

## DEPRESSION AMONG TURKISH FEMALE AND MALE UNIVERSITY STUDENTS

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We examined (1) the depression levels of university students, and whether or not depression levels of university students differ significantly according to their gender. (2) if university students' problem-solving skills, submissiveness levels, social support from family, friends, and society, ages, and cumulative grade point averages (GPAs) predict their depression level; and (3) if predictive values of these variables change according to gender. The research was carried out with 293 university students. It was found that perceived problem solving, social support from friends, and submissiveness predicted depression in university students.

*Keywords:* depression, problem solving, submission, perceived social support, university students.

The time spent during undergraduate education brings extensive changes in various areas of individuals' lives, because it is a transitional period between adolescence and adulthood. Especially in Turkey, young people are not given much responsibility until university years, when they may be "knocked down" because of changing expectations and responsibilities. They must succeed in many developmental tasks like adapting to new situations, establishing intimate

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relationships with others, becoming members of different groups, and undergoing professional development. Some of these tasks create negative effects in youth, such as anxiety about the future, and about finding a job after graduation. For these reasons, although entering university is a positive development for young people, it may become a stressor for some of them as they shoulder additional responsibilities and get away from their families both physically and psychologically. These extra stresses in their lives may increase their tendency to have psychological problems, and one psychological problem prevalent among university students is depression (Kucur et al., 2000). *Depression* is described as *an emotional state revealing itself with the loss of interest and pleasure in ordinary activities, great sadness, feelings of guilt and worthlessness, loss of appetite and sleep, and loss of sexual desire* (Davidson & Neale, 1994). Because of these symptoms, depression may affect young people's lives negatively. Therefore, investigating the factors related to depression has gained great importance.

In research literature, the depression levels of university students and the relationship between depression and different variables have been the subjects of many studies. Different instruments have been used in depression studies, but the most widely used one is the Beck Depression Inventory (BDI; Beck, Steer, & Garbin, 1988). But changing numerical values related to depression levels have been obtained in studies conducted with the BDI. For example, in research carried out with university students by using the BDI, it was observed that means usually changed between 0-13. Dorahy et al. (2000) investigated depression levels according to diverse cultural groups and reached a mean of 7.63 for Australia, 8.39 for Ghana, 11.01 for Nigeria, 6.70 for Northern Ireland, and 11.30 for Swaziland. Most studies in Turkey have also been conducted by means of the BDI. Different means were obtained in these studies as follows: Aydin (1990) and Korkmaz (2001) found the mean of BDI points as 11.59 and 10.83, respectively. In addition to mean differences in depression studies, the gender issue should also be carefully considered.

Beck (1974) suggested that special attention be given to gender when the BDI is used. Numerous researchers have explored depression levels as a function of gender. In these studies, the findings have varied. Some have found the depression levels of female university students higher than those of male university students (Kelly, Kelly, Kathryn, Brown, & Kelly, 1999; Nolen-Hoeksema, 2001), some have revealed the opposite – that males get higher points than do females in the BDI (Korkmaz, 2001). Others, on the other hand, have not found any difference between genders (Aydin & Demir, 1989; Doğan, 1990; Hisli, 1988; Gökçakan & Gökçakan, 1998).

A number of researchers have examined the relationship between social support and depression. In some of these studies, perceived social support was found to

have a dimmer effect on the depression levels of university students (Cornwell, 2003; Pretorius & Diedricks, 1994). In contrast, Edwards and Besseling (2001) found no relationship between these two variables.

The other most investigated variable related with depression is problem solving. Perceived problem-solving skills of individuals were found to have an important role in decreasing the probability of getting depressed (Nezu & Ronan, 1988; Pretorius & Diedricks, 1994). In addition to these variables, another variable related with depression is submissiveness. Depressed participants perceived themselves to be of lower rank than those who were not depressed, and the depressed groups also assessed themselves significantly higher on submissiveness (Gilbert & Allan, 1994; Korkmaz, 2001).

Since depression is frequently observed among university students, the topic of depression has gained increased attention in research literature. Besides, depression not only leads to a decline in the quality of life but also threatens life directly by means of suicide. At the same time, though university provides rich and numerous opportunities and alternatives, it also brings a lot of responsibility to students. This situation necessitates active participation in life. And the depressive symptoms may prevent university students from using their time efficiently. Therefore, designing research to understand the nature of depression and to prevent it has great importance. Thus, in this study, an attempt was made (1) to determine the depression levels of university students, and whether or not depression levels of university students differ significantly according to their gender, (2) to examine if university students' perceived problem-solving skills, submissiveness levels, social support from family, from friends, and from society, their ages, and their cumulative grade point averages (GPAs) predict their depression levels, and (3) to examine if predictive values of these variables change according to gender.

## METHOD

### PARTICIPANTS

Participants were 293 university students attending different programs in the Faculty of Education at Anadolu University, Turkey. One hundred and ninety-six of the participants (67.12%) were female, and the remaining 96 (32.88%) were male. One student did not provide gender-related data. The mean age of the participants was 21.02 years, ranging from 17 to 30. The mean of cumulative GPA was 2.84, fluctuating between 1.32 and 3.99 over 4.

### INSTRUMENTS

**Beck Depression Inventory (BDI)** The BDI is a self-report scale developed by Beck et al. (1961, 1978 version, cited in Savasir & Sahin, 1997) for measuring

the symptoms observed in depression. In this research the 1978 version was used. A number of reliability and validity studies related to the adaptation of the BDI-78 to the Turkish population have been carried out by various researchers. Taking into consideration reliability and validity studies carried out for the adaptation of the BDI to the Turkish population, it was concluded that the adapted BDI has good psychometric properties. Moreover, the inventory has been widely used to determine depression levels of individuals in Turkey (Savasir & Sahin, 1997).

***Problem Solving Inventory, Form A (PSI-A)*** The PSI was developed by Heppner and Petersen (1982) to evaluate individuals' self-confidence in problem solving, their feelings of personal control, and personal approaches to a problem. Therefore, it is used to measure the individual's self-perceptions of his/her problem-solving abilities (Savasir & Sahin, 1997). In this research, the PSI-A, which was adapted to the Turkish population by Sahin, Sahin, and Heppner (1993), was employed. Adaptation researchers have revealed that the original and the Turkish form of the PSI-A were significantly similar. Results indicated that psychometric properties of this instrument are rather good and it has been used frequently in various studies in Turkey.

***Submissive Acts Scale (SAS)*** The SAS is a self-report instrument constructed by Gilbert, Allan, and Trent (1995) to assess the levels of socially submissive acts. In this research, an adapted form of the SAS developed by Sahin and Sahin (1992) was used. Similar results were obtained in reliability and validity studies conducted with Turkish samples (Savasir & Sahin, 1997). The psychometric properties of the SAS are good. It has been used frequently in Turkey.

***Perceived Social Support (PSSS)*** The PSS Scale is a self-report instrument designed by Yildirim (1997) to determine the perceived social support levels from family, friends, teachers, relatives, and society. This scale contains 5 subscales, for each of which there are 26 common items. Six different points can be obtained from the PSSS for each of the five subscales giving a total social support score. Higher points mean relatively higher levels of perceived social support. Although the scale reports six different social support points, according to the aim of usage, some of these subscales can be omitted. For this reason, only family, friend, and society subscales were chosen in this research. Statistics related with the reliability and validity of this scale were reported as follows. The Cronbach's alpha coefficient varies between .74 and .93. The correlation coefficient between the PSSS and Harter's Social Support Scale for Children and Youth (cited in Yildirim, 1997) was calculated as .69. In the framework of studies related with the PSSS, Yildirim stated that this scale was reliable and valid. Therefore, it has been widely used in various studies in Turkey.

***The Questionnaire*** The questionnaire was developed for this study. The questionnaire consists of various questions asking gender, age, and cumulative GPAs of university students.

### DATA ANALYSIS (PROCEDURES)

Data were analyzed by means of SPSS (Green, Salkind, & Akey, 1997). During analysis, descriptive statistics, independent-samples  $t$  test, Pearson's product-moment correlation coefficient, and stepwise regression calculations were carried out, and  $p < .05$  was taken as the critical level of significance.

## RESULTS

### FINDINGS CONCERNING THE DEPRESSION LEVELS OF FEMALES AND MALES

To identify depression levels of female and male university students, descriptive statistics related to the distribution were used. Obtained findings showed that the mean of the university students' depression levels was 12.72 and the standard deviation of the distribution was 8.26. To determine whether or not depression levels of university students change according to their gender, mean points and standard deviations of depression levels were also calculated ( $N = 196$ ,  $M = 12.19$  and  $SD = 7.74$  for female;  $N = 96$ ,  $M = 13.83$  and  $SD = 9.21$  for male). To determine if the observed difference between genders was statistically significant, an independent samples  $t$  test was applied to the data. The results showed that there was no significant difference between depression levels of females and males ( $t = 1.60$ ,  $df = 290$ ,  $p > .05$ ). Thus, it can be stated that gender does not lead to any significant difference in the depression levels of university students.

### FINDINGS CONCERNING THE CONTRIBUTION OF RELATED VARIABLES TO THE PREDICTION OF DEPRESSION LEVELS

In this research, an attempt was also made to examine whether or not the variables of perceived problem-solving skills, submissiveness, social support from family, from friends, and from society, age, and cumulative GPA predict depression levels. For this aim, firstly Pearson correlation coefficients between depression and chosen continuous variables were computed. Findings relating to correlation coefficients between depression levels of university students with perceived problem solving, submissiveness, social support from family, from friends, from society, age, and cumulative GPA were 0.63, 0.39, -0.26, -0.39, -0.25, 0.04, and -0.02, respectively. Except for age and cumulative GPA, others were significant ( $p < .0001$ ). It was also observed that the strongest relationship is obtained between depression and the perceived problem-solving levels of university students. After this analysis, predictive values of these variables were assessed by the stepwise method of multiple regression analysis. The results are shown in Table 1.

**TABLE 1**  
**THE CONTRIBUTION OF RELATED VARIABLES IN THE PREDICTION OF**  
**UNIVERSITY STUDENTS' DEPRESSION LEVELS**

Model	Beta $\beta$	$t$	$R$	$R^2$	Increase in $R^2$	Std. Error of the Estimate	$F^1$
1. Perceived Problem Solving	.63	13.39	.63	.40	.40	6.40	179.38*
2. Perceived Problem Solving	.56	11.94					
Social Support from Friends	-.22	-4.67	.66	.44	.04	6.16	107.39*
3. Perceived Problem Solving	.52	10.20					
Social Support from Friends	-.20	-4.32	.67	.45	.01	6.11	74.80*
Submissiveness	.12	2.42					

Note: <sup>1</sup>  $df=276$ , \*  $p < .0001$

It can be seen in Table 1 that perceived problem solving, social support from friends, and submissiveness were significant predictors of depression ( $p < .0001$ ). These three variables can explain 45% of the total variance. Perceived problem solving itself explained 40% of the total variance, so it is the strongest predictor of depression. Getting social support from friends, the second predictor of depression, explained 4% of the total variance. And submissiveness, the third predictor of depression, explained 1% of the total variance. However, social support from family, from society, age, and cumulative GPA were found not to predict depression.

#### **FINDINGS CONCERNING THE CONTRIBUTION OF RELATED VARIABLES TO THE PREDICTION OF DEPRESSION LEVELS OF BOTH GENDERS SEPARATELY**

In this research, it was also intended to determine if females' and males' perceived problem-solving skills, submissiveness, perceived social support from family, friends, and society, ages, and cumulative GPAs predict depression levels. For this reason, first Pearson correlation coefficients were computed. Correlation coefficients between depression levels of university students and their perceived problem-solving skills, submissiveness, social support from family, from friends, from society, ages, and cumulative GPAs were determined for each gender separately. The correlation coefficients between depression and the other variables were found to be .66, .50, -.37, -.45, -.34, .01, and -.10 for females; .59, .20, -.07, -.26, -.04, .02, and -.14 for males, respectively. All variables, except for age and cumulative GPA, were significant ( $p < .05$ ).

It was also observed that not only for females but also for males, the strongest relationship is obtained between depression and their perceived problem-solving levels. In the framework of these relationships, predictive values of these variables for both genders were assessed separately by the stepwise method of

multiple regression analysis. Results for females and males are shown in Tables 2 and 3, respectively.

**TABLE 2**  
THE CONTRIBUTION OF RELATED VARIABLES IN THE PREDICTION OF FEMALE UNIVERSITY STUDENTS' DEPRESSION LEVELS

Model	Beta $\beta$	$t$	$R$	$R^2$	Increase in $R^2$	Std. Error of the Estimate	$F^1$
1. Perceived Problem Solving	.66	12.01	.66	.44	.44	5.67	144.22*
2. Perceived Problem Solving	.58	10.05					
Social Support from Friends	-.23	-3.95	.70	.48	.04	5.46	85.60*
3. Perceived Problem Solving	.50	7.96					
Social Support from Friends	-.20	-3.47	.71	.51	.03	5.34	62.87*
Submissiveness	.19	3.08					

Note: <sup>1</sup>  $df = 185$ , \*  $p < .0001$

As can be seen in Table 2, in females' problem solving, social support from friends, and submissiveness were found to be significant predictors of depression ( $p < .0001$ ). These three variables explained 51 % of the total variance. Perceived problem solving itself explained 44% of the total variance, so it is the strongest predictor of depression. Getting social support from friends – that is, the second predictor of depression – explained 4% of the total variance. And the third ranked variable, submissiveness, explained 3% of the total variance. However, social support from family, from society, age, and cumulative GPA were not found to predict depression in females.

**TABLE 3**  
THE CONTRIBUTION OF RELATED VARIABLES IN THE PREDICTION OF MALE UNIVERSITY STUDENTS' DEPRESSION LEVELS

Model	Beta $\beta$	$t$	$R$	$R^2$	Increase in $R^2$	Std. Error of the Estimate	$F^1$
1. Perceived Problem Solving	.59	6.94	.59	.35	.35	7.54	48.17*
2. Perceived Problem Solving	.58	6.98					
Social Support from Friends	-.22	-2.67	.63	.40	.05	7.30	29.33*

Note: <sup>1</sup> Total  $df = 90$ , \*  $p < .0001$

As can be seen in Table 3, perceived problem solving and social support from friends are found to be significant predictors of depression in males ( $p < .0001$ ). These two variables account for 40% of the total variance. Perceived problem solving, itself which explained 35% of the total variance, is the strongest predictor of

depression. Social support from friends, the second-ranked predictor of depression, explained 5% of the total variance. As in the case of females, the remaining variables cannot predict depression in males.

## DISCUSSION

In this research, depression levels of university students were determined by use of the Beck Depression Inventory (BDI). Twenty-five percent of university students scored points below 7.19, 50% of the participants' points were below 11.46, and 75% of participants' points were below the score of 16.32. When the maximum point in this distribution is taken into consideration, it can be stated that most of the university students' depression levels are not high. In this research, the mean of depression levels (12.72) is close to the means achieved in previous studies (Aydin, 1990; Dorahy et al., 2000; Korkmaz, 2001). Cut-off points in the BDI for determining depression levels change according to the aim in the research and the characteristics of the sample (Hisli, 1988). In one study, points achieved from the BDI were categorized as follows. Points between 0 and 13 mean "no depression", points between 14 and 24 mean "mild or moderate level of depression", and points 25 and over mean "clinical depression" (Korkmaz, 2001). According to this classification, 62.50% of the participants have no depression in this research, 31% percent of them are mildly or moderately depressed, and the remaining 6.50% of them have symptoms of clinical depression. In some research, 17 was suggested as the cut-off point for clinical depression (Hisli, 1988). When the distribution is examined in terms of this criterion, 21% of this study's participants have clinical and severe depression. Gökçakan and Gökçakan (1998) found that the rate of clinical and severe depression was 35%. Nevertheless, these numbers do not give absolute information. In other words, depressive states may be temporary because of the nature of the BDI, because it measures an individual's current depressive symptomatology based on the previous week. Thus, a temporary state of depressive symptomatology, especially in university students, should be taken into consideration (Aydin, 1988). Although the points obtained from the BDI do not show absolute results, they do give a clue about the vulnerability of individuals to depression. Thus, at least for prevention, more psychological help should be available to university students.

It was found that depression levels of university students do not change according to gender. This finding is consistent with some research findings (Aydin & Demir, 1989; Doğan, 1990; Hisli, 1988). On the other hand, it is inconsistent with the studies indicating that depression levels of females are higher than those of males (Kelly et al., 1999; Nolen-Hoeksema, 2001) and with

the studies finding that depression levels of males are higher than are those of females (Aydin, 1990; Korkmaz, 2001).

These results show that there is no clear agreement in the results of research comparing depression levels of females and males. The finding of no difference in depression levels in terms of gender may be caused by the characteristics of the participants, and the changes in gender roles. In addition, it has been observed that dissimilar expectations from both females and males because of their gender have decreased in recent years. In other words, females and males have more common and similar problems, for example, anxiety about the future and other common stressors. For these reasons, there may not be any relationship between depression and gender.

In this research, the predictor variables of depression were investigated as well, and problem solving was found to be the strongest predictor of depression. Problem solving itself explains 45% of the total variance. This is consistent with findings of previous studies that problem solving has a diminishing effect on the occurrence of depression (Nezu & Ronan, 1988; Pretorius & Diedricks, 1994). Inadequate and ineffective problem-solving skills in university students make them vulnerable to psychological problems and maladjustment when they are faced with stressful situations.

Social support from friends is the second predictor of depression and it accounts for 4% of the total variance. Researchers indicate that perceived social support levels of individuals have a diminishing effect on depression levels provides support for the results of this research (Cornwell, 2003; Pretorius & Diedricks, 1994). On the other hand, this finding is inconsistent with the finding of Edwards and Besseling (2001) that there was no relationship between social support and depression. In this research, social support from family and society cannot predict depression; only social support from friends predicts depression levels of both females and males. University students need to establish intimate relationships. In this framework, support from their friends and shared experiences with them become more important. Taking into consideration the fact that university students both live and study with the same group of their peers, the importance of obtaining social support from friends becomes apparent. It is evident that university students not receiving enough social support feel that they are inadequate, and alone. Moreover, any decline in social support from friends may mean a decrease in social acceptance by their peers. This situation decreases an individual's self-esteem and has a detrimental effect on his/her psychological well-being. In contrast, individuals who receive social support experience a decrease in the severity of stressors; this may have a positive effect on psychological well-being by acting as a buffer against stressors.

Submissiveness, the third predictor of depression, explains 1% of the total variance. Researchers have found that there is a positive relationship between

submissive acts and depression (Gilbert & Allan, 1994; Korkmaz, 2001), supporting the finding in this research. It can be stated that characteristics of submissive acts prepare a milieu for the occurrence of depression.

In this research, it was found that social support from family; from society, age, and cumulative GPA cannot predict depression. This situation can be explained by the developmental characteristics of university students. Establishing intimate relationships with friends, solving problems effectively, and being assertive rather than submissive become – and are – the main indicators of well-being in this developmental period.

Predictor variables of university students' depression levels were also investigated for both genders separately. Problem solving was found as the strongest predictor of depression for both females and males; social support from friends ranked second. In contrast to these two variables, submissiveness ranked third for females, but for males it did not predict depression. This situation can be explained by the fact that, in Turkey, females are expected to take a more submissive role than are males.

As a result of this research, it can be stated that a significant number of university students have severe depressive symptoms and so are vulnerable to depression. In the light of these findings, the need for availability of effective psychological help services to university students becomes apparent. Programs for prevention of depression can be developed to enhance students' problem-solving skills, and opportunities can be provided to foster skill in managing their social world effectively.

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