Research Article

FACTORS INFLUENCING DEPRESSIVE DISORDERS OF ADOLESCENTS IN VIETNAM

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Abstract

An adolescent's most common mental condition is depression. Adolescent depression is rising. This study examined characteristics that could affect adolescent depressive symptoms and if they would have a substantial impact on depressive disorders. 1,336 secondary and high school students from Thua Thien Hue province, Vietnam, were convenience sampled. This study examined how academic stress, self-rating life experiences, rejection, (over) protection, emotional warmth, social support, life satisfaction, and resilience can lead to depressive disorder. Academic stress, self-rating life events, rejection, and (over) protection were positively associated with depression symptoms among teenagers in Thua Thien Hue province, Vietnam. Depressive illnesses are also linked to life satisfaction, social support, and resilience. Academic stress dominated work contentment. ***ASEAN Journal of Psychiatry, Vol. 24(3) March, 2023; 1-15.***

Keywords: Adolescent, Depressive disorder, Academic stress, Social support, Satisfaction with life

Introduction

Depression is a common and serious mental health issue that affects people of different ages and races with high prevalence rates and difficult treatment and recovery. Depression has been ranked among the four major mental illnesses, among the top five factors contributing to the global disease burden [1,2]. Depression is more and more increasing among young people, especially common among adolescents. According to the findings of Lopez et al., depressive disorder has been seen as one of the most prevalent mental illnesses amongst adolescents [3]. The rising prevalence of depression among adolescents has been found in the community and in clinical studies [4,5]. In recent times, there are several studies on depression, which have been globally documented among a large sample of adolescents in several countries, including England, Netherlands, Russia, America, Iran, India, Australia, Canada and Vietnam [7-17]. Previous studies conducted revealed that adolescence is a crucial period of transition in human life [18]. The great changes to psychology, behaviour and hormones begin to come out in this period, and it becomes a starting point to numerous mental health problems such as depression. In this regard, the prevalence of depression from 10 to 18 years old was 5.6 percent [19]. Depression in adolescents is a mental and emotional disorder.

The effects of depression on adolescents have been mentioned in many scientific studies for a long time. Depression among adolescents was associated with some negative impacts on the growth and development of the adolescents such as difficulties in academic and social relationships, related to academic underachievement, declined participation in social activities, fatigue, low energy, feelings of worthlessness and hopelessness, unemployment, abuse, alcohol dependence, leading to suicidal thinking and behavior, functional impairment and poor mental health, as well as adolescent pregnancy and a raising of developing other

chronic illnesses [20-27]. Depression in adolescents can be seen as the main risk element for suicide, and nearly half of the suicide victims in adolescence announced that they have a depressive disorder at the time of death [28]. Besides, depression also impacts other aspects of adolescents, including serious impairments of society and education, and rising rates of substance misuse, smoking, and obesity [29]. These findings in prior studies showed that depressive disorder is a serious mental health illness. Hence, recognising and treating depression in adolescents is greatly important.

Some recent studies have revealed that numerous factors are affecting depressive disorders in adolescents, including parenting style, academic stress, social support, sense of self-efficacy, and negative cognitive style and cognitive factors [30-40]. Previous studies of Anli and Karsli and Irons et al., have confirmed a positive correlation between negative parental rearing and depression [41]. The negative parental caring, including rejection and overprotection, will lead to anxiety disorder and depressive disorder. Another way, the positive parental rearing attitudes known as emotional-warmth are protective factors from a number of psychological disorders. Besides, the high levels of depression were associated with parenting style by the low level of caring and nurturance, and the high levels of overprotection. Moreover, authoritarian parenting style produced negative impacts that were positively correlated with depression and permissive parental rearing style was negatively correlated with depression among adolescents [42]. Parent-adolescent conflict negatively influenced the mental and emotional health of Vietnamese adolescents [43].

Several studies have shown the educational stress to be significantly related to depression in adolescents. Specifically, parent and teacher expectations are the core causes of educational stress among adolescents and girls had higher educational stress than boys. Besides, low academic achievement, some stressful events, and negative teachers and parents' feedback also led to depression especially, and low academic achievement was the factor most associated with adolescent depression [44]. The higher levels of depression adolescents had, the lower academic performance they had and children with depression had more academic problems than their non-depressed counterparts. Recent studies have indicated that social support from peers, family and teachers is associated with adolescent depressive symptoms. Mental health is related to mathematics anxiety and academic achievement among Vietnamese adolescents [45]. The social supports were related to positive emotions and well-being, indicating social supports correlated positive mental health. The higher the levels of social support, the less likely adolescents had depressive symptoms. Social support deficiency has been a significant risk factor leading to depressive symptoms among adolescents. Prior research suggests that self-evaluation is the main factor affecting the cognitive model of depression, and negative self-evaluation was one of the strongest common depressive symptoms in adolescents, and negative assessments and beliefs about life events related to the development of the depressive disorder. In accordance with Swami et al., life satisfaction is a direct and positive association with depression [46,47]. The high expectations that do not match real life may diminish life satisfaction and low life satisfaction may lead to depression in adolescents.

Moreover, the low satisfaction on social support, the probability of having problems of depression in adolescents is high. Besides, resilience has been defined as the capability to pass over or adapt to stressful events and a process to harness resources to sustain well-being in life [48]. Other studies indicated the relation between resilience and depression symptoms. The higher personal resiliency, the lower levels of depression symptoms were associated and more likely to higher life satisfaction. This has also been explored in prior studies indicating that there is a negative association with depression symptoms [49,50].

In Vietnam, several studies on depression in adolescents have been conducted so far. Nguyen et al., examined 1161 secondary students in Can Tho City, and concluded that students with low academic achievement and higher educational

stress showed more depressive symptoms. In addition, educational stress was the greatest factor enhancing the risk of symptoms of depression in adolescents. Besides, Bui et al., showed that some significant factors affect depression in adolescents, including health status, marital status, education and area of residence. However, as far as is known, very little previous research has investigated the factors affecting depressive disorder in Vietnamese adolescents, especially in Hue City.

Objectives

This paper aims to fill this gap by analysing factors associated with depressive disorder amongst adolescents in Hue City, Vietnam. The paper starts with the literature review related to issues on the factors influencing depressive disorder in adolescents and then followed by research methods, results, discussion, and conclusion in the last.

Methodology

Participants

This study used a quantitative approach, participants were recruited randomly from five schools in Thua Thien Hue province, Vietnam. A total of 1351 questionnaires were distributed, and 1336 questionnaires were returned for a 98.89 percent return rate. That exceeds the 30 percent response rate most researchers require for analysis.

The survey results in Table 1 indicate that there were more female students (53.7%) than male students (45.9%) and LGBT students (0.4%) among the total sample population of 1336 Vietnamese students. Following the collected data family structure, there were more Two-parent families (88.5%), Divorced or separated parents (6%) and Deceased father/mother (3.7%), as shown in Table 1.

Table 1. An overview of survey participants**.**

Survey participants		**n**	**%**
Gender	Male	613	45.9
	Female	718	53.7
	LGBT	5	0.4
School Type	Gifted school	177	13.2
	Public school	1159	86.8
School-level	Secondary school	712	53.3
	High school	624	46.7
Family Structure	Two-parent family	1182	88.5
	Divorced or separated parents	80	6.0
	Deceased father/mother	50	3.7
	Another situation	24	1.8
Academic Performance (Grade Point Average or GPA)	Poor	3	0.2
	Below average	30	2.2
	Average	277	20.7
	Good	565	42.3

	Excellent	461	34.5
Note: n: number of participants; percent: percentage			

Measure

The questionnaire was designed to survey secondary and high school students from Thua Thien Hue province, Vietnam. This research started in January 2019 and finished in December 2020. First, social-demographic items were introduced in the questionnaire. Then, Vietnamese secondary and high school students' perception of depression differs concerning gender and grade measured by Beck Depression Inventory (BDI). BDI-II has been validated in college students, adolescent psychiatric outpatients, and adult psychiatric outpatients [51]. The participants' responses are provided in four different levels based on a 4-point scale and are rated from 0 (not at all) to 3 (an extreme form of each symptom), indicating the degree of severity.

Analysis

Informed consent was used, and participation was completely voluntary. The Ethics Committee approved the present study of Hue University, Vietnam. The Statistical Package for Social Sciences (SPSS) version 20 was used in the research. The coding procedure was performed as follow, that is, 0=not at all, 1=mildly, that is, it did not bother me much, 2=moderately, that is, it was very unpleasant, but I could stand it, and 3=severely, that is, I could barely stand it. According to Beck, the following guidelines have been suggested to explain the BDI-II (4) 0-13 with minimal range, 14-19 with mild depression, 20-28 with moderate depression, and 29-63 with severe depression. From the results, the scale in the research indicated high reliability with Cronbach's alpha at 0.876.

Sixteen items measured the Educational Stress Scale for Adolescents (ESSA) to examine academic stress. A 5-point Likert scale ranges from 1 (strongly disagree) to 5 (strongly agree) with five dimensions consisting of 4 items with pressure from the study, 3 items with worry about grades, 3 items with despondency, 3 items with self-expectation and 3 items with the workload. ESSA has been validated in Vietnam in order to examine academic stress among adolescents. Cronbach's alpha was 0.83, indicating that the scale has a high level of internal consistency (49). The internal consistency in the present research with Cronbach's alpha was 0.86. Thai et al., found that the cut-off points suggested as below 50 (low stress), 51-58 (medium stress), and above 58 (high stress) [52]. From the results, the scale in the research indicated high reliability with Cronbach's alpha was 0.823, and the values of the item-total correlation were all more than 0.3. The resultant KMO coefficient was adequate, Bartlett's Test statistics with $p < 0.05$ and cumulative of variance was more than 50 percent. The results showed that the scale was reliable and valid.

Egna Minnen Betraffande Uppfostran-Short Form (s-EMBU) is a shortened version of the original scale with 23 items and is designed to examine perceptions of parental rearing behaviours [53]. The s-EMBU includes three subscales of rejection with seven items, emotional warmth with six items, and overprotection/control with nine items. A 4-point Likert scale is used, ranging from 1=No, 2=Yes, but seldom, 3=Yes, often, and 4=Yes, most of the time. From the results, the scale in the research indicated high reliability with Cronbach's alpha, $\alpha=0.714$, and the values of the item-total correlation were all more than 0.3. The resultant KMO coefficient was adequate, Bartlett's Test statistics with $p < 0.05$ and Cumulative of Variance was more than 50 percent. The Cronbach's alpha for the three subscales was 0.713, 0.814, and 0.693.

The Adolescent Self-Rating Life Events Checklist (ASLEC) has 27 items designed to assess the frequency and intensity of stressful life

events in adolescents [54]. The scale includes 6 subscales of interpersonal relation, learning pressure, punishment, health and adaptation, bereavement, and others. The effect of negative life events experienced within the past six months was answered on a 5-point likert scale ranging from 1 (not at all) to 5 (extremely severe). From the results, the scale in the research indicated high reliability with Cronbach's alpha, α=0.923 and item 27 was removed with the values of the item-total correlation being less than 0.3. The resultant KMO coefficient was adequate, Bartlett's Test statistics with p<0.05 and Cumulative of Variance was more than 50 percent. The higher mean values of items, the more stressful negative life events of adolescents are.

The Satisfaction with Life Scale consists of 5 items to assess satisfaction with people's life [55]. The initial experiment results at Illinois University with 171 students, who were selected randomly, revealed good reliability with Cronbach's alpha, α=0.87 [56]. The Satisfaction with Life Scale based on a 7-point likert scale ranges from one to seven (1=strongly disagree; 2=disagree; 3=slightly disagree; 4=neither disagree nor agree; 5=slightly agree; 6=agree; and 7=strongly agree). The possible scores range from 5 to 35 wherein 31-35 indicates extremely satisfied, 26-30 satisfied, 21-25 slightly satisfied, 20 neutral, 15-19 slightly dissatisfied, 10-14 dissatisfied, and 5-9 extremely dissatisfied. From the results, the scale in the research indicated high reliability with Cronbach's alpha values, α=0.795, and the values of the item-total correlation more than 0.4. The resultant KMO coefficient was adequate, Bartlett's test statistics with p<0.05 and cumulative of variance was more than 50 percent. The results indicated that the scale was reliable and valid.

The Perceived Social Support Scale (PSSS) is composed of 12 items measuring social support an individual receives from family (3, 4, 8 and 11), friends (6, 7, 9 and 12) and special person support (1, 2, 5 and 10) [56]. A 5-point Likert scale rates from 1 (strongly disagree) to 5 (strongly agree). The higher the level of social support perceived, and the total scores can range from 12 to 60. The scale was validated in Hue University of Medicine and Pharmacy, Vietnam, with Cronbach's alpha values, α=0.88). From the results, the scale in the research indicated high reliability with Cronbach's alpha for family subscale, α=0.834, α=0.827 with friends' subscale, and α=0.854 with special person support subscale. The scale in this study found high reliability with Cronbach's alpha at 0.885.

The 10-item Connor-Davidson Resilience Scale is a shortened version of the original scale with a 25-item CD-RISC [57]. A 5-point Likert scale ranges from 1 (not true at all) to 5 (true nearly all the time). The total scores range from 10 to 50 and a higher score indicates higher resilience. From the results, the scale in the research indicated high reliability with Cronbach's alpha values, α=0.854, and the values of the item-total correlation more than 0.3. The CFA affirms EFA deriving from the one-factor structure because the results revealed that positive, highly significant and highly satisfactory fit indices with regression weights more than 0.4: Chi-Square=158.466, CMIN/DF=5.282, P<0.001, CFI=0.969, GFI=0.977, NFI=0.962 (>0.90) and RMSEA=0.057 (≤ 0.08). According to modification indices, paths of covariance between error terms for items 1 and 8, items 2 and 7, items 3 and 6, items 4 and 6, and items 5 and 10 were added to improve the model fit. There was no cross-loading or path between error terms and items being conducted in the final model.

RESULTS

The percentage of depressive disorders among Hue's adolescents is presented in Table 2. The results from Table 2 show that more than half of the adolescents, which accounted for 50.7 percent (678 adolescents) with minimal depression symptoms, followed by 22.8 percent (305 adolescents) of the adolescents with mild depression, while 18.7 percent (250 adolescents) of the others reported moderate depression, and the lowest rate was for severe depression with 7.7 percent (103 adolescents).

The survey results in Table 3 illustrate the depression group, the mean score of academic

stress (M=58.40, SD=8.052), self-rating life events (M=54.05, SD=23.661), satisfaction with life (M=18.65, SD=6.202), social support (M=40.54, SD=8.944), resilience (M=30.34, SD=7.354) rejection (M=12.84, SD=3.553), emotional warmth (M=14.42, SD=4.125), and (over) protection (M=19.75, SD=4.523), respectively. This is in the comparison the without depression group with academic stress (M=50.68, SD=9.159), self-rating life events (M=40.74, SD=22.536), satisfaction with life (M=22.05, SD=6.122), social support (M=43.56, SD=8.580), resilience (M=32.86, SD=7.537), rejection (M=11.33, SD=3.442), emotional warmth (M=15.90, SD=3.954), and (over) protection (M=18.00, SD=4.186). There was a statistically significant difference between the mean score of academic stress, self-rating life events, parents' educational styles, satisfaction with life, social support, resilience among adolescents without and with depressive symptoms at the level of $p<0.001$.

According to table 4, there was a reliable and significant correlation between dependent and eight independent variables (Table 4). There was a weakly positive correlation between academic stress and depressive disorder ($r=0.478$, $p<0.01$), self-rating life events and depressive disorder ($r=0.361$, $p<0.01$), rejection and depressive disorder ($r=0.307$, $p<0.01$), and (over) protection and depressive disorder ($r=0.231$, $p<0.01$). The higher the academic stress, self-rating life events, rejection, and (over) protection, the higher the levels of the depressive disorder. There was a weakly negative correlation between emotional warmth and depressive disorder ($r=-0.212$, $p<0.01$), satisfaction with life and depressive disorder ($r=-0.362$, $p<0.01$), social support and depressive disorder ($r=-0.228$, $p<0.01$), and resilience and depressive disorder ($r=-0.220$, $p<0.01$). The higher level of emotional warmth, satisfaction with life, social support and resilience, the lower the levels of the depressive disorder.

Given the impact factor in which the variables were assessed, hierarchical regression was performed. As the academic stress was entered at stage one, satisfaction with life factor was entered at stage two, self-rating life events at stage three, rejection at stage four, resilience at stage five, and social support factor at stage six. The first stage explained ($F=394.836$, $p<0.001$) with an Adjusted $R2=0.228$ and confirmed the academic stress as a significant predictor of depressive disorder ($\beta=0.478$, $p<0.001$). Of the variables in the second stage, academic stress ($\beta=0.431$, $p<0.001$) and satisfaction with life ($\beta=-0.291$, $p<0.001$) were identified as significant predictors of depressive disorder among adolescents. When satisfaction with life was added to the model ($F=300.796$, $p<0.001$) with an Adjusted $R^2=0.310$, there was a significant regression equation. In the third stage, the academic stress ($\beta=0.363$, $p<0.001$), satisfaction with life ($\beta=-0.278$, $p<0.001$) and self-rating life events ($\beta=0.194$, $p<0.001$) were identified as significant predictors of depressive disorder. When self-rating life events were included in the model ($F=232.337$, $p<0.001$) with an Adjusted $R^2=0.343$ there was a significant regression equation. Next in the fourth stage, the academic stress ($\beta=0.352$, $p<0.001$), satisfaction with life ($\beta=-0.257$, $p<0.001$), self-rating life events ($\beta=0.168$, $p<0.001$), and rejection ($\beta=0.099$, $p<0.001$) were identified as significant predictors of depressive disorder among adolescents. Rejection was added ($F=180.496$, $p<0.001$) with an Adjusted $R2=0.350$ and there was a significant regression equation. The variables in the fifth stage, academic stress ($\beta=0.341$, $p<0.001$), satisfaction with life ($\beta=-0.223$, $p<0.001$), self-rating life events ($\beta=0.173$, $p<0.001$), rejection ($\beta=0.107$, $p<0.001$) and resilience ($\beta=-0.091$, $p<0.001$) were identified as significant predictors of depressive disorder among adolescents. When resilience was included in the model ($F=148.857$, $p<0.001$) with an Adjusted $R2=0.357$, there was a significant regression equation. When all six factors emerged from the model as significant predictors with the largest being the academic stress ($\beta=0.342$, $p<0.001$), satisfaction with life ($\beta=-0.188$, $p<0.001$), self-rating life events ($\beta=0.180$, $p<0.001$), rejection ($\beta=0.103$, $p<0.001$) and resilience ($\beta=-0.084$, $p<0.001$), and social support ($\beta=-0.074$, $p<0.01$). When social support was added to the model ($F=126.061$,

p<0.001) with an Adjusted R2=0.360, there was a significant regression equation.

There were positive effects of the academic stress, self-rating life events and rejection variables on the depressive disorder variable. The higher the academic stress, self-rating life events and rejection, the higher depressive disorder was found in adolescents. On the other hand, there were negative effects of satisfaction with life, social support, and resilience variables on depressive disorder variables. The higher satisfaction with life, social support, and resilience was, the lower depressive disorder would be found in adolescents.

Table 2. Academic stress, self-rating life events, parents' educational styles, satisfaction with life, social support, resilience between adolescents without and with depressive symptoms**.**

Percentages of depressive disorders		**Without and with depressive symptoms**	**N**	**Mean**	**Std. Deviation**	**t**	**p**
Academic Stress		Yes	657	58.4	8.052	16.37	0.001
		No	679	50.68	9.159		
Self-rating Life Events		Yes	657	54.05	23.661	10.529	0.001
		No	679	40.74	22.536		
Satisfaction with Life		Yes	657	18.65	6.202	-10.084	0.001
		No	679	22.05	6.122		
Social Support		Yes	657	40.54	8.944	-6.297	0.001
		No	678	43.56	8.58		
Resilience		Yes	657	30.34	7.354	-6.183	0.001
		No	679	32.86	7.537		
Parents' Educational Styles	Rejection	Yes	657	12.84	3.553	-6.183	0.001
		No	678	11.33	3.442		
	Emotional Warmth	Yes	656	14.42	4.125	-6.683	0.001
		No	679	15.9	3.954		
	(Over) Protection	Yes	657	19.75	4.523	7.357	0.001
		No	679	18	4.186		
Note: p<0.001							

Table 3. Correlation between academic stress, self-rating life events, parents' educational styles, satisfaction with life, social support, resilience and depressive disorder**.**

Survey results	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
Depressive disorder	1	-	-	-	-	-	-	-	-
Academic stress	0.478**	1	-	-	-	-	-	-	-
Self-rating life events	0.361**	.362**	1	-	-	-	-	-	-
Rejection	0.307**	.245**	0.328**	1	-	-	-	-	-

Emotional Warmth	-0.212**	-.116**	-0.057*	-0.327**	1	-	-	-	-
(Over) Protection	0.231**	.283**	0.396**	0.512**	0.001	1	-	-	-
Satisfaction with life	-0.362**	-.162**	-0.127**	-0.263**	0.474**	-0.046	1	-	-
Social support	-0.228**	-.064*	0.016	-0.146**	0.465**	0.038	0.513**	1	-
Resilience	-0.220**	-.134**	-0.007	-0.024	0.244**	0.101**	0.357**	0.274**	1
Note: **Correlation is significant at the 0.01 level (2-tailed); *Correlation is significant at the 0.05 level (2-tailed)									

Table 4. Coefficients.

No	**Model**	**Unstandardized coefficients**		**Standardized coefficients**	**R**	**R^2**	**Adjusted R Square**	**t**	**F**
		B	**Std. Error**	**Beta**					
1	Academic stress	0.480	0.024	0.478	0.478	0.229	0.228	19.870***	394.836***
2	Academic stress	0.433	0.023	0.431	0.558	0.311	0.310	18.704***	300.796***
	Satisfaction with life	-0.433	0.034	-0.291				-12.637***	
3	Academic stress	0.365	0.024	0.363	0.587	0.344	0.343	15.127***	232.337***
	Satisfaction with life	-0.413	0.034	-0.278				-12.306***	
	Self-rating life events	0.077	0.009	0.194				8.125***	
4	Academic stress	0.353	0.024	0.352	0.593	0.352	0.350	14.630***	180.496***
	Satisfaction with life	-0.382	0.034	-0.257				-11.148***	
	Self-rating life events	0.067	0.010	0.168				6.848***	

	Rejection	0.263	0.064	0.099				4.090***	
5	Academic stress	0.343	0.024	0.341	0.59	0.359	0.357	14.178***	148.857***
	Satisfaction with life	-0.332	0.036	-0.223				-9.103***	
	Self-rating life events	0.068	0.010	0.173				7.076***	
	Rejection	0.283	0.064	0.107				4.409***	
	Resilience	-0.115	0.030	-0.091				-3.847***	
6	Academic stress	0.343	0.024	0.342	0.603	0.363	0.360	14.234***	126.061***
	Satisfaction with life	-0.280	0.041	-0.188				-6.879***	
	Self-rating life events	0.071	0.010	0.180				7.337***	
	Rejection	0.274	0.064	0.103				4.262***	
	Resilience	-0.105	0.030	-0.084				-3.510***	
	Social support	-0.079	0.028	-0.074				-2.846**	
Note: **: p<0,01; ***: p<0,000									

Discussion

Numerous studies on depression among Vietnamese adolescents have focused on various aspects and factors. In this population, Duong Tran investigated the psychosocial correlates of adolescent depression in Vietnam [59]. Kim et al., investigated cultural differences in the temporal relationships between somatic complaints, anxiety, and depressive symptoms in adolescents [60]. Tran et al., conducted a cross-sectional study on the prevalence of depressive symptoms and suicidal ideation among Vietnamese college students from various regions [61]. Long et al., investigated the aggregation of lifestyle risk behaviors and the influence of schools on these behaviors among Vietnamese adolescents [62]. Dang et al., examined the co-occurrence of the "big four" health risk behaviors (tobacco use, alcohol consumption, physical inactivity, and improper diet) [63]. Ho et al., investigated the relationship between academic stress, depression, life satisfaction, and resiliency in Vietnamese adolescents [64]. These studies collectively contribute to adolescent depression in Vietnam by examining risky behaviors, psychosocial aspects, cultural influences, and regional differences.

The goal of the research was to explore factors influencing depressive disorders among adolescents in Thua Thien Hue province, Vietnam. The results found a significant correlation between depressive disorder and academic stress, self-rating life events, satisfaction with life, social support, resilience, and parents' educational styles. There was a

positive impact of academic stress, self-rating life events, overprotection, and rejection on depressive disorder. Apparently, there was a negative impact of satisfaction with life, resilience, and social support on depressive disorder. The results of the research demonstrate two things. First, adolescents with a higher level of academic stress, self-rating life events and rejection were the higher depressive disorders were. Second, adolescents with a higher level of satisfaction with life, resilience, and social support experienced lower depressive disorders.

This result ties well with previous studies wherein there is a positive correlation between rejection and depressive disorders, and overprotection and depressive disorders among adolescents. The higher levels of rejection and overprotection, the higher depressive symptoms among adolescents were. Besides, rejection and overprotection seem to be risk factors related to disorders such as depressive problems. A similar conclusion was reached by Bal et al., that is, social support negatively correlated with depressive disorder. The more raised social support was, the more decreased symptoms of depression adolescents had. The findings support prior studies that indicated a strong inverse association between life satisfaction and depressive problems [65]. Where adolescents' life satisfaction is improved and enhanced, fewer symptoms of depression are found. Whereas the lower life satisfaction is, the probability of having depressive disorder is higher. Besides, Hu et al., revealed that people with higher resilience have fewer symptoms of depression. These results align with previous reports by Nguyen et al., showing that higher the levels of the academic stress those adolescents have, the more likely they are to experience feelings of depressive disorders and seemed to be one of the greatest impact factors on increasing symptoms of depression. The results also highlight that academic stress plays a crucial role in predicting symptoms of depression.

The results contribute to the literature by providing insight into the importance of factors related to depressive disorders, including academic stress, self-rating life events, satisfaction with life, resilience, social support, and parents' educational styles. The present research provides significant depression and related factors among secondary and high school students.

Conclusion

The research objective was to evaluate factors affecting depressive disorders of adolescents in Thua Thien Hue province, Vietnam. Depression is one of the most common mental health problems, which have been experienced globally by children and adolescents. The present study found support for academic stress, self-rating life events, rejection, and (over) protection as significantly and positively related to depressive symptoms. Besides emotional warmth, satisfaction with life, social support and resilience as significantly and inversely related to depressive disorders, more factors impact depressive symptoms among adolescents such as not only the problems related to school but also family, social environment, and even adolescents' cognition. Future research should consider the potential effects of these factors more carefully and replicate results in larger sample sizes or in other provinces in Vietnam to examine factors influencing students' depression.

Limitations

There are several limitations to this approach. One concern about the findings in the sampling process is that the sample of the research was selected randomly from five schools in Thua Thien Hue province, Vietnam, which may limit generalization of the results through the other adolescents. Therefore, the number of adolescents should be expanded to other areas in Vietnam for potential study in the future. Another limitation in this study involves the method of sampling. The instruments were self-reported, contributing to biassed findings and being a cross-sectional analysis that did not allow the researchers to have accurate results. In order to take these limitations into account, a longitudinal study would be much more expedient for better observation of adolescent depression in different contexts.

Recommendations

There could be multiple recommendations. First, the study findings aided in the development of critical recommendations and foundations for developing solutions to lessen depression among adolescents in Thua Thien Hue, Vietnam. Furthermore, in the contexts of Vietnamese higher education measures and schools, the findings of this research will provide essential considerations and consequences for different levels of leaders seeking to improve the quality of mental health services.

References

1. Sarokhani D, Delpisheh A, Veisani Y, Sarokhani MT, Manesh RE, et al. Prevalence of depression among university students: A systematic review and meta-analysis study. Depression Research and Treatment. 2013. 1-7.
2. Mathers CD, Loncar D. Updated projections of global mortality and burden of disease, 2002-2030: Data sources, methods and results. Geneva: World Health Organization. 2005;10.
3. Lopez AD. Global burden of disease and risk factors. 2006.
4. Steinhausen HC, Metzke CW. Adolescent self-rated depressive symptoms in a swiss epidemiological study. Journal of Youth and Adolescence. 2000;29(4):427-440.
5. Williamson DE, Birmaher B, Frank E, Anderson BP, Matty MK, et al. Nature of life events and difficulties in depressed adolescents. Journal of the American Academy of Child & Adolescent Psychiatry. 1998;37(10):1049-1057.
6. Burwell RA, Shirk SR. Self processes in adolescent depression: The role of self-worth contingencies. Journal of Research on Adolescence. 2006;16(3):479-490.
7. Muris P, Schmidt H, Lambrichs R, Meesters C. Protective and vulnerability factors of depression in normal adolescents. Behaviour Research and Therapy. 2001;39(5):555-565.
8. Kislitsyna OG. The social and economic risk factors of mental disorders of adolescents. Russian Education & Society. 2010;52(10):69-84.
9. Rohde P, Stice E, Gau JM. Effects of three depression prevention interventions on risk for depressive disorder onset in the context of depression risk factors. Prevention Science. 2012;13:584-593.
10. Moeini B, Bashirian S, Soltanian AR, Ghaleiha A, Taheri M. Prevalence of depression and its associated sociodemographic factors among Iranian female adolescents in secondary schools. BMC psychology. 2019;7:1-1.
11. Naruboina B, Praveen K, Rashmi N. Prevalence and factors influencing depression among adolescents with type-1 diabetes-a cross-sectional study. International Journal of Medicine and Public Health. 2017;7(3).
12. Sahoo S, Khess CR. Prevalence of depression, anxiety, and stress among young male adults in India: a dimensional and categorical diagnoses-based study. The Journal of nervous and mental disease. 2010;198(12):901-904.
13. Tully PJ, Zajac IT, Venning AJ. The structure of anxiety and depression in a normative sample of younger and older Australian adolescents. Journal of Cbnormal Child Psychology. 2009;37:717-726.
14. Woodgate RL. Living in the shadow of fear: Adolescents' lived experience of depression. Journal of Advanced Nursing. 2006;56(3):261-269.
15. Bui QT, Vu LT, Tran DM. Trajectories of depression in adolescents and young adults in Vietnam during rapid urbanisation: Evidence from a longitudinal study. Journal of Child & Adolescent Mental Health. 2018;30(1):51-59.
16. Nguyen DT, Dedding C, Pham TT, Wright P, Bunders J. Depression, anxiety, and suicidal ideation among

Vietnamese secondary school students and proposed solutions: A cross-sectional study. BMC Public Health. 2013;13:1-0.
17. Nguyen DT, Wright EP, Dedding C, Pham TT, Bunders J. Low self-esteem and its association with anxiety, depression, and suicidal ideation in vietnamese secondary school students: A cross-sectional study. Frontiers in Psychiatry. 2019:698.
18. Kessler RC, Avenevoli S, Costello EJ, Georgiades K, Green JG, et al. Prevalence, persistence, and sociodemographic correlates of DSM-IV disorders in the national comorbidity survey replication adolescent supplement. Archives of General Psychiatry. 2012;69(4):372-380.
19. Jane Costello E, Erkanli A, Angold A. Is there an epidemic of child or adolescent depression? Journal of Child Psychology and Psychiatry. 2006;47(12):1263-1271.
20. Horowitz JL, Garber J. The prevention of depressive symptoms in children and adolescents: A meta-analytic review. Journal of Consulting and Clinical Psychology. 2006;74(3):401.
21. Kovacs M, Obrosky S, George C. The course of major depressive disorder from childhood to young adulthood: Recovery and recurrence in a longitudinal observational study. Journal of Affective Disorders. 2016;203:374-381.
22. Cheung AH, Emslie GJ, Mayes TL. The use of antidepressants to treat depression in children and adolescents. Canadian Medical Association Journal. 2006;174(2):193-200.
23. Draucker CB. Processes of mental health service use by adolescents with depression. Journal of Nursing Scholarship. 2005;37(2):155-162.
24. Kutcher S, Kusumakar V, LeBlanc J, Santor D, Lagace D, et al. The characteristics of asymptomatic female adolescents at high risk for depression: The baseline assessment from a prospective 8-year study. Journal of Affective Disorders. 2004;79(1-3):177-185.
25. Sowislo JF, Orth U. Does low self-esteem predict depression and anxiety? A meta-analysis of longitudinal studies. Psychological Bulletin. 2013;139(1):213.
26. Jaycox LH, Stein BD, Paddock S, Miles JN, Chandra A, et al. Impact of teen depression on academic, social, and physical functioning. Pediatrics. 2009;124(4):e596-605.
27. Bhatia SK, Bhatia SC. Childhood and adolescent depression. American Family Physician. 2007;75(1):73-80.
28. Hawton K, Saunders KE. Psychiatric service development and suicide. The Lancet. 2009.
29. Keenan-Miller D, Hammen CL, Brennan PA. Health outcomes related to early adolescent depression. Journal of Adolescent Health. 2007;41(3):256-262.
30. Anlı İ, Karslı TA. Perceived parenting style, depression and anxiety levels in a Turkish late-adolescent population. Procedia-Social and Behavioral Sciences. 2010;2(2):724-727.
31. Betts J, Gullone E, Allen JS. An examination of emotion regulation, temperament, and parenting style as potential predictors of adolescent depression risk status: A correlational study. British Journal of Developmental Psychology. 2009;27(2):473-485.
32. Ebrahimi L, Amiri M, Mohamadlou M, Rezapur R. Attachment styles, parenting styles, and depression. International Journal of Mental Health and Addiction. 2017;15:1064-1068.
33. Assana S, Laohasiriwong W, Rangseekajee P. Quality of life, mental health and educational stress of high school students in the northeast of Thailand. Journal of Clinical and Diagnostic Research: JCDR. 2017;11(8):VC01.
34. Jayanthi P, Thirunavukarasu M, Rajkumar R. Academic stress and depression among adolescents: A cross-

sectional study. Indian Pediatrics. 2015;52:217-219.
35. Irandoost SF, Taghdisi MH, Dehdari T, Bayangani B, Azadi NA, et al. Academic stress among Indian adolescent girls. Journal of Education and Health Promotion. 2019;9(8):1-7.
36. Sun J. Educational stress among Chinese adolescents: Measurement, risk factors and associations with mental health.
37. Bal S, Crombez G, Van Oost P, Debourdeaudhuij I. The role of social support in well-being and coping with self-reported stressful events in adolescents. Child Abuse & Neglect. 2003;27(12):1377-1395.
38. Gore S, Aseltine Jr RH. Race and ethnic differences in depressed mood following the transition from high school. Journal of Health and Social Behavior. 2003:370-89.
39. Pössel P, Burton SM, Cauley B, Sawyer MG, Spence SH, et al. Associations between social support from family, friends, and teachers and depressive symptoms in adolescents. Journal of Youth and Adolescence. 2018;47:398-412.
40. Seeley JR, Stice E, Rohde P. Screening for depression prevention: Identifying adolescent girls at high risk for future depression. Journal of Abnormal Psychology. 2009;118(1):161.
41. Irons C, Gilbert P, Baldwin MW, Baccus JR, Palmer M. Parental recall, attachment relating and self-attacking/self-reassurance: Their relationship with depression. British Journal of Clinical Psychology. 2006;45(3):297-308.
42. Sharma M, Sharma N, Yadava A. Parental styles and depression among adolescents. Journal of the Indian Academy of Applied Psychology. 2011.
43. Vu TV, Nguyen XT, Vu TT, Chi VL. Parent-adolescent conflict during the COVID-19 pandemic. Studies on Ethno-Medicine. 2022:106-113.
44. Liu Y, Lu Z. Chinese high school students' academic stress and depressive symptoms: Gender and school climate as moderators. Stress and Health. 2012;28(4):340-346.
45. Luu-Thi HT, Ngo-Thi TT, Nguyen-Thi MT, Thao-Ly T, Nguyen-Duong BT, et al. An investigation of mathematics anxiety and academic coping strategies among high school students in Vietnam: A cross-sectional study. InFrontiers in Education 2021;6:742130.
46. Orchard F, Pass L, Reynolds S. 'I Am Worthless and Kind'; The specificity of positive and negative self-evaluation in adolescent depression. British Journal of Clinical Psychology. 2019;58(3):260-273.
47. Swami V, Chamorro-Premuzic T, Sinniah D, Maniam T, Kannan K, et al. General health mediates the relationship between loneliness, life satisfaction and depression: A study with Malaysian medical students. Social Psychiatry and Psychiatric Epidemiology. 2007;42:161-166.
48. Southwick SM, Bonanno GA, Masten AS, Panter-Brick C, Yehuda R. Resilience definitions, theory, and challenges: interdisciplinary perspectives. European Journal of Psychotraumatology. 2014;5(1):25338.
49. Hu T, Zhang D, Wang J. A meta-analysis of the trait resilience and mental health. Personality and Individual Differences. 2015;76:18-27.
50. Niu GF, Sun XJ, Tian Y, Fan CY, Zhou ZK. Resilience moderates the relationship between ostracism and depression among Chinese adolescents. Personality and Individual Differences. 2016;99:77-80.
51. Beck AT. Manual for the beck depression inventory-II. 1996.
52. Truc TT, Loan KX, Nguyen ND, Dixon J, Sun J, et al. Validation of the Educational Stress Scale for Adolescents (ESSA) in Vietnam. Asia Pacific Journal of Public Health. 2015;27(2):NP2112-21.

53. Arrindell WA, Sanavio E, Aguilar G, Sica C, Hatzichristou C, et al. The development of a short form of the EMBU1Swedish acronym for Egna Minnen Beträffande Uppfostran ("My memories of upbringing"). 1: Its appraisal with students in Greece, Guatemala, Hungary and Italy. Personality and Individual Differences. 1999;4(27):613-628.
54. Liu XC, Liu LQ. Adolescent self-rating life events checklist. Chinese Mental Health Journal. 1987:106-108.
55. Diener ED, Emmons RA, Larsen RJ, Griffin S. The satisfaction with life scale. Journal of Personality Assessment. 1985;49(1):71-75.
56. Pavot W, Diener E. Review of the satisfaction with life scale. Springer. 1993.
57. Zimet GD, Dahlem NW, Zimet SG, Farley GK. The multidimensional scale of perceived social support. Journal of Personality Assessment. 1988;52(1):30-41.
58. Campbell-Sills L, Stein MB. Psychometric analysis and refinement of the Connor-Davidson Resilience Scale (CD-RISC): Validation of a 10-item measure of resilience. Journal of Traumatic Stress. 2007;20(6):1019-1028.
59. DuongTran Q. Psychosocial correlates and depression in vietnamese adolescents. Child and Adolescent Social Work Journal. 1996;13:41-50.
60. Kim JH, Tsai W, Kodish T, Trung LT, Lau AS, et al. Cultural variation in temporal associations among somatic complaints, anxiety, and depressive symptoms in adolescence. Journal of Psychosomatic Research. 2019;124:109763.
61. Tran QA, Le VT, Nguyen TH. Depressive symptoms and suicidal ideation among Vietnamese students aged 13–17: Results from a cross-sectional study throughout four geographical regions of Vietnam. Health Psychology Open. 2020;7(2):2055102920973253.
62. Long KQ, Ngoc-Anh HT, Phuong NH, Tuyet-Hanh TT, Park K, et al. Clustering lifestyle risk behaviors among Vietnamese adolescents and roles of school: A Bayesian multilevel analysis of global school-based student health survey 2019. The Lancet Regional Health-Western Pacific. 2021;15:100225.
63. Dang HM, Ho H, Weiss B. The 'big four'health risk behaviors among Vietnamese adolescents: Co-occurrence and socio-cultural risk factors. Health Psychology and Behavioral Medicine. 2022;10(1):379-398.
64. Ho TT, Nguyen BT, Nguyen NP. Academic stress and depression among vietnamese adolescents: A moderated mediation model of life satisfaction and resilience. Current Psychology. 2022:1.
65. Samaranayake CB, Fernando AT. Satisfaction with life and depression among medical students in Auckland, New Zealand. New Zealand Medical Journal. 2011;124(1341):12-17.

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