Depressive disorder in academic and family structure in Vietnamese adolescents

Research Article

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Abstract

The symptoms of depression are related to low academic achievement, suicidal ideation and cause emotional sufferings, fundamental impairments which can influence students' abilities to perform essential activities of daily living. This study conducted to examine the relationships between depression and not only academic performance but also family structure. This study used the Beck Depression Inventory-II to survey 1336 students from secondary and high schools in Hue province, Vietnam. The findings of our study showed that there were associations between levels of depression and academic performance. Students with good or excellent academic performance were more likely to increase depression than others. Besides, students who had divorced or separated parents were more likely to increase depression gradually than the others. Context: The symptoms of depression are related to low academic achievement, suicidal ideation and cause emotional sufferings, fundamental impairments which can influence students' abilities to perform essential activities of daily living. Aims: This study conducted to examine the relationships between depression and not only academic performance but also family structure. Methods and Material: This study used the Beck Depression Inventory-II to survey 1336 students from secondary and high schools in Hue province, Vietnam. Results: The findings of our study showed that there were associations between levels of depression and academic performance. Conclusions: Students with good or excellent academic performance were more likely to increase depression than others. Besides, students who had divorced or separated parents were more likely to increase depression gradually than the others.

Key Words: Student, Depression, Family structure, Academic performance, GPA.

Introduction

Depression is a widespread phenomenon (1). It is one of the most important mental health problems which has been globally documented by children and adolescents in numerous countries including Australia, India, Greece, Russia, and China (2-5). The primary causes of depression are adverse life events, hopelessness, helplessness, and disease. The prevalence of depression is from 3% to 15% of the general population in which the cases seriously affected have 0.4–5%. Specifically, depression affects preschool children at 0.3%, school children at 2% and adolescents from 10 to 19 years old at 4-8% in young people (6). It has been recognized by psychologists that depression is common not only in adults but also in children and adolescents, especially in secondary and high school students. The symptoms of depression cause emotional sufferings and fundamental impairments, which can influence students' abilities to perform essential activities of daily living such as participating in social activities, maintaining balance in ongoing relationships (7-9) or resolving potential disharmony at home (10), and are related to low academic achievement, social dysfunction, and suicidal ideation and behaviour (11). The negative impact of depression is also presented with social isolation and substance abuse (6). Depressed children and adolescent often face academic concerns including lack of energy, motivation and hopes to study and succeed in the school, a decrease of concentration and focus in studying process in the classroom (12, 13) which lead to poor academic performance (14). Besides, several researchers reported that experiencing school difficulties and problems were one of the main causes of growing depression among adolescents (12, 13, 15). Depressed children and adolescents frequently face general co-occurring issues which are low academic achievement, school attendance problems, school failure (16) and academic pressure including the rising amount of schoolwork, assignment deadlines, and school examinations (17).

The influences of depression on students have been mentioned in numerous scientific researches for a long time. Khesht-Masjedi, Shokrgozar (18) revealed that depression had a negative effect on academic achievement among teenagers. Students with depressive symptoms would decrease motivation in concentration and paying attention to learn, which led to a decrease in...
academic achievement. Besides, several studies investigated the correlation between depression and academic performance. Busari (19) evaluated and reported a significant and negative correlation between depression and academic performance. This result is directly in line with Owens, Stevenson (20), which surveyed numerous developing UK students from 12 to 13-years-old. They investigated the relationship between depression and academic performance and indicated that the higher levels of depression students had a lower academic performance. According to the findings in the research conducted in Santiago, Chile which surveyed 894 adolescents from 12 to 17 years old and emphasized the influences of mental health on educational outcomes, depressive symptoms caused adolescents not to perform well as they expected in studying process in school (21). These findings are in accordance with findings reported by Shippee and Owens (22), which suggested that depression had a negative effect on achievement outcomes throughout high school. Moreover, the results of the previous studies reported by Lewinsohn, Roberts (23) and Roeser, Eccles (24) also revealed that there was an association between low-grade point average (GPA) and high level of depression in the adolescent. These findings are directly in line with previous findings of Bruebek and Beer (25), which indicated that students displaying a high level of depression had lower grade point averages than did the others.

On the contrary, Chen and Li (26) showed no association between academic achievement and adolescent depression. The findings suggest that studying process in schools such as many assignments, overwhelming contents, or difficulties in completing homework required to maintain attention and concentration caused depression in Chinese students. Besides, Shahar, Henrich (27) revealed that with high levels of depression, there were adverse influences of self-criticism on boys' GPA.

Academic achievement and family structure have been mentioned in numerous scientific research on the factors affecting students' depression. Bruebek & Bruebeck and Beer (25) surveyed 131 Kansas high school students with background information and the Beck Depression Scale. The researchers concluded that students from divorced families suffered more depression than students living with both parents. They also reported that children from divorced parents had lower grade point averages and self-esteem than children from intact families. Rodgers (28) also revealed that daughters following parental divorce showed high levels of depression in a longitudinal study. Besides, Lloyd (29) indicated that experiencing parental bereavement during childhood increases the risk of depression in adulthood. Children from divorced families had more adverse experiences in daily life compared to children from intact families (30) and had to face many emotional difficulties such as the disturbance in self-control and aggressiveness and lowered self-esteem (31-33). These findings suggested that family factors had significant effects on students' depression, especially family structure.

The transformation of family structure causes childhood family instability which has enduring negative influences on psychological wellbeing (34). Specifically, the change from a biological parent family to single-mother family or cohabiting stepfamily has been increased the probability for depression in adolescents with an average age of 15-years (34). With the transformation of family structure in our society still ongoing, it is necessary to examine the influences of family transition on children's mental health. Many scientific researchers reported that adolescents living in a single-parent family suffered more commonly from depression than adolescents living in a two-parent family (35-38). This result supports previous conducted by Feldman, Rubenstein (39). The researchers surveyed 103 unselected sixth-grade students and indicated significant correlations between family structure and depressive affect. They reported that students from single-parent families background showed more depression than those from intact families’ backgrounds.

Furthermore, if young adolescents felt less cohesive, less adaptable from their families, or there were problems in the communication between them and parents, they would suffer more depressive symptoms. Laukkonen, Hakko (40) examined 508 adolescent inpatients who suffered severe mental disorders, aged from 15 to 17 years old, and treated in the psychiatric hospital between April 2001 and March 2006. They concluded that adolescents suffered depressive symptoms and admitted that psychiatric treatment was more usually from a single-parent family background which is a statistically significant predictor that doubled the risk for depression in adolescents. Besides, Sadock and Sadock (41) reported that students living with both parents had a lower rate of depression than those from other backgrounds. Moreover, parental bereavement or divorce commonly destroys mental health and emotions of children. For several purposes, school advisors must have the skills required to identify, assist and refer troubled adolescent students (42).

Depression of students is not a new topic. However, few studies have focused on this subject in Vietnam, especially the relationship between depression and GPA or family structure. To fill this gap, we examine the associations between depression and GPA and family structure that influence students’ depression. The research reviews the literature on the relationship between students' depression and academic achievements and family structure. In the second section, a basic analytical framework is described, including the research methodology, result, and discussion. Finally, the conclusion is in the last section.

**Methods**

**Participants**

Participants were selected randomly from five schools in Thua Thien Hue province, Vietnam. All participants provided informed consent after receiving an explanation of the purpose of the research. The survey instrument distributed to 1351 Vietnamese participants, of which 1336 questionnaires
returned, for a 98.89 percent return rate, which exceeds the 30 percent response rate most researchers require for analysis (43). The students participated in this prospective study from January 2019 to December 2020. The sample of this study was drawn from 1336 students who completed the survey instrument. There were more Two-parent family (88.5%) Divorced or separated parents (6%) and Deceased father/mother (3.7%) among the 1336 Vietnamese students who surveyed.

### Table 1. An overview of survey participants

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>613</td>
<td>45.9</td>
</tr>
<tr>
<td>Female</td>
<td>718</td>
<td>53.7</td>
</tr>
<tr>
<td>LGBT</td>
<td>5</td>
<td>0.4</td>
</tr>
<tr>
<td><strong>Schools</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nguyen Tri Phuong</td>
<td>342</td>
<td>25.6</td>
</tr>
<tr>
<td>secondary school</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thong Nhat secondary</td>
<td>370</td>
<td>27.7</td>
</tr>
<tr>
<td>school</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gia Hoi high school</td>
<td>233</td>
<td>17.4</td>
</tr>
<tr>
<td>Quoc Hoc high school</td>
<td>177</td>
<td>13.2</td>
</tr>
<tr>
<td>for the Gifted</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dang Tran Con high</td>
<td>214</td>
<td>16.0</td>
</tr>
<tr>
<td>school</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Family structure</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Two-parent family</td>
<td>1182</td>
<td>88.5</td>
</tr>
<tr>
<td>Divorced or separated</td>
<td>80</td>
<td>6.0</td>
</tr>
<tr>
<td>parents</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Deceased father/mother</td>
<td>50</td>
<td>3.7</td>
</tr>
<tr>
<td>Another situation</td>
<td>24</td>
<td>1.8</td>
</tr>
<tr>
<td><strong>Academic performance</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Grade point average)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Poor</td>
<td>3</td>
<td>0.2</td>
</tr>
<tr>
<td>Below average</td>
<td>30</td>
<td>2.2</td>
</tr>
<tr>
<td>Average</td>
<td>277</td>
<td>20.7</td>
</tr>
<tr>
<td>Good</td>
<td>565</td>
<td>42.3</td>
</tr>
<tr>
<td>Excellent</td>
<td>461</td>
<td>34.5</td>
</tr>
</tbody>
</table>

Note: n: Number of participants; %: Percentage

### Measure

This study used the Beck Depression Inventory-II (BDI-II) to survey students from secondary and high schools in Hue province, Vietnam. First, social-demographic items were introduced in the questionnaire. Vietnamese secondary and high school students' perception of depression differs concerning gender and grade measured by BDI-II. BDI-II validated using college students, adult psychiatric outpatients, and adolescent psychiatric outpatients (44). The participants' responses are provided in five different levels based on a 4-point scale indicates the degree of severity; items are rated from 0 (not at all) to 3 (an extreme form of each symptom).

### Analyses

All participants were provided informed consent before participation and receiving an explanation of the purpose of the research. The ethics committee approved the research of Hue University, Vietnam. The Statistical Package for the Social Sciences (SPSS) version 20 was used for data analyses. The coding procedure was performed as follow: 0 = Not at all, 1 = Mildly – It did not bother me much, 2 = Moderately – It was very unpleasant, but I could stand it, 3 = Severely – I could barely stand it (44, 45). According to Beck, Steer (44) and Smarr (45), the following guidelines have been suggested to interpret the BDI-II, Minimal range 0–13; Mild depression 14–19; Moderate depression 20–28; Severe depression 29–63.

### Ethical approval

The study protocol was approved by the Department of Psychology and Education, University of Education, Hue University, Thua Thien Hue Province, Vietnam (No. 680/QĐ-DHSP).

### Results

The levels of depression are presented in Table 2. The below table showed that the highest rate of depression was minimal depression (50.7%) with more than half of the students scoring under 14 points and the lowest rate was severe depression (7.7%) with 103 students scoring 20-28 points. The proportion of mild depression was 22.8% of the students in which the cases with moderate depression had 22.8%.

### Table 2. Percentage of the adolescents' depressive disorders in Hue City

<table>
<thead>
<tr>
<th>The levels of depression</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimal range 0–13</td>
<td>678</td>
<td>50.7</td>
</tr>
<tr>
<td>Mild depression 14–19</td>
<td>305</td>
<td>22.8</td>
</tr>
<tr>
<td>Moderate depression 20–28</td>
<td>223</td>
<td>16.7</td>
</tr>
<tr>
<td>Severe depression 29–63</td>
<td>130</td>
<td>9.7</td>
</tr>
</tbody>
</table>

Note: n: Number of participants; %: Percentage

From the below table, we find a Chi-square test of independence was calculated comparing the frequency of depression academic performance. A significant interaction was found ($\chi^2(12) = 65.970, p < .05$). Good students were more likely to increase depression than the others.

### Table 3. Percentage of depressive disorder in terms of academic performance

<table>
<thead>
<tr>
<th>Level</th>
<th>Total</th>
<th>Academic performance</th>
<th>Contingency coefficient</th>
<th>$\chi^2$</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Poor</td>
<td>Below Average</td>
<td>Average</td>
<td>Good</td>
<td>Excellent</td>
</tr>
<tr>
<td>Minimal range 0–13</td>
<td>678</td>
<td>0</td>
<td>10</td>
<td>1.5</td>
<td>116</td>
<td>17.1</td>
</tr>
<tr>
<td>Mild depression 14–19</td>
<td>305</td>
<td>0</td>
<td>5</td>
<td>1.6</td>
<td>74</td>
<td>24.3</td>
</tr>
<tr>
<td>Moderate depression 20–28</td>
<td>223</td>
<td>0</td>
<td>9</td>
<td>4.0</td>
<td>59</td>
<td>26.5</td>
</tr>
<tr>
<td>Severe depression 29–63</td>
<td>130</td>
<td>3</td>
<td>2.3</td>
<td>6.4</td>
<td>28</td>
<td>21.5</td>
</tr>
</tbody>
</table>

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The below table illustrated that the highest rate in all levels of depression was Good students. Specifically, Good students accounted for 45.4% in Severe depression, 46.6% in Moderate depression and 40.3% in Mild depression. Excellent students accounted for 26.2% in Severe depression, 22.9% in Moderate depression and 33.8% in Mild depression. Poor students had the lowest rate in all levels of depression, with only three students suffering Severe depression (2.9%). There were 678 students did not suffer depressive symptoms with 273 Excellent students (40.3%), 279 Good students (41.2%), 116 Average students (17.1%) and 10 Below Average students (1.5%).

From the above table, we find a Chi-square test of independence was calculated comparing the frequency of depression between family structures. A significant interaction was found ($\chi^2 (9) = 21.594, p < .05$). Students who had divorced or separated parents were more likely to increase depression gradually than the others. Specifically, students living with divorced or separated parents accounted for 4.3% in minimal depression, 5.9% in mild depression, 8.5% in moderate depression and 10.8% in severe depression.

It is noticeable that although students from two-parent family accounted for the largest proportion of all levels of depression, this group were more likely to decrease depression gradually compared to the others. Besides, it is clear that students who had deceased father/mother had the lower percentage in all levels of depression compared to those from two-parent family and divorced or separated parents with 2.9% in minimal depression, 3.6% in mild depression, 6.7% in moderate depression and 3.1% in severe depression. Other situation accounted for the smallest proportion of all levels of depression.

### Discussion

This research examined the relationship between depression, academic performance, and family structure. The main findings indicate that there was a significant interaction between depression and academic performance. Besides, a significant interaction between depression and family structure was also found. Specifically, students with good or excellent academic performance were more likely to increase depression than others. This result brought into light that students with good or excellent academic performance experienced academic pressure from a variety of potential sources. Academic pressure in secondary or high school could be parental pressure (46, 47), the rising amount of schoolwork, assignment deadlines or examinations which were documented factors affecting students’ mental health and resulted in psychological problems related to disorders such as depression. This finding supports a prior study made by Zhang and et al (2013), which surveyed 1,297 8th and 9th-grade students in Shandong, China and concluded that students with more severe academic pressure showed higher levels of depression. Besides, Wenz-Gross and Siperstein (48), also revealed that individuals who have high levels of academic stress are more likely to experience feelings of depression. The findings of Chen and Li (26) suggested that studying process in school with a large number of assignments, overwhelming contents or difficulties in completing homework required to maintain attention and concentration caused depression in Chinese students. Contrary to our findings, Owens, Stevenson (20) reported that students with higher levels of depression frequently have poorer academic performance. This could be explained by often facing academic concerns like lack of energy, motivation and hopes to study and succeed in the school, a decrease of concentration in studying process of depressed students (12, 13).

Our results demonstrated that students who had divorced or separated parents were more likely to increase depression gradually than the others. These findings are in accordance with findings reported by Brubek and Beer (25), who indicated that high school students from divorced families suffered more depression and had lower grade point averages. The students from divorced families had more adverse experiences in daily life, which caused anxiety, depression and antisocial behaviour (49). Hadžíkapetanović, Babić (50) also concluded that parents’ divorce is one of the most significant factors for the development of depression. Specifically, adolescents experiencing parental divorce would suffer more depressive symptoms. However, Mahon, Yarcheski (51) reported that individuals from divorced family showed no difference in levels of depression compared to those from intact families. Our findings showed that students who had deceased father/mother had a lower percentage in all levels of depression compared to those from a two-parent family.

Contrary to these findings, Sadock and Sadock (41) concluded that the depression rate for students...
living with both parents is significantly lower than other situations such as parents' death or parents' divorce. This means parents' death could be one of the significant risk factors for the development of depression. Moreover, Lloyd (29) indicated that experiencing parental bereavement during childhood increases the risk of depression in adulthood. The limitation of the present studies naturally is the sampling process. The sample was selected randomly from five schools in Thua Thien Hue province, Vietnam.

Conclusion

Depression is a widespread phenomenon, and one of the most important mental health problems globally documented by children and adolescents. Importantly, our results provide additional information about the relationships between depression and academic performance and family structure. Education in Vietnam transformed into a new form that brings about the education curricula with more complexity of academic content and causes academic pressures, stress, anxiety and depressive symptoms. So that, future studies should aim to replicate results in larger sample size or in other provinces in Vietnam to examine factors influencing on students' depression such as not only academic performance but also academic curricula, parental pressures and academic stress.

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