malaysian students from a public university, with Cronbach's alpha value of .840.

### 2.3.3 Coping Skills

To measure the coping skills among the participant, the researchers employed the brief form of COPE scale (Carver, 1997). The COPE Inventory was first developed to assess a broad range of coping responses, several of which had an explicit basis in theory. The Brief COPE inventory consisted of 28 items under 14 domains of coping strategies. Participants answer on a 4-point Likert scale ranging from 1="I have not been doing this at all" to 4="I have been doing this a lot". The questionnaire subscales showed Cronbach's alpha coefficients ranging from 0.39 (Restraint Coping) to 0.92 (Humor) in undergraduate students in Turkey (Bacanli et al., 2013).

The total alpha value of the Malay version of Brief COPE was validated by (Yusoff, 2011) on secondary school students was 0.83. Some of the coping skill showed high internal consistency and some of them showed acceptable internal consistency [self-distraction (0.58), Active Coping (0.73), Denial (0.34), Substance Abuse, Emotional Support (0.67), instrumental support (0.77), Behavioral Disengagement (0.82), Venting (0.44), Positive Reinterpretation (0.75), Planning (0.69), Humor(0.51), Acceptance (0.02), Religion (0.84), Self-blame (0.83)].

### 2.4 Procedures

The participants were approached before their lectures. They completed the questionnaires in about 5 to 10 minutes. This study was approved by the Universiti Kebangsaan Malaysia Research Ethics Committee (NN- 2018-060) and was funded by Geran Galakan Penyelidikan Universiti Kebangsaan Malaysia (GGP- 2017-059).

### 2.5 Data Analysis

This study used the Statistical Package of Social Sciences (SPSS) version 22 software for Windows to analyses the data. During data analysis, descriptive and categorical variables were

summarized as frequencies and percentages. The independent sample t-test was conducted to compare psychological distress and suicide attitude according to type of institution. The Pearson's correlation test was performed to test for significant relationships between coping style with psychological distress and suicide attitude. Significant variables were entered into multiple linear regression models to test the significance of the coping skills as predictors of psychological distress and suicide attitude.

## 3 RESULTS

The participants of this study were Malaysian students from a private (55.1%) and a public university (44.9%). Female participants were dominant in the sample, which constitutes up to 66.9% of them. Most of the participants were aged between 20 to 21 years old (49.4%), Malay (78.7%). In terms of monthly household income, the highest number of them came from families with RM3001 to RM5000 (25.3%) and households with less than RM1000 monthly income make up the smallest group (5.6%). This study involved mostly first and second year students (80.3%) and more than half of them were scholarship recipients (50.6%) (Refer Table 1).

Private university students indicated significantly higher levels of psychological distress ( $Mean=2.71$ ,  $SD=.73$ ) in comparison with the public university students,  $t(142.333) = 2.266$ ,  $p = .025$ .

However, there were no significant differences in suicide attitude between the two groups  $t(176) = .065$ ,  $p = .949$  (Refer Table 2).

Based on mean, students from private and public universities shared the highest coping skills in two domains, namely Religion ( $Mean=3.64$ ,  $SD = .53$ ;  $Mean=3.38$ ,  $SD = .76$ ) and Positive Reframing ( $Mean=3.45$ ,  $SD=.61$ ;  $Mean=3.22$ ,  $SD = .76$ ). Similar trends were also reported in coping skills which were less used by the participants, i.e. the Substance Use domain ( $Mean=1.23$ ,  $SD=.60$ ;  $Mean = 1.12$ ,  $SD = .47$ ) and Behavioral Disengagement domain ( $Mean=2.38$ ,  $SD = .79$ ;  $Mean=1.66$ ,  $SD = .70$ ).

Psychological distress showed a significant positive relationship with YSAS ( $r = .263$ ,  $p < .001$ ). This means, the higher the psychological distress level of a person, the more likely it is for him/her to report suicidal ideation and suicide attempt. A Pearson correlation was conducted between coping styles with psychological distress and suicide attitude in order to determine significant variables to be inserted into the multiple regression models (refer

Table 1: Demographic data of participants

Characteristics	Frequency	Percentage (%)
University		
Private	98	55.1
Public	80	44.9
Gender		
Male	59	33.1
Female	119	66.9
Age		
18-19 years old	14	7.9
20-21 years old	88	49.4
22-25 years old	76	42.7
Race		
Malay	140	78.7
Chinese	17	9.6
Indian	12	6.7
Others	9	5.1
Family Income		
<RM1000	19	10.7
RM1001-3000	39	21.9
RM3001-5000	45	25.3
RM5001-7000	38	21.3
RM7001-10000	27	15.2
10001 and above	10	5.6
Year of Study		
1-2	143	80.3
3-4	35	19.7
Source of Fee		
Scholarship	90	50.6
Parents	44	24.7
Half Sponsored	44	24.7

Table 3).

A multiple linear regression was conducted to test if Denial, Behavioral Disengagement, Humor, Acceptance and Self-Blame significantly predicted participants' psychological distress. The results of the regression indicated the predictors accounted for 19.7% of the variance in psychological distress ( $R^2 = 0.197$ , adjusted  $R^2 = 0.173$ ,  $F(5, 177) = 8.42$ ,  $p < .001$ ). Only two domains in coping skills significantly predicted psychological distress after adjusting for other coping skills, namely Behavioral Disengagement ( $\beta = 0.260$ ,  $p < 0.01$ ) and Self-Blame ( $\beta = 0.372$ ,  $p < .01$ ) (refer Table 4).

Another multiple linear regression was conducted to test if Substance Use, Positive Reframing, Planning, and Self-Blame significantly predicted participants' suicide attitude. The results of the regression indicated the predictors accounted for 13.7% of the variance in suicide attitude ( $R^2 = 0.137$ , adjusted  $R^2 = 0.117$ ,  $F(4, 177) = 6.89$ ,  $p < 0.001$ ). Suicide attitude was significantly predicted by Substance Use ( $\beta = 0.270$ ,  $p < .001$ ), Planning ( $\beta =$

$0.024$ ,  $p < .01$ ) and Self-Blame ( $\beta = 0.189$ ,  $p < 0.05$ ).

#### 4 DISCUSSION

This study aimed to examine the levels of, and associations between psychological distress, suicidality and coping style. There is an association between psychological distress and suicidality. Those who used behavioral disengagement and self-blame were more likely to be psychologically distressed, while those who had higher substance use, higher self-blame and lower planning coping styles indicated higher suicidality.

In the current study, the results indicated that private university students were more psychologically distressed compared to public university students. This is similar to (Babar et al., 2015) study, where the perceived stress level of dental students in private universities in Malaysia were higher than that of dental students from public universities. The same trend was also observed in (Saravanan and Wilks, 2014) study. A possible explanation could be the high tuition fees in private universities, as the fees may cost 3 to 5 times higher than public institutions (Digest, 2014). The higher fees may translate into higher psychological distress experienced by private students for fear of unemployment upon graduation and as a consequence, being unable to repay student loans (Babar et al., 2015).

Psychological distress is an independent factor affecting suicidality among university students. This is in congruent with the former findings by (Mitchell et al., 2008), (Krysinska and Lester, 2010), (Lane et al., 2012) and (Davis et al., 2014), who found that psychological distress is a major risk factor for suicidal ideation and suicide attempt. (Laurence et al., 2009) found that academic factors (exams, fear of falling, a shortage in clinical time) as well as decrease in self-esteem were a source of stress among their participants. (Cheng, 1999) reported that high expectations of teachers, parents, and self were also stress factors to be considered.

It is interesting to note that the risk factors discussed above only affects a number of people. This may due to the student's coping strategies in dealing with the stressful situations. (Compas et al., 2001) suggest that coping is a means to resolve the stressful situation and minimize emotional reaction. It is the type of coping style that determines the psychological health of a person (Seiffge-Krenke, 2004; Loukzadeh and Bafrooi, 2013). As in the current study, Behavioral Disengagement and Self-Blame domain were significantly related to Psychological distress

Table 2: Independent t-test results comparing Psychological Distress and Yatt Suicide Attitude Scale according to type of institution

Variable	Private		Public		p
	M	SD	M	SD	
Psychological Distress	2.71	.73	2.41	.98	.025*
Yatt Suicide Attitude Scale	1.12	.24	1.12	.19	.949

Note.  $p < .05^*$

Table 3: Correlations between coping styles with the psychological distress and suicide attitude

Coping Styles	Correlation coefficient	
	Psychological Distress	Yatt Suicide Attitude Scale
Self-Distraction	.143	.074
Active Coping	.046	-.035
Denial	<b>.237**</b>	.039
Substance Use	-.014	<b>.287**</b>
Emotional Support	-.077	-.072
Instrumental Support	-.126	-.087
Behavioral Disengagement	<b>.351**</b>	.113
Venting	.127	.034
Positive Reframing	-.028	<b>-.161*</b>
Planning	-.087	<b>-.236**</b>
Humor	<b>.313**</b>	.102
Acceptance	<b>.190*</b>	-.067
Religion	.090	-.126
Self-Blame	<b>.375**</b>	<b>.147*</b>

Note. \*  $p < .05$ , \*\*  $p < .01$

Table 4: Multiple linear regression coping styles with psychological distress and suicide attitude

Coping Style	Psychological Distress			Yatt Suicide Attitude Scale		
	B	SE B	$\beta$	B	SE B	$\beta$
Denial	.093	.402	.019			
Substance Use				.534	.143	<b>.270***</b>
Behavioral Disengagement	1.347	.447	<b>.260**</b>			
Positive Reframing				-.322	.116	<b>-.204**</b>
Planning				-.009	.098	-.007
Humor	-1.479	.939	-.194			
Acceptance	.504	.467	.079			
Religion						
Self-Blame	1.922	.609	<b>.372**</b>	.245	.106	<b>.189*</b>
$R^2$ ; adjusted $R^2$	.197; .173			.137; .117		
F	8.42***			6.89***		

while suicide behavior was positively related to different style of coping skills. (Horwitz et al., 2011), (Fear et al., 2009) and (Ullman and Najdowski, 2009) found that behavioral disengagement and self-blame were predictive of higher levels of depression and suicidal ideation. Although the directionality of the

associations is unknown, behavioral disengagement is one of the symptoms of depression (Horwitz et al., 2011). Self-Blame played both roles; it may stimulate adaptive coping, on the other hand, it may lead to guilt and, subsequently, depression (Blakely et al., 1991; Karlsen and Bru, 2002). That may be the reason why



the Self-Blame domain is correlated to both of the instruments measuring suicidal behavior.

Another two coping skills, namely Substance Use and Planning also correlated significantly with the suicide attitude of the participants. (Wilcox et al., 2004) described the suicide risk in substance abusers in their meta-analysis study where individuals with an alcohol use disorder increased their suicide risk by approximately 9.8 times, 13.5 times for opioid use disorder and 16.9 times among those with polysubstance use. The disinhibition caused these substances, such as alcohol, may lead to a higher likelihood to carry out a more lethal suicide attempt. Another study on university students in Malaysia revealed that those who utilized an evasive coping style were more likely to have higher suicidal ideation (Din et al., 2018). This is in line with those who used substance abuse to escape their problems rather than resolve them.

The significant negative correlation between the Planning domain of coping skills with suicide attitude in this study is in agreement with (Pollock and Williams, 2004; Konkan et al., 2014). (Pollock and Williams, 2004) suggested that reducing the use of problem-focused coping strategies such as planning may increase the probability to a suicide attempt and a tendency to ruminate on rather than proactively resolve the problem. As a result, the individual may not be able to see a way out of their problem, and increase their likelihood of ideating and attempting suicide.

This study may contribute to the benefit of the society considering that some of the coping skill are a strong risk factors for psychological distress and suicidal especially among university students. These findings should serve as a guide for the improvement of psycho-education efforts by improving students coping skill in all academic settings as they will directly influence the mental health and thus providing a knowledge on specific cultural context of psychological distress and suicide attitude in Malaysia.

This study has a few limitations. First of all, this a cross-sectional study limited to students of two universities, therefore the results need to be compared with other studies obtained in Malaysia. However, the results indicate that there is a need to conduct future prevalence studies on students' psychological distress and suicidality in tandem with their coping skills. In order for the data obtained to be generalized to the Malaysian population, future studies should employ cluster randomized sampling to involve both rural and urban areas of Malaysia.

## 5 CONCLUSIONS

Stress and depression have been well-known predisposing factors for increased suicidality among university students globally. Effective programs and professional help in fostering their active and adaptive coping strategies must be established by the university administration, generally, and adopted by students specifically, so the negative emotions can be managed well. This in turn will benefit for psychological health of the students.

## REFERENCES

- Abdollahi, A., Abu Talib, M., Yaacob, S., and Ismail, Z. (2015). The role of hardiness in decreasing stress and suicidal ideation in a sample of undergraduate students. *Journal of Humanistic Psychology*, 55(2):202–222.
- Armitage, C., Panagioti, M., Rahim, W., Rowe, R., and O'Connor, R. (2015). Completed suicides and self-harm in malaysia: a systematic review. *General Hospital Psychiatry*, 37(2):153–165.
- Babar, M., Hasan, S., Ooi, Y., Ahmed, S., Wong, P., Ahmad, S., and Malik, N. (2015). Perceived sources of stress among Malaysian dental students. *International Journal of Medical Education*, 6:56.
- Bacanli, H., Surucu, M., and Ilhan, T. (2013). An investigation of psychometric properties of coping styles scale brief form: A study of validity and reliability. *Educational Sciences: Theory and Practice*, 13(1):90–96.
- Bantjes, J., Kagee, A., McGowan, T., and Steel, H. (2016). Symptoms of posttraumatic stress, depression, and anxiety as predictors of suicidal ideation among south african university students. *Journal of American College Health*, 64(6):429–437.
- Beautrais, A. (2006). Suicide in asia. *Crisis*, 27(2):55–57.
- Blakely, A., Howard, R., Sosich, R., Murdoch, J., Menkes, D., and Spears, G. (1991). Psychiatric symptoms, personality and ways of coping in chronic fatigue syndrome. *Psychological Medicine*, 21(2):347–362.
- Carver, C. (1997). You want to measure coping but your protocol's too long: Consider the brief cope. *International Journal of Behavioral Medicine*, 4(1):92.
- Carver, C., Scheier, M., and Weintraub, J. (1989). Assessing coping strategies: a theoretically based approach. *Journal of Personality and Social Psychology*, 56(2):267.
- Chao, R. Managing perceived stress among college students: The roles of social support and dysfunctional coping. *Journal of College Counseling*, 15(1):5–21.
- Chen, Y., Chien-Chang Wu, K., Yousuf, S., and Yip, P. (2011). Suicide in asia: opportunities and challenges. *Epidemiologic Reviews*, 34(1):129–144.

- Cheng, C. (1999). *Life Stress of and Guidance for Adolescents*. Psychological Publishing Co., Ltd, Taipei.
- Compas, B., Connor-Smith, J., Saltzman, H., Thomsen, A., and Wadsworth, M. (2001). Coping with stress during childhood and adolescence: Problems, progress, and potential in theory and research. *Psychological Bulletin*, 127(1):87–127.
- Davis, M., Witte, T., and Weathers, F. (2014). Posttraumatic stress disorder and suicidal ideation: The role of specific symptoms within the framework of the. Digest, M. (2014).
- Din, N. C., Ibrahim, N., Amit, N., Kadir, N. B. A., and Halim, M. R. T. A. (2018). Reasons for living and coping with suicidal ideation among adolescents in malaysia. *The Malaysian journal of medical sciences: MJMS*, 25(5):140.
- Eskin, M., Albuhairan, F., Rezaeian, M., Abdel-Khalek, A., Harlak, H., El-Nayal, M., and Hamdan, M. (2018). Suicidal thoughts, attempts and motives among university students in 12 muslim-majority countries. *Psychiatric Quarterly*, page 1–20.
- Fear, J., Champion, J., Reeslund, K., Forehand, R., Colletti, C., Roberts, L., and Compas, B. (2009). Parental depression and interparental conflict: Children and adolescents' self-blame and coping responses. *Journal of Family Psychology*, 23(5):762.
- Folkman, S. and Lazarus, R. (1980). An analysis of coping in a middle-aged community sample. *Journal of Health and Social Behavior*, page 219–239.
- Garlow, S., Rosenberg, J., Moore, J., Haas, A., Koestner, B., Hendin, H., and Nemeroff, C. (2008). Depression, desperation, and suicidal ideation in college students: results from the american foundation for suicide prevention college screening project at emory university. *Depression and Anxiety*, 25(6):482–488.
- Grover, K., Green, K., Pettit, J., Monteith, L., Garza, M., and Venta, A. (2009). Problem solving moderates the effects of life event stress and chronic stress on suicidal behaviors in adolescence. *Journal of Clinical Psychology*, 65(12):1281–1290.
- Horwitz, A., Hill, R., and King, C. (2011). Specific coping behaviors in relation to adolescent depression and suicidal ideation. *Journal of Adolescence*, 34(5):1077–1085.
- Ibrahim, N., Amit, N., and Suen, M. (2014). Psychological factors as predictors of suicidal ideation among adolescents in malaysia. *PLoS One*, 9(10):110670.
- Ibrahim, N. D., N., A. N., Ghazali, S., and Mohd Safien, A. Development and validation of yatt suicide attitude scale. In *(YSAS) in Malaysia*. *PLoS One*, page 14–2.
- Karlsen, B. and Bru, E. (2002). Coping styles among adults with type 1 and type 2 diabetes. *Psychology, Health & Medicine*, 7(3):245–259.
- Kessler, R. and Mroczek, D. (1994-03-10). Final versions of our non-specific psychological distress scale. memo year.
- Konkan, R., Erkuş, G., Güçlü, O., Şenormancı, ., Aydin, E., Ülgen, M., and Sungur, M. (2014). Coping strategies in patients who had suicide attempts. *Nöro Psikiyatri Arşivi*, 51(1):46.
- Krysinska, K. and Lester, D. (2010). Post-traumatic stress disorder and suicide risk: A systematic review. *Archives of Suicide Research*, 14(1):1–23.
- Lane, M., Hourani, L., Bray, R., and Williams, J. (2012). Prevalence of perceived stress and mental health indicators among reserve-component and active-duty military personnel. *American Journal of Public Health*, 102(6):1213–20.
- Laurence, B., C., and Eiland, D. (2009). The prevalence and socio-demographic correlations of depression, anxiety, and stress among a group of university students. *Journal of American Health*, 58:94–105.
- Loukzadeh, Z. and Bafrooi, N. (2013). Association of coping style and psychological well-being in hospital nurses. *Journal of Caring Sciences*, 2(4):313.
- MacKean, G. (2011-06). Mental health and well-being in post-secondary education settings. In *CACUSS preconference workshop on mental health*.
- Maniam, T., Marhani, M., Firdaus, M., Kadir, A., Mazni, M., Azizul, A., and Jasvindar, K. (2014). Risk factors for suicidal ideation, plans and attempts in malaysia—results of an epidemiological survey. *Comprehensive psychiatry*, 55:121–125.
- Mitchell, A. M., Crane, P. A., and Kim, Y. (2008). Perceived stress in survivors of suicide: psychometric properties of the perceived stress scale. *Research in nursing & health*, 31(6):576–585.
- Ong, H., Ibrahim, N., and Wahab, S. (2016). *Psychology Research and Behavior*, 2016(9):211–218.
- Organization, W. H. (2014-02-28). Preventing suicide: A global imperative. geneva: World health organization. Retrieved.
- Pollock, L. and Williams, J. (2004). Problem-solving in suicide attempters. *Psychological Medicine*, 34(1):163–167.
- Rajiah, K., Coumaravelou, S., and Ying, O. (2014). Relationship of test anxiety, psychological distress and academic motivation among first year undergraduate pharmacy students. *Int J Appl Psychol*, 4(2):68–72.
- Ross, M. (1969). Suicide among college students. *American Journal of Psychiatry*, 126(2):225.
- Saravanan, C. and Wilks, R. (2014). Medical students' experience of and reaction to stress: the role of depression and anxiety. *The Scientific World Journal*.
- Seiffge-Krenke, I. (2004). Adaptive and maladaptive coping styles: Does intervention change anything? *European Journal of Developmental Psychology*, 1(4):367–382.
- Shamsuddin, K., Fadzil, F., Ismail, W., Shah, S., Omar, K., Muhammad, N., and Mahadevan, R. (2013). Correlates of depression, anxiety and stress among malaysian university students. *Asian Journal of Psychiatry*, 6(4):318–323.
- Smith, S., Smith Carter, J., Karczewski, S., Pivarunas, B., Suffoletto, S., and Munin, A. (2015). Mediating effects of stress, weight-related issues, and depression on suicidality in college students. *Journal of American College Health*, 63(1):1–12.

- Tan, S., Sherina, M., Rampal, L., and Normala, I. (2015). Prevalence and predictors of suicidality among medical students in a public university. *Medical Journal of Malaysia*, 70(1):1–5.
- Taub, D. and Thompson, J. (2013). College student suicide. *New Directions for Student Services*, 2013(141):5–14.
- Ullman, S. and Najdowski, C. (2009). Correlates of serious suicidal ideation and attempts in female adult sexual assault survivors. *Suicide and Life-Threatening Behavior*, 39(1):47–57.
- Wilcox, H., Conner, K., and Caine, E. (2004). Association of alcohol and drug use disorders and completed suicide: an empirical review of cohort studies. *Drug and Alcohol Dependence*, 76:11–19.
- Yusoff, M. (2011). The validity of the malay brief cope in identifying coping strategies among adolescents in secondary school. *International Medical Journal*, 18(1):29–33.
- Yusoff, M., Rahim, A., and Yaacob, M. (2010). Prevalence and sources of stress among universiti sains malaysia medical students. *The Malaysia Journal of Medical Sciences*, 17(1):30.
- Zhang, X., Wang, H., Xia, Y., Liu, X., and Jung, E. (2012). Stress, coping and suicide ideation in chinese college students. *Adolescence*, 35(3):683–690.

