อิทธิพลของความเครียดต่อภาวะอารมณ์ซึมเศร้า: อิทธิพลตัวแปรกำกับของการสนับสนุนจากเพื่อนและการรับรู้ประสิทธิภาพแห่งตน

THE INFLUENCES OF STRESS ON DEPRESSIVE MOODS: THE MODERATING EFFECTS OF PEER SUPPORT AND SELF-EFFICACY

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บทคัดย่อ

อิทธิพลของความเครียดและภาวะอารมณ์ซึมเศร้าเป็นที่รู้ดีว่าส่งผลกระทบที่เป็นอันตรายต่อสุขภาพและจิตใจของแต่ละบุคคล นักศึกษาวิทยาลัยมีความเสี่ยงกับประสบการณ์ที่ตึงเครียดดังนั้นจึงมีความเสี่ยงต่อภาวะอารมณ์ซึมเศร้า การวิจัยครั้งนี้ทดสอบอิทธิพลตัวแปรกำกับของปัจจัยทางจิตวิทยา ได้แก่ 1). การสนับสนุนจากเพื่อน 2). การรับรู้ประสิทธิภาพแห่งตน โดยแยกจากกันกับความสัมพันธ์ระหว่างความเครียดและภาวะอารมณ์ซึมเศร้า กลุ่มตัวอย่างที่ใช้ในการวิจัยครั้งนี้ เป็นนักศึกษาวิทยาลัยชาวไทยระดับปริญญาตรีที่เข้าร่วมโครงการนานาชาติ รวมทั้งสิ้น 100 คน เครื่องมือที่ใช้ในการวิจัยเป็นแบบสอบถามเกี่ยวกับภาวะอารมณ์ซึมเศร้า ความเครียด การสนับสนุนจากเพื่อนและการรับรู้ประสิทธิภาพแห่งตน สถิติที่ใช้ในการวิเคราะห์ข้อมูล ได้แก่ การวิเคราะห์สหสัมพันธ์ การวิเคราะห์อิทธิพลการกำกับ ผลการวิจัยพบว่าความสัมพันธ์ระหว่างความเครียดและภาวะอารมณ์ซึมเศร้าได้รับอิทธิพลกำกับจากการสนับสนุนจากเพื่อนอย่างมีนัยสำคัญ โดยความสัมพันธ์นี้จะสูงในบุคคลที่มีการสนับสนุนจากเพื่อนต่ำกว่าบุคคลที่มีการสนับสนุนจากเพื่อนสูง ($b = 1.67$, $t(95) = 8.60$, $p < .001$) ความสัมพันธ์ระหว่างความเครียดและภาวะอารมณ์ซึมเศร้าได้รับอิทธิพลกำกับจากการการรับรู้ประสิทธิภาพแห่งตนอย่างมีนัยสำคัญ โดยความสัมพันธ์นี้จะสูงในบุคคลที่มีการรับรู้ประสิทธิภาพแห่งตนต่ำกว่าบุคคลที่มีการสูง

(b = 1.42, t(95) = 6.36, p < .001) ผลจากการวิจัยครั้งนี้ช่วยเพิ่มข้อมูลสำหรับกลุ่มตัวอย่างนี้และสามารถ ใช้ในการปรับปรุงและแทรกแซงการป้องกันและการรักษาเพื่อช่วยให้นักศึกษารับมือกับความเครียดและอารมณ์ซึมเศร้า

คำสำคัญ: ความเครียด; ภาวะอารมณ์ซึมเศร้า; การสนับสนุนจากเพื่อน; การรับรู้ประสิทธิภาพแห่งตน

ABSTRACT

The influences of stress and depressive moods are notoriously and widely known to be harmful for an individual's psychological and physical well-being. College students are more at risk of experiencing stressful experiences and, therefore, susceptible to depressive moods. This paper examines the moderating effects of two psychological factors: 1) peer support and 2) self-efficacy separately on the relationship between stress and depressive moods. A total of 100 participants who were undergraduate Thai students attending international programs participated in the current study. The participants responded to the measures of depressive moods, stress, peer support and self-efficacy. Data analyses were conducted using bivariate correlations and standard moderated regression analyses. A significant moderating effect of peer support on the relationship between stress and depressive moods was found, with a stronger relationship for those with lower peer support (b = 1.67, t(95) = 8.60, p < .001). Self-efficacy also significantly moderated the link between stress and the moods, the relationship was stronger among participants who had lower self-efficacy (b = 1.42, t(95) = 6.36, p < .001). The results from this study helped fill the research gap for this particular sample and can be used to improve preventative and therapeutic interventions and strategies to help college students cope with stress and depressive moods.

Keywords: stress; depressive moods; peer support; self-efficacy

Introduction

Transitioning from high school to college can be disconcerting for most individuals. The new era involves a heightened sense of vulnerability, as individuals have to navigate unfamiliar roles that are progressively more adult, such as financial responsibility, making new relations and endure a large amount of work (Taylor, Doane & Eisenberg, 2013). These new responsibilities can accumulate, become stressful for the students, and have negative consequences. Research suggests that university students are more susceptible to developing depressive moods or low levels of mental health in general (Mahmoud et al., 2012; Taylor et al., 2013; Sarokhani et al., 2013; January et al., 2018). Moreover, there has been an increase in the prevalence of depression in university students in past years (Duffy, Twenge and Joiner, 2019; Sandra, 2019; Sarokhani et al., 2013). A decade long study looked into trends in anxiety, mood and suicidal ideation among U.S. university students and found that suicidal ideation, self-harming and depression rates had more than doubled (Duffy et al., 2019). In addition to the rise of mental health issues, there has also been a concurrent rise in students seeking mental health services - a study found a 15% increase in demand in 10 years (Lipson, Lattie & Eisenberg, 2019), however, many universities are not able to keep up with the demand (Xiao et al., 2017).

Attempts have been made to clarify where depressive moods may arise from, one of the sources identified is stress (Hammen, 2005). Stress is a condition in which a person feels aroused and anxious as a result of an uncontrollable adverse stimulus or situation that restrains an individual's adaptive capacity (Hammen, 2005; Salleh, 2008). When stress is perceived as exceeding our coping abilities, stress may exert its negative effects on individual mental and physical outcomes (Fevre, Kolt, & Matheny, 2006), which develop into depressive moods (Hammen, 2005). The degree to which stress will cause negative influences on individuals relies on individual vulnerability and external environmental factors (Salleh, 2008). Among the variables that increased likelihood that stress will turn into depression include biological, developmental, sociodemographic, and psychological variables (Hammen, 2005). Even though stress may have an influence on the development of depressive moods and subsequently depression, past literature review suggested two protective factors that can moderate the impact of stress on depression. These are peer support and self-efficacy.

Previous studies suggested that peer support served as a moderator between the potential deleterious influences of stress and depression (Pfeiffer, Heisler, Piette, Rogers, & Valenstein, 2010; Rodriguez, Mira, Morris, & Cardoza, 2003). Peer support is a process in which individuals who encounter similar challenges reach one another as equals to offer and acquire help, empathy, and encouragement (Rodriguez et al., 2003; Pfeiffer et al., 2010). Dennis (2003) proposed that peer support interventions exert their positive effects on health outcomes through the buffering mechanisms. This concept derives from a theory called the buffering hypothesis (Cohen & Wills, 1985). The way in which peer support buffers the impact of stress on mental health is by facilitating individual stress appraisal and responses (Dennis, 2003). According to the stress appraisal theory proposed by Lazarus and folkman (1984), there are two distinct processes of appraisal. First, the primary appraisal process determines whether or not the stressors are harmful or relevant to the individual (Dennis, 2003). The secondary appraisal process, which follows, involves an individual assessment of his/her coping resources and ability (Dennis, 2003). Peer support assists the primary process by offering information about the nature of the stress, which helps reduce the importance and harm of the stressors (Dennis, 2003). Furthermore, peer relationships support the secondary process by directly providing suggestions and strategies on how to cope with the stressors, inhibiting dysfunctional responses such as self- blame for the cause of the difficulty, and emphasizing adaptive emotional responses via social comparison (Dennis, 2003). For example, if a friend reacts calmly in the face of a similar situation, it enhances the probability that the stressor will be apprehended as harmless.

Another factor that has been shown to act as a moderator between stress and depressive moods is: self-efficacy (Sim & Moon, 2015). Furthermore, Negi (2019) found that self-efficacy acted as a moderator between stress and depression in engineering students - high self-efficacy helped moderate how stressful students perceived tasks to be, which subsequently weakened the link between stress and depression. Self-efficacy refers to one’s belief in their ability and capacity to achieve a certain goal or complete a task - this construct reflects an individual's confidence in their own ability to influence the outcome of events that affect their own life (Bandura, 1986; Bandura, 1997). Bandura (1997) theorised that there are four components to self-efficacy: mastery experiences, social modelling, verbal persuasion and psychological and affective states. Bandura (1997)

noted that perceived self-efficacy can significantly influence: the amount of effort exerted into a task, perseverance and also the choice of task that individuals undertake - individuals who have a low perceived sense of self efficacy will avoid activities which they believe exceeds their abilities. However, an individual with a high perceived sense of self efficacy will have the confidence in their ability to complete a task - and not hesitate at challenges and set more difficult tasks that they adhere to.

Furthermore, people in collectivistic cultures, such as Thais, have been found to show more stigmatizing attitudes towards mental illnesses compared to those in individualistic cultures (Papadopoulos, Foster, & Caldwell, 2013). Mallinckrodt and Leong (1992) discovered that international students were more likely to have a higher perceived stress level which stem from: language barriers, unfamiliar academic environments, loneliness, financial challenges and culture shock. Moreover, experiencing a new educational system and the different demands that may arise can result in individuals feeling emotionally unstable (Cadieux & Wehrly, 1986). Therefore, we investigated the effects of stress on depressive symptoms on the sample group of Thai international college students that has never been examined; with the moderating effects of peer support and self-efficacy, which have been shown to be efficient in alleviating the depressive symptoms.

Objectives

The current study is proposed to separately explore the moderating effects of two psychological factors (i.e., peer support and self-efficacy) on the relationships between stress and depressive moods in undergraduates from international programmes.

Methods

Design and Sample. The software G* power calculated that the study needed at least 99 participants. Participation was voluntary. All responses were anonymous. A total of 136 participants were recruited in this study through convenience sampling. Participants responded to an on-line questionnaire. Responses from 25 participants were excluded because they did not complete the survey and other 11

responses did not meet the inclusion criteria as they were not enrolled in the international programs. There was a total of 100 eligible responses. The survey study applied a correlational method to examine the association between stress and depressive moods with peer support and self-efficacy being tested separately as a moderator among 100 international undergraduate students, age ranging from 18-25 (M = 21.27, SD = 1.61). 67% of the sample were male, whereas 33% were female. Samples were from 6 universityes, 83% were public and 17% were private universities.

Procedure. After obtaining a departmental approval for the study, data were collected online for 30 days. The links to the surveys were dispersed through different social platforms specifically: LINE and Facebook, via convenience sampling. Participation was voluntary and no incentives were provided for the study participation.

I**nstruments**. A background questionnaire was given to collect standard background information, which will include gender, age, academic year, faculty, university and international program. Faculty and university information were acquired using open-ended questions. Afterward, the participants proceeded to respond to the measures of the key study variables.

Stress. The Perceived Stress Scale (PSS; Cohen, 1986) was used to measure the participants' stress level as expereinced in the past month. Participants responded to the 10-item self-reported measures (e.g. "In the last month, how often have you been upset because of something that happened unexpectedly."), using a five-point Likert scale, ranging from 0 being 'Never' to 4 being 'Always'. Six items (i.e. items 4,5,6,7,9,10) were reversed. Higher scores indicate higher levels of stress in participants. The PSS has high psychometric properties (Cohen, 1986). The Cronbach's alpha of the PSS is 0.85 (Cohen, 1986). For the current study, its cronbach's alpha was .85, suggesting acceptable/ high level of internal consistency.

Peer support. The Multidimensional Scale of Perceived Social Support (MSPSS), specifically the friend subscale of MSPSSS (MSPSS- FRI) (Zimet, Dahlem, Zimet & Farley, 1988) was used to measure the participants' peer support. Participants responded to the 4-item self-reported measures (e.g. "I can count on my friends when things go wrong."),

using a seven-point Likert scale, ranging from 1 “very strongly disagree” to 7 “very strongly agree”. Higher scores indicate stronger peer support in the participants life. The MSPSS-FRI has high psychometric properties (Wongpakaran, Wongpakaran, & Ruktrakul, 2011). The MSPSS-FRI had shown to be psychometrically sound, with Cronbach s alpha of 0.91 for the student groups and 0.87 for the patient groups (Wongpakaran, Wongpakaran, & Ruktrakul, 2011; =.91). For the current study, its cronbach’s alpha was .91, suggesting acceptable/ high level of internal consistency.

Self-efficacy. The New General Self Efficacy Scale (NGSE) (Chen, Gully & Eden, 2001) was used to measure the participants’ self-efficacy. Participants responded to 8-items self-reported measure (e.g. “Even when things are tough, I can perform quite well.”), using a five-point Likert scale, ranging from 1 being ‘strongly agree’ to 5 being ‘strongly agree’. Higher scores on the NGSE indicate the participant had a higher sense of self-efficacy. The NGSE scale has high psychometric properties (Chen, Gully & Eden, 2001). The NGSE scale demonstrates good internal consistency - the Cronbach’s alpha ranging from 0.85 to 0.90 (Chen, Gully & Eden, 2001). For the current study, its cronbach’s alpha was .91, suggesting acceptable/ high level of internal consistency.

Depressive Symptoms. The Center for Epidemiologic Studies Depression Scale (CES- D) (Radloff, 1977) was used to measure the participants’ depressive moods as experienced in the past week. Participants responded to the 20-item self-report measure (e.g. "I was bothered by things that usually don’t bother me"), using a four-point Likert Scale, ranging from 0 being ‘Rarely or none of the time (less than 1 day)’ to 3 being ‘Most or all of the time (5-7 days)’. Higher scores on the CES-D indicate that the participant had higher levels of depressive symptoms. The CES-D has high psychometric properties (Radloff, 1977). Jiang et al. (2019) found that the Cronbach’s alpha for the CES-D is 0.87. For the current study, its Cronbach’s alpha was .81, suggesting acceptable/high level of internal consistency.

Results

Preliminary Analysis. The mean, standard deviation, minimum, maximum, range, kurtosis and skewness of the four variables examined in the study are shown in Table 1. The normality assumption, as shown in the kurtosis and skewness of the study four variables were supported, referring to the assumption proposed by Kim (2013).

Table 1

Descriptive Statistics for Stress, Peer Support, Self-efficacy, and Depressive Symptoms (n=100)

Scale	*M*	*SD*	Minimum	Maximum	Actual Range	Possible Range	Skewness	Kurtosis
Stress	1.91	1.09	0	4	5	0-4	-.25	-0.36
Peer Support	5.43	1.66	1	7	7	1-7	-1.42	1.38
Self-efficacy	3.66	0.93	1	5	5	1-5	-.76	0.98
Depressive Symptoms	0.88	0.95	0	3	4	0-3	1.00	0.27

Bivariate Correlations. To examine the associations between variables in this study, bivariate correlations were conducted using Pearson's correlation analysis (see Table 2). The results showed a significant positive relationship between stress and depressive moods. As such, the higher score on depression was observed in relation to the higher score on stress, $r = .72$, $p < .001$. A significant negative relationship was found between depressive moods and peer support, $r = -.54$, $p < .001$. Results demonstrated a significant negative relationship between depressive moods and self-efficacy, with the reduction in the self-efficacy score, the increase in the stress score was observed, $r = -.65$, $p < .001$. Stress was found to be significantly and negatively correlated with both peer support and self-efficacy, $r = -.42$, $p < .001$; $r = -.64$, $p < .001$, respectively. Furthermore, there was a significant positive association between self-efficacy and peer support, $r = .44$, $p < .001$.

Table 2

Bivariate Correlations for Stress, Peer Support, Self-efficacy, and Depressive Moods (n =100)

Variables	Stress	Peer Support	Self-efficacy	Depressive Moods
Stress	(.85)			
Peer Support	-.42**	(.91)		
Self-efficacy	-.64**	.44**	(.90)	
Depressive Moods	.72**	-.54**	-.65**	(.87)

**p< .001

() indicate the internal consistency estimate of the measure

Standard Moderated Regression Analysis. Peer support and self-efficacy were analyzed separately as a potential moderator of the relationship between stress and depression. Multiple regression analyses were conducted with stress and first peer support being examined as the predictors of depressive moods. Then, stress and self-efficacy were examined. Prior to engaging in each of the regression analyses, the multicollinearity assumptions were first tested. The VIF and tolerance were 1.21 and .82 for the first set of the regression equation, where peer support was tested as the predictor variables together with stress. As for the second set, where self-efficacy was the focus, the VIF and tolerance were 1.69 and .59, respectively. These values fell within the acceptable ranges (Hair, Anderson, Tatham, & Black, 1995).

For peer support, the combined direct effects of stress and peer support explained 63% of depressive moods, R2 = .63, F(4, 95) = 40.45, p < .001. In and of itself, stress significantly and positively predicted depressive moods, b = 1.29, t(95) = 8.83, p < .001. Peer support negatively predicted the criterion, b = -0.41, t(95) = -2.71, p = .007. The interaction between stress and peer support was significant, F(1, 95) = 8.63, p = .004, and accounted for 3% of variance in the criterion over and above the direct effects, ⟦Rch⟧^2 = .03

Due to the significant interaction effect of stress and peer support, simple slope analyses of these variables were conducted. As depicted in Figure 1, the association between stress and depressive moods was stronger in individuals with low peer support, b = 1.67, t(95) = 8.60, p < .001, defined as those with peer support scores one standard deviation below the mean. For those with high peer support, whose scores were one standard deviation above the mean, the relationship between stress and the moods was significantly weaker, b = 0.91, t(95) = 4.64, p < .001.

For self-efficacy, the combined direct effects of stress and self-efficacy explained 62% of variance in depressive moods, R2 = .62, F(4, 95) = 38.04, p < .001. In and of itself, stress significantly and positively predicted depressive moods, b = 1.19, t(95) = 6.80, p < .001. Self-efficacy negatively predicted the moods, b = -0.53 , t(95) = -2.93, p = .004. The interaction between stress and self-efficacy was significant, F(1, 95) = 4.45, p = .038, and accounted for 2% of variance in the criterion over and above the direct effects, ⟦Rch⟧ ^2= .02.

With the interaction between self-efficacy and stress was significant, simple slope analysis of the two variables were conducted. As illustrated in Figure 2, the association between stress and depressive moods was stronger for individuals with low self-efficacy, b = 1.42, t(95) = 6.36, p < .001., defined as those with self-efficacy scores one standard deviation below the mean. For those with high self-efficacy, whose scores were one standard deviation above the mean, the relationship between stress and the moods was significantly weaker, b = 0.95, t(95) = 5.02, p < .001.

Additional analysis. An additional analysis was conducted where peer support and self- efficacy were tested simultaneously as the multiple moderators of the relationship between stress and depressive moods.

The combined direct effect of stress, peer support, and self-efficacy explained 65% of the variance in depressive moods, which was significant, F(6, 93) = 29.24, p < .001. Stress positively and significantly predicted the moods, b = 1.05, t(93) = 6.05, p < .001. Peer support was a negatively significant predictor of depressive moods, b = -0.35, t(93) = -2.35,p = .020. Furthermore, self-efficacy negatively predicted the moods, b = -0.44, t(93) = -2.49,p = .014. Sex did not predict depressive moods, b = 2.19, t(93) = 1.30, p = .196, however.

When examined simultaneously, the interactions that stress had with peer support, F(1, 93) = 2.53, p = .115, and self-efficacy, F(1, 93) = 0.012, p = .914, were not significant. The interaction accounted for 1% and less than 1% over and above the direct effect, respectively.

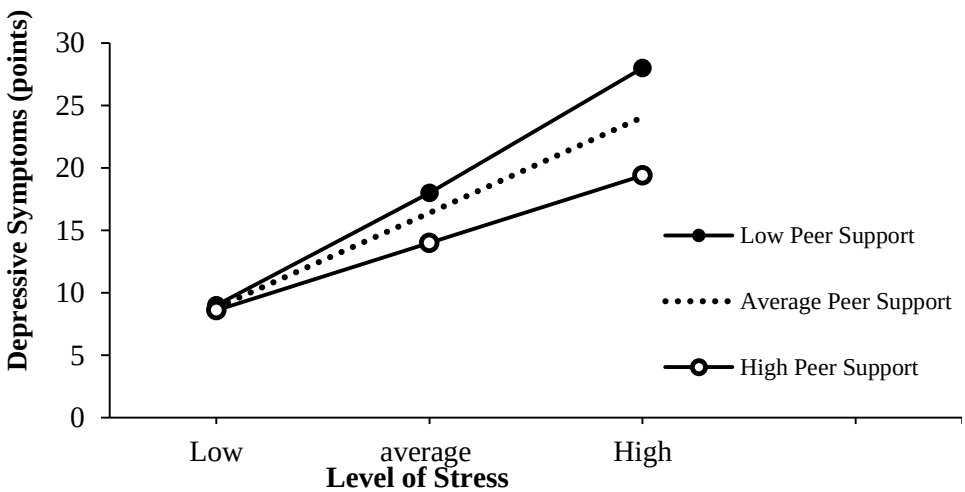

Figure 1. The effect of stress on depressive moods as moderated by peer support.

NB: High and Low represent +1SD and -1SD from the mean, respectively.

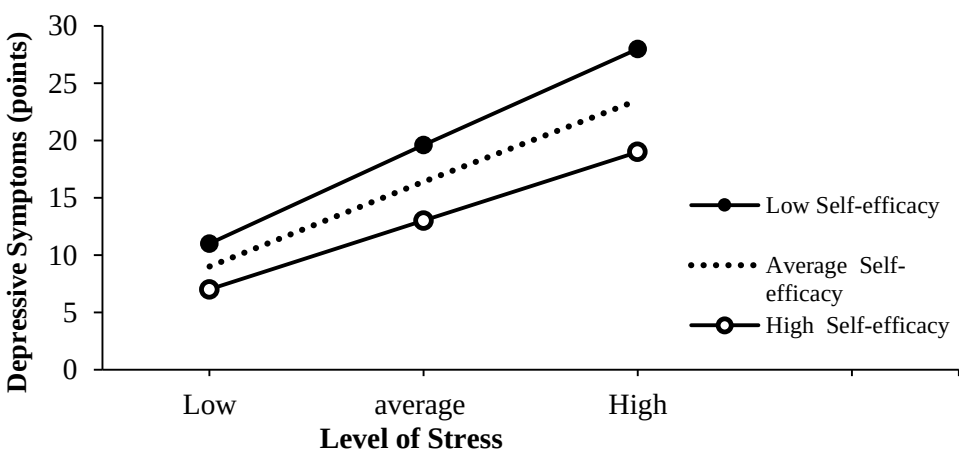

Figure 2. The effect of stress on depressive moods as moderated by self-efficacy.

NB: High and Low represent +1SD and -1SD from the mean, respectively.

Discussion

The aim of the study was to examine the relationship between stress and depressive moods, with peer support and self-efficacy separately tested as a potential moderator. Data were collected from 100 international Thai undergraduates, who responded to a set of measures via online questionnaires. Findings and relevant discussions were as follows:

Stress and Depressive Moods. Findings showed a significant and positive correlation between stress and depressive moods. The results showed that stress was a significant predictor of depressive moods, such that individuals who perceived their stress levels as high, exhibited higher levels of depressive moods. Hammen (2005) suggested several factors may influence the relationship between stress and depressive moods, such as: genetic predisposition, gender, and personality type- these factors can make individuals more vulnerable to the effects of stress and, thus, increase the likelihood of depressive moods. The psychological model of stress and depressive moods suggests that stress alters individuals' cognitive styles and coping strategies; therefore, disrupting healthy behaviors that would usually help them cope with depressive moods (Hammen, 2005; Lewinsohn et al., 2001). This stress-depression relationship can also be understood by the sociodemographic model as stressful experiences can have negative effects on relationships, making the individuals withdraw from social relationships (Hammen, 2005), which indicates a lack the support from others that usually prevents them from experiencing depressive moods (Wang et al., 2014). The results are consistent with the previous research about the positive relationship between stress and depressive moods among different groups of participants (Hammen, 2005; Salleh, 2008; Wang et al., 2014).

This study has shed light on factors that are associated with depressive moods in university students - which is stress; interventions that target stress reduction may be applied to university students. Previous research has shown that stress management training programme workshops can improve mental health of students (Kang, Choi & Ryu, 2009). Yazdani, Rezei and Pahlavanzadeh (2010) highlighted that some techniques used for the programme were: yoga relaxation, breathing exercises, meditation and mental imagery. All of these techniques are inexpensive and cost friendly - which would be suitable for universities who do not have a large budget for the mental health programme.

Peer Support as a Moderator of the Relationship between Stress and Depressive Moods. The results showed that the association between stress and depressive moods was moderated by peer support, with a stronger relationship between stress and depressive moods among participants with low peer support. This study highlighted that when individuals received little support from their peers - a stronger relationship between stress and depressive moods was observed, compared to individuals who received high peer support. These results can be explained by the stress appraisal theory (Lazarus & Folkman, 1984). When people are under stressful situations, they interpret whether or not the stressor is potentially harmful to their well-being (Dennis, 2003). Support from friends offers information about the verities of the stressor, therefore, helping people to manage the stress more effectively by decreasing the significance of the threat. Furthermore, peer support also reduces negative effects of stressful and depressive experiences by providing resources that help enhance their coping styles, which includes suggestions of how to cope with the stressors, norms for adaptive emotional responses, and encouragement that prevents self-blame (Dennis, 2003). In accordance with the previous research, peer support has significant moderating effects for regulating the effect of stress-depression association, indicating it is an important environmental resource (Wang et al., 2014; Rodriguez et al., 2003; Pfeiffer et al., 2010). Peer support can decrease the strength of the association between stress and depressive moods, thereby diminishing the degree and likelihood of generating depressive moods.

Self-efficacy as a Moderator of the Relationship between Stress and Depressive Moods. The results showed that self-efficacy moderated the relationship between stress and depressive moods. These results suggest that when an individual is challenged with high levels of stress, one's belief in their ability and capacity to achieve a certain goal determines the level of depressive moods that they experience. The results are consistent with previous research that state that self-efficacy moderates the relationship between stress and depressive moods (Negi, 2019; Sim and Moon, 2015; Zajacova, Lynch and Espenshade, 2005). These results can be explained by Terry's (1994) theory of self-efficacy, it is described that individuals with low self-efficacy tend to utilize emotion focused coping strategies such as self- blame and denial. Individuals with low self-efficacy tend to exert less effort in a task (Bandura, 1997), which means that if faced with a stressful situation, individuals with low self-efficacy might not exert as much effort into finding a healthy solution and instead use emotion focused coping strategies

It has been shown that emotion focused coping strategies can exacerbate depressive feelings rather than alleviate them (Völlink, Bolman, Eppingbroek & Dehue, 2013). As seen from the study's results, self-efficacy can decrease the strength of association between stress and depressive moods - consequently, decreasing the risk of developing depressive moods.

We additionally conducted a multiple moderation analysis for peer support and self-efficacy as multiple moderators for the relationship between stress and depressive moods. However, the results showed that when analyzed simultaneously, peer support and self-efficacy did not moderate the link between stress and depressive moods. The reasons why we didn't get the significant results from the multiple moderation could be because: 1) sample size. A multiple moderation requires many more participants than a single moderation to reach statistically significant. 2) the moderating effect of peer support and self-efficacy may cancel each other out. When an individual has high self-efficacy and is able to regulate the stressors in their life in an efficient way, they may not feel the need to rely on friends to help with the stressors, and vice versa – individuals with a high amount of peer support might not feel like they need to have high self-efficacy to help lessen the stressors in their life.

Moreover, it is important to note that the data collection process of this study was conducted during the period of a virus pandemic. Due to the fact that most people are required to be quarantined or stay at home for a long period of time before and during data collection, there may be effects of specificity of the time that contaminated the results of this study. For example, people in quarantine and isolation were found to be associated with negative psychological effects such as frustration, chronic stress, confusion (Brooks et al., 2020), and depressive moods (Hawryluck et al., 2004). As a result of being required to be isolated, the level of support from friends may be lower than usual and the level of self-efficacy may be affected by individual mental states as depressive moods may also decrease individual perceptions and confidence of his/her capacity for achievement (Kavanagh, 1992).

Implications

This study highlighted the importance of mental health within a university setting. This study showed, with constant stress, university students have a higher risk of developing depressive moods. The level of stress and depressive moods among university students can be viewed as a screening tool to raise awareness and the importance of this issue in order to discuss ways to help the students cope with negative mood moods effectively.

The results indicate that peer support and self-efficacy can each be effectively utilized in interventions to promote students' well-being, without having to implement both of them simultaneously to bring about beneficial effects. Deriving from the results, one way to alleviate depressive moods for college students is that relevant university departments should ensure a safe and stress-free learning environment that encourages students to interact with their peers, such as an interactive classroom and clubs etc. Support from peers can help provide information on academic and life event stresses and improve their coping strategies.

Implementing programs that target individuals with a lower self-efficacy would be more beneficial in the long term, this is because individuals with low self-efficacy tend to utilise emotion focused coping strategies such as denial when faced with stressors (Terry, 1994). Increasing student's self-efficacy would allow them to cope with stressors more easily. Parajes (1996) discovered that an individual's self-efficacy can determine how stressful they perceive a task to be - increasing a student's self-efficacy would lower how perceived stress, consequently, lowering the risk of depressive moods.

Strength and Limitations

Strength. This study investigated the moderating effects of peer support and self-efficacy on the relationship between stress and depressive moods in Thai international college students, which is the novel sample group that has never been examined. Thus, information acquired in this study will help fill the research gap for this particular sample. Another strength of this study is that it additionally analyzed peer support and self-efficacy both separately and simultaneously as potential moderator(s), which broaden the gaps of knowledge in this area.

Limitation. Despite having a novel group of participants that has never been studied, there were some issues with the samples. A large majority of the sample was from the psychology department, this affects the generalisation to other settings. Secondly, this study adopted self-reported measures. Subjects may not have responded truthfully as the variables in this study were of sensitive topics such as depressive moods and stress. This might have affected the validity of the results. Fisher and Katz (2000) found that responses from self-reported measures on various domains, such as relationships with others and sense of accomplishment, are prone to be distorted to fit with social desirability. Finally, the study was a correlational study of the relationship between stress and depressive moods, which indicates that a causal assumption cannot be made. Thus, the results are required to be interpreted with caution.

Future Research

Future research could emphasize on improving the limitations and expand beyond the findings in this study. Due to the issue of the sample, future research should aim to have a more diverse range of participants to ensure that the results are generalizable. More importantly, future study can examine the relationships of these factors in an intervention study. For example, intensive programs for the moderators should be implemented for the sample group. This will provide clear causal effects and assure clinical significance for both moderators. Furthermore, future study can extend the scope of this study to a longitudinal design to examine the effects of the moderator's overtime. This will help increase understanding of the mechanisms of how peer support and self-efficacy help protect individuals from negative moods and increase the external validity.

Conclusion

In conclusion, the results of the study revealed that stress is a significant predictor of depressive symptoms. There was also a significant moderating effect of peer support on the relationship between stress and depressive symptoms - international students in Thai universities with high peer support presented lower levels of depressive symptoms. Furthermore, a significant moderating effect was also found with self-efficacy on the relationship between stress and depressive symptoms - international students

in Thai universities with higher self-efficacy presented lower levels of depressive symptoms. The practical implications of the results are as followed: interventions that target stress reduction may be applied to improve students' mental health; university departments should ensure a safe and stress-free learning environment that encourages peer interaction; and implementing programs that increase students' self-efficacy.

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