Demographical and Psychological Determinants of Depression, Among a Sample of Iranian Male Adolescents

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Date of Submission: Jul 15, 2012

Date of Acceptance: Dec 13, 2012

How to cite this article: Ghofranipour F, Saffari M, Mahmoudi M, Montazeri A. Demographical and psychological determinants of depression, among a sample of Iranian male adolescents. Int J Prev Med 2013;4: 1217-23.

ABSTRACT

Background: The prevalence of depression especially among youths is increasingly high. The present study is aimed to identify some demographic and psychological factors such as self-efficacy and perceived stress that may be related to depression among male adolescents.

Methods: Overall, 402 adolescent were selected for participation in the study using multistage sampling method. The participants completed a questionnaire including demographic, depression, self-efficacy, and perceived stress data. A multiple regression analysis and the Pearson correlation test were used for data analysis. SPSS version 17 software was used for performing analyses.

Results: The mean age of the adolescents was 15.44 (SD = 0.68) years. The total mean score of depression was 16.02 ± 9.14 and 153 (38.1%) of participants showed depressive symptoms. Results showed that high levels of depression were associated with low level of self-efficacy and high level of perceived stress; also some demographic variables such as fathers' job and academic situation can be related to depression among male adolescents.

Conclusions: Self-efficacy and perceived stress can be related to depression but the role of stress and self-efficacy in the etiology and forming of depression in adolescent are discussed. Therefore, more studies for approval of these associations should be considered.

Keywords: Adolescents, depression, perceived stress, self-efficacy

Brief Communication

INTRODUCTION

Investigating the influential factors among particular population requires assessing the relations between factors included in this complex such as psychological or demographical variables.[1] Some examples of the potential psychogenic factors related to depression are stress and self efficacy.[2]

Depression during adolescence has been shown to be highly prevalent and associated with life stressors.[3] Studies found that depressed children were more likely to have had significant stresses in the previous year prior to depression compared to non-depressed children.[4,5]

It has been estimated that between 25% and 30% of US students suffer from adverse effects of examination stress. Furthermore, it is assumed that 10 million school students underachieve because of anxiety-related performance impairments.[6]

The stresses that occur during adolescence may have a substantial negative impact on emotional well-being and result in the adoption of unhealthy or maladaptive behaviors.[7,8] Stress and stress-associated distress or depressions are important factors in self-efficacy. For both adults and adolescents, stress has been shown to be positively associated with levels of self-efficacy.[9,10] According to Bandura, self-efficacy plays a central role in the self-regulation of affective states. Briefly, when people perceive themselves as unable to gain highly valued outcomes, they will be depressed.[11]

There are few studies that have reported a negative correlation between self-efficacy and depression among adolescents. In these studies, the low self-efficacy of children was associated with their high level of depression.[12,13]

Similarly, there are few studies that have examined the relations between self-efficacy and adolescent depression and stress. Depression has been shown to be negatively correlated with self-efficacy among Iranian student.[14] Depressed mood has also been found to be related with a high stress rate,[15] and self-efficacy turned out to be a mediator in this relationship.

In Iran, as a developing country, approximately 1/3 of population are adolescents.[16] Studies from Iran report serious mental problems such as depression and distress among Iranian adolescents.[17,18]

The parameters such as depression, stress, and self-efficacy have culture-based nature[19] and may be different in countries and regions with various sociodemographical specifications. Therefore, we should consider the important role of demographics to better recognize the potential associations between them.

It is hypothesized in this research that high levels of depressive symptoms would be associated with high levels of stress and low level of self-efficacy. Thus, the present study aimed to determine the relationships between stress and self-efficacy with depression among a sample of Iranian male adolescents. Additionally, we were interested in examining how self-efficacy and perceived stress along with demographic variables may predict the depressive symptoms.

METHODS

Participants and procedure

In general, 402 adolescents from 8 high schools at 9th grade were entered in the study. These schools were located on four different regions of Southern area of Tehran city. Multistage sampling method was used to recruit the sample. For facilitating the process of the sampling with limited time and resources, the participants were selected only among male adolescents. We used Cohen tables for calculating the sample size of this cross sectional study. All of the participants were content to participation and institutional review board of Tarbiat Modares University approved the ethical agreement of the study.

Measures

Center for epidemiologic studies depression scale

This is a 20 items questionnaire that assesses the affective and cognitive rather than somatic symptoms of depression. The scale was initially developed by Radloff *et al.*[20] Each item has a four points option (0-3) that measures the frequency of the statement during last month. Total score of the scale is calculated by recoding the negative statements (4,8,12,16) and then summing the scores of all items. Defining cut-points as without (less than 16), mild (16 to 26), and major (27 or more) depression were used in related studies for classification of participants. The validity and reliability of the scale was approved in other previous studies.[20,21] In the study, we found an internal consistency of 0.93 for the scale.

Perceived stress scale

The PSS is a popular scale for measuring the perceived stress. It is a 10 item questionnaire that initially developed by Cohen and Williamson in 1988. The scale uses a Likert type response with four options (1-4), which produces a range from 10 to 40 points score. Total score is calculated by summing all separate item scores. It has been shown that PSS is a valid and reliable instrument.[22] The internal consistency of the scale was yielded a Cronbach's alpha about 0.78 in our study.

General self-efficacy scale

The scale was initially developed by Jerusalem and Schwarzer in German language. It comprised of 10 items which ask about self beliefs regard to ability for coping with various situations in the life. The score of each item ranged from 1 to 4 and the total score is computing by summing all of the items. The validity and reliability of the scale have been guaranteed in previous studies.[23,24] In our study sample, Cronbach's alpha was 0.86.

Demographic variables

Demographic specifications of the sample were assessed by asking the variables such as age, birth place, duration of residence, the number of family members living in the house, having siblings, parent`s education and job, and Past semester grade point average.

Data analysis

Means and standard deviations for quantitative data and numbers and percents for qualitative data were computed. Student *t*-test and Chi-square or Fisher tests were applied for comparing demographics between normal or depressed groups. A Pearson correlation test was used for assessing the associations between depression, perceived stress, and self-efficacy. Furthermore, a multiple regression analysis was applied for predicting the demographic and psychological variables regard to depression.

In the analysis, depression was entered as dependent variable and demographic variables, self-efficacy, and stress were entered as independent variables. All statistical analysis was performed by SPSS software version 17.

RESULTS

Descriptive statistics

As it could be seen in the Table 1, the mean age of participants was 15.44 (SD = 0.68). The most of them had large nuclear (with parents) families with five or more members (52.7%). The secondary education level of both parents is the highest among subjects (fathers = 54.5% and mothers = 55.5%). Results of comparisons between normal and depressed groups revealed that there were significant differences between groups in term of father's job and past semester grade point average ($P < 0.05$). The total mean score of depression was 16.02 ± 9.14. According to Zich *et al.*, classification of scores,[25] 249 (61.9%) of participants were without any considerable symptoms of depression, 106 (26.4%) of subjects had mild depressive symptoms and the rest (47 persons or 11.7%) had major depressive symptoms.

The total mean score of self- efficacy scale was 27.24 ± 5.11. Using the median split, which is to dichotomize the sample, 213 (53%) of participants were found low self-efficacious and the rest (189 persons or 47%) were high self-efficacious.

The mean score of perceives stress was 17.99 (SD = 6.02). By categorizing the scale to a dichotomous organization, 282 (70.1%) of participants were placed in low stress group (≤20) and 120 persons (29.9%) were in high stress group (>20).

Relations between depression related factors

Results obtained from Pearson correlation test showed that there is a significant negative relationship between self-efficacy and depression (r = −0.322). Moreover, there was negative correlation between perceived stress and self-efficacy (r = −0.439). A positive significant relationship also was found between depression and perceived stress (r = 0.649).

Results obtained from the linear regression analysis revealed that perceived stress, self-efficacy, father's job ($P < 0.01$), and past semester grade point average ($P < 0.05$) were associated significantly with depression among the adolescents [Table 2]. The variation of depression in the model was about 45%.

DISCUSSION

The initial hypotheses regarding the inter-correlations between the scales were supported by the findings of this study. There were high correlations between CES-D, PSS, and GSE.

The prevalence of depressive syndromes among our participants was considerable and showed that more than 1/3 of them have different points of depression. This finding has been reported in other studies with a range from 10 to 34%.[26-28]

As predicted, results revealed that high levels of depression were generally accompanied by low levels of self-efficacy and also high levels of perceived stress.

This finding agrees with earlier findings.[29,30] Furthermore, as Stein *et al.,* have stated, the cultural

Table 1: Sample characteristics

	Overall no (%)	Normal no (%)	Depressed no (%)	*P* value*
Age (year; Mean, SD)	15.44 (0. 68)	15.43 (0.71)	15.46 (0.64)	0.694
Birth place				
Tehran	301 (74.9)	185 (74.3)	116 (75.8)	0.733
Other	101 (25.1)	64 (25.7)	37 (24.2)	
Duration of residence in Tehran (year; Mean, SD)	14.27 (2.85)	14.20 (2.87)	14.37 (2.82)	0.583
Number of family members				
≤3	36 (9)	21 (8.4)	15 (9.8)	0.897
4	154 (38.3)	96 (38.6)	58 (37.9)	
5≥	212 (52.7)	132 (53.0)	80 (52.3)	
Living with				
Parents	380 (94.5)	237 (95.2)	143 (93.5)	0.685
One parent	19 (4.7)	10 (4.0)	9 (5.9)	
Relatives	3 (0.7)	2 (0.8)	1 (0.7)	
Having siblings				
Yes	376 (93.5)	230 (92.4)	146 (95.4)	0.227
No	26 (6.5)	19 (7.6)	7 (4.6)	
Father's job				
Unemployed	14 (3.5)	4 (1.7)	10 (6.4)	0.042
Office-worker	73 (18.2)	48 (19.8)	25 (15.6)	
Factory worker	74 (18.4)	49 (20.2)	25 (15.6)	
Self employed	218 (54.2)	127 (52.1)	91 (57.3)	
Other	23 (5.7)	15 (6.2)	8 (5.1)	
Mother's job				
Housekeeper	386 (96)	239 (96.0)	147 (96.1)	0.203
Officer	10 (2.5)	8 (3.2)	2 (1.3)	
Worker	6 (1.5)	2 (0.8)	4 (2.6)	
Father's education				
Higher	32 (8)	18 (7.2)	14 (9.2)	0.786
Secondary	219 (54.5)	137 (55.0)	82 (53.5)	
Primary	151 (37.6)	94 (37.8)	57 (37.3)	
Mother's education				
Higher	17 (4.2)	11 (4.4)	6 (3.9)	0.570
Secondary	223 (55.5)	133 (53.4)	90 (58.8)	
Primary	162 (40.3)	105 (42.2)	57 (37.3)	
Past semester grade point average (0-20; Mean, SD)	14.91 (2.41)	15.15 (2.52)	14.61 (2.17)	0.023
Housing type				
Landlord	246 (61.2)	160 (64.3)	86 (56.2)	0.196
Tenant	145 (36.1)	84 (33.7)	61 (39.9)	
Other	11 (2.7)	5 (2.0)	6 (3.9)	

*Used test are Student *t*-test for quantitative data and Chi-square or fisher for categorical data

stressors could have a significant role in forming the depressive symptoms. They found that discrimination, parent child conflict, and economic stress are culturally based stress among Latino youth which could predict the depression.[31] These results are somewhat different from our results that could indicate the different nature of stressors among various cultures.

Previous studies on depression in adolescent's affective disorders have predominantly focused on anxiety and treatment of depressive symptoms.[32] Present findings suggest that it is important to include

Table 2: Multivariate regression analyses of depression score against some sociodemographic and related factors

	B	β	CI	
			Lower	Upper
Self-efficacy	–0.283**	–0.146	–0.742	–0.065
Perceived stress	0.965**	0.636	0.840	1.091
Age	0.403	0.030	–0.630	1.435
Father's education	–0.166	–0.021	–0.899	0.567
Mother's education	0.543	0.065	–0.251	1.337
Father's job	4.964**	0.100	1.222	8.706
Mother's job	3.169	0.068	–0.387	6.724
Having siblings	2.752	0.074	–0.129	5.632
House members	–0.302	–0.041	–0.910	0.306
Residence time	0.128	0.040	–0.127	0.382
Monthly expenses	-5.264×10^{-6}	–0.016	0.000	0.000
Past semester grade point average	–0.361*	–0.095	–0.659	–0.063
Home type	–0.395	–0.021	–1.851	1.062

*$P<0.05$, **$P<0.01$, $R^2=0.457$, Adjusted $R^2=0.439$, B=Standardized regression coefficients, β=Unstandardized regression coefficients, CI=Confidence interval (95%)

the role of demographic variables, self-efficacy, and stress in the line of research as the considerable markers toward depression.

Father's job was one of the demographic specifications of participants that predicted depression in our sample. A possible explanation about its prediction power could be related to cultural effects. In Iranian families, father's job is one of the main components that decrease anxiety in terms of economic issues. In other words, when father, as core of financial situation in nuclear family, can provide family members economic security, this can develop a sense of confidence and optimism among the members. This sense may be contributed to prevention of depressive symptoms among children.

In our study, a relationship between grade point average and depression was detected. This implies that academic achievement may be a variable related to depression. Therefore, appropriate educational programming and more attention to academic performance from parents and teachers can be a mechanism to reduce stress among teenagers. The relation between depressive symptoms and low academic achievement has been shown in the other similar studies.[33,34] In addition, it has been indicated that this low academic performance may contribute to major depression in adulthood.[35]

The results of the present study are in line with those obtained by Bandura *et al.,* showing that self-efficacy is related to depression.[36] Also, the strong relationship between stress and depression, which was similar to findings in the previous studies,[2,4,5,19] suggests that these variables may have many interfaces and their causative relationships should be further investigated.

Methodological limitations of the current cross-sectional study warrant some caution in the interpretation of the present results. First, the current study utilized self-report measures to examine perceived stress, self-efficacy, and depressive symptoms. While each of the measures utilized possesses strong reliability and validity, self-report measures are subject to a number of response biases.[37] Given the methodological shortcoming, future research would benefit from assessing the parameters with more sophisticated assessment techniques including semi-structured interviews, peer or parent ratings, and direct behavioral assessments. Second, due to limited financial support and restricted time, the girls were not assessed in the study and comparison between genders was impossible. Third, with regard to this point that our sample was selected from regions having low socioeconomic status, we cannot generalize the finding to all adolescents from different SES areas.

CONCLUSIONS

It has been shown that depression could be prevalent among Iranian male adolescents. The results suggested that self-efficacy and perceived stress can play important roles in development of depressive symptoms in adolescents. However, future studies should further examine these specific connections between domains of depression and various types of psychological concepts such as self-efficacy and stress.

ACKNOWLEDGEMENTS

The authors would like to express their sincere thanks to Dr. H Watson for his profitable comments on the manuscript.

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Source of Support: This study is funded by a grant from Medical Sciences Faculty of Tarbiat Modares University as a part of doctoral thesis, **Conflict of Interest:** None declared.