



Cypriot Journal of Educational Sciences



Volume 10, Issue 3, (2015) 245-256

www.awer-center/cjes

Analyzing the levels of depressive symptoms among secondary school students in Canada and Turkey

Zeynep Karatas *, Educational Faculty, Educational Sciences Department Burdur, Mehmet Akif Ersoy University, Turkey.

Richard Ernest Tremblay, Research Unit on Children's Psychosocial Maladjustment, Montreal University, Montreal, Canada.

Suggested Citation:

Karatas, Z. & Tremblay, R., E. (2015). Analyzing the levels of depressive symptoms among secondary school students in Canada and Turkey. *Cypriot Journal of Educational Sciences*. 10(3), 245-256.

Received July 05, 2015; revised August 06, 2015; accepted September 26, 2015.

Selection and peer review under responsibility of Prof Dr. Huseyin Uzunboylu & Assist. Prof. Dr. Cigdem Hursen, Near East University.

© 2015 SPROC LTD. Academic World Education & Research Center. All rights reserved.

Abstract

To examine the level of depressive symptoms of the secondary school students in Turkey and Canada has been aimed in this study. The research group of the study consists of 1050 secondary school students with the average age of 13. Their socio-economic levels are low in both countries, Canada and Turkey. Data has been analyzed by independent groups t-Test, Two Way ANOVA and Tukey HSD Test. The study revealed that the level of depressive symptoms of Turkish secondary school students has been found higher than the level of depressive symptoms of Canadian secondary school students. While the levels of depressive symptoms of the Canadian female students have been higher than male students, the level of depressive symptoms of Turkish students has not differentiated in terms of their genders. While the common interactions of the educational levels of Turkish students' parents on depressive symptoms have been found significant, the levels of depressive symptoms of Canadian pupils have not presented any changes according to parents' educational levels. The results of the study have been discussed and some suggestions have been presented.

Keywords: depressive symptoms, secondary school students, early adolescent, Canada, Turkey.

*ADDRESS FOR CORRESPONDENCE: **Zeynep Karatas**, Educational Faculty, Educational Sciences Department Burdur, Mehmet Akif Ersoy University, Turkey. E-mail address: zeynepkaratas1972@hotmail.com

1. Introduction

Individuals, thanks to self-confidence occurring during adolescence, tries to understand, learn and analyze what s/he is doing right now, what to do and what kind of a person to become in the future. This understanding and analysis is not only a change to take the first step for being an individual, but also brings along certain problems. Along with problems experienced in the family, in social circle, at school, and in other places, a person experiences complexities in his/her own world. These experiences and complexities can be a factor for increase in negative feelings and thoughts.

Sometimes, individuals stepping into adolescence experience feelings of confusion, despair and pessimism about the future. Although small fluctuations are common in self-esteem of early adolescence period covering ages 11 through 14, it is not a normal situation that early adolescences feel long lasting hopelessness, negative thoughts, and desperateness (Steinberg, 2002).

Revealing itself with negative thoughts and frustration, despair and reluctance, the depression is a psychological disorder that is fairly common among adolescents (Cichetti & Toth, 1998). Although this disease is common among adolescents, it is not often noticed or understood (Son & Kirchner, 2000). Despite being generally associated with feelings of sadness, feeling of sadness on its own does not require clinical treatment. Apart from having sense of sadness, depression has also a number of important symptoms. These symptoms are emotional, cognitive, motivational, and physical ones. While emotional symptoms reveal themselves with symptoms such as malaise and reluctance in desirable activities of reluctance; cognitive symptoms brings along pessimism and despair. While motivational symptoms observed in depression can be explained with symptoms such as apathy and disenchantment; physical symptoms reveal themselves with sleeping difficulties, and loss of energy and appetite (Steinberg, 2002). In addition, while depressed appearance, anxiety, irritability and frustration, apathy and indifference, lack of interest in activities, inability to focus, drop in course achievement, reduced cooperation, staying away from family and friends, physical complaints and auditory hallucinations are more observed among depressed children; sleep and appetite disorders, weight loss or weight-taking, poor school performance or refusal to go to school, guilt, anger, low self-perception, hallucinations, suicidal thoughts and feelings, suicide attempts are among the symptoms more frequently observed in adolescents (Son & Kirchner, 2000; Ontario Children's Mental Health Center, 2001; Tamar & Ozbaran, 2004). Kayaalp (1999) describes symptoms in depression cases starting from 5-6 years to 12-13 years of age as follows: Depending on mental capacity development along with the growth of age and self-expression opportunities, symptoms gain quality into more internalized ones. In other words, it begins to resemble the table of depression among adults. Depressed mood is conveyed with expressions such as "I can't", "I don't know", "I'm tired" and so on. However, attitudes such as aggressive and impulsive behaviors aiming to resist depressive symptoms, stealing, lying, running away from home or from school can be appealed. School failure is existent almost in depressed individual. As from transition to adolescence, depression carries features of both adult depression and child depression. Besides, studies emphasize relationship of depression with depression experienced by members of the family, also with stress, smoking, loss of either parent or a loved one, finishing a romantic relationship, disorders of attention, behavior or learning, traumas including natural disasters or experienced physical and psychological traumas (National Institute of Mental Health, 2000). In addition to this, studies remark that depression risk factors among children and adolescents are chronic diseases, being female, hormonal changes during adolescence, domestic depression and having someone in the family experienced depression, use of some drugs, physical, emotional and sexual abuse and neglect, low level of socio-economic situation, general stressors such as loss of a loved one, lover or parent, anxiety disorders, attention deficit, learning and behavioral disorders, smoking and a history of depression for a person (Shashi & Subhash, 2007).

Analyzing the theoretical structure related to depression; Beck asserted that cognition levels and thought processes are causal factor in depression. Depressed people develop negative schemas as a result of loss of parents, successive various disasters, rejection by peers and

criticism by teachers. Negative schemas or beliefs developed by the depressed person are activated when new events closely or remotely similar to those events in which schemas were learned. Besides, the negative schemas of depressed people stimulate certain cognitive biases and are fed on them (Davison & Neale, 2004). Beck's cognitive model indicates that depression stems from stubborn and negatively wrong interpretation of a person regarding his/her experiences. These misinterpretations reveal a negative cognitive trio. This trio contains a person's negative opinions about himself/herself, his/her world and future. As being consistently hysterical, they consider their world as an environment preventing them from their satisfactions and they think that their futures do not include any hopes for their improvement (Kanfer & Goldstein, 1986; Corsini & Wedding, 1989; Burger, 1993; Gulec, 1993; in cited Gokcakan & Gokcakan, 2005). According to Seligman, the cause of depression is people's beliefs that they cannot affect events experience in their lives. The person begins to believe that events are now out of his/her control by learning helplessness. According to behavioral scientists, depression symptoms originate from problems related to other people. Depression is caused by decrease in positive feedbacks from other people or lacking of such feedbacks. If a person's behavior does not receive positive reactions from others, that person becomes passive, turns inward and shows signs of cognitive depression (Shapiro, 1997).

All the individuals experience a depressive mood feeling more sorrow at least once in their lives. Field researches conducted with extensive samplings revealed that more than half of the adolescent are in hopelessness and sadness (Gans, 1990). Another field research suggested that 25% of adolescents experience depressed feelings (Steinberg, 2002). Furthermore, during the years of adolescence, rate of incidence for depressed mood, depressive syndromes and depressive disorders increases because of increase in frequency of stressful life events (Larson & Ham, 1993).

Analyzing the literature, it can be observed that there are various studies related to depression. There are studies which report that incidence rate of depression among children is around 2-4%, and among the young, this rate is around 4-8% (Children's Mental Health Ontario, 2001); besides, 9% of the young of people experience serious depression at least once in this period until the age of 14 (Lewinsohn, Hops, Sereley & Andrews, 1993). In another study, incidence of depression among children at ages of 7-12 is less likely to be occurred than those at the ages of 13-18 and 19-26 in terms of frequency (Abela & Hankin, 2008). In studies, it is stated that the number of incidence of depression among women almost doubles the number of incidence of depression among men in developed countries (Kessler, Berglund, Demler, Jin, Koretz, Merikangas, Rush, Walters & Wang, 2003). While gender differences are not observed among children and early adolescents, there are studies showing that depression incidence rate among girls increases after the age of 13 (National Institute of Mental Health, 2000; Children's Mental Health Ontario, 2001; Kessler et al., 2003). In these studies, it was also emphasized that depression was analyzed in terms of socioeconomic levels and culture (Kucukkendirici, 2000; Kaya, 2007), and found that incidence rate was higher in lower socioeconomic level and concluded that depression was related with lower socioeconomic level (Kessler et al., 2003). Chan and Poulin (2009), in their research conducted in Montreal, examined the relationship between depressive symptoms and friendship relations among adolescents of 11-13 ages, and found that friendship relations were interrelated with depressive symptoms. Cam-Celikel and Erkorkmaz (2008), in their study related to depressive symptoms and hopelessness levels, stated that depressive symptoms and hopelessness levels increased with lower educational level of parents. They also reported that difficulty in meeting educational costs and failure in courses were effective factors in showing depressive symptoms. In addition, their study also revealed that severity of depressive symptoms was higher among those who live away from their families. Kapcı (2004) discussed the relationship between the type and the frequency of exposure to bullying among primary school students and depression, anxiety and self-esteem. He asserted that state anxiety self-esteem levels varied with exposure to bullying whereas depression levels remained unchanged. Aysev, Ulukol and Ceyhun (2000) studied symptoms and levels of depression among children working on streets and attending schools, and reported that children working on streets showed more depressive symptoms and had a higher level of depression. Ertem and Yazıcı (2006), in their study regarding psychological problems and

depression during adolescence, found that female students and adolescents with tyrannizer parents tended to show more symptoms of depression. Uz-Bas (2003) studied the relationship between social skills, school adaptation and depression levels among Elementary School students of 4th and 5th grade, and detected significant level of negative relations. Besides, it was determined that depression scores did not differ in terms of gender but differ based on socioeconomic level and siblings order. In Yigit's study (2008), which analyzed the depression level of secondary school students, it was detected that depression scores of 8th graders were higher than those of 6th and 7th graders. He further reported that there was not any difference in depression scores in terms of gender, and students with unemployed fathers and students with uneducated father tended to have higher depression scores. Bodur and Kucukkendirici (2009) found that incidence of depression among adolescent girls was higher than the boys, they further reported that the adolescent depression was related to gender, low school performance, having a smoking father, having parents with ongoing illness, and family income. Through these studies, we can see that there are experiential studies conducted with adolescent and pre-adolescent groups related to depression in the literature (Ozagi, 2007).

In the literature, we can find studies analyzing cultural differences in depression among children, adolescents and adults. Among these studies, some were unable to point out the cultural differences in depression (Costello, Costello, Edelbrock, Burns, Dulcan, Brent & Janiszewski, 1988; Parker, Cheah & Roy, 2001; Angold, Erkanli, Farmer, Fairbank, Burns, Keeler & Costello, 2002), whereas others were able to do so (Ebert & Martus, 1994; Ulusahin, Basoglu, & Paykel, 1994; Akbiyik, Mendel, Onder & Cording, 1999; Anderson, 1999; Yoo & Skovholt, 2001; Twenge & Nolen-Hoeksema, 2002; Lee & Farran, 2004; Lawrence, Murray, Banerjee, Turner, Sangha, Byng, Bhugra, Huxley, Tylee & Macdonald, 2005; Colla, Buka, Harrington & Murphy, 2006; Khawaia, Santos, Habibi & Smith, 2013). Examining some of these studies, Khawaia, Santos, Habibi and Smith (2013) conducted a study on depression on 967 university students from Australia, Persia, Portugal, and they come to conclusion that Australian students were more depressed than Iranian and Portuguese students, and Iranian students were more depressed than Portuguese students. Colla, Buka, Harrington and Murphy (2006) studied depression among Yorubas living in rural and urban Canada and Nigeria (the largest of three tribes living in Nigeria) along with the urban areas America, and detected the lowest depression incidence rate in rural Nigeria, and the highest depression incidence rate in the group living in urban American area. Lawrence, Murray, Banerjee, Turner, Sangha, Byng, Bhugra, Huxley, Tylee and Macdonald (2005) asked a group of 110 people from England, South Asia, and Caribbean to define depression in their study and found cultural differences. Lee and Farran (2004) compared levels of depression among Korean, Korean American, and Caucasian Americans, and found out that Koreans tended to have higher depression levels compared to other two groups. Yoo and Skovholt (2001) examined cross-cultural differences in depression and help seeking behavior among college students in the United States and South Korea. Results indicated that the Korean students showed more somatization tendency and negative affect. Akbiyik, Mendel, Onder and Cording (1999) compared the immigrant patients who lives in Germany and were diagnosed with depression, and the patients who live in Turkey and were diagnosed with depression; they found depression symptoms higher in the immigrant group. Ebert and Martus (1994) studied Turkish and German patients living in Germany, and stated that somatization was higher among the Turkish. Anderson (1999) examined depression levels among Chinese and American students, and found out that Chinese students had higher levels of depression than American students did. Ulusahin, Basoglu and Paykel (1994) compared Turkish and English patients diagnosed with major depression, and they stated that depressive humor, pessimism, attention and loss of joy in depression were common among the English whereas somatic anxiety was dominant in depression among Turkish patients.

As it can clearly be seen from the studies mentioned above, depression studies were conducted among various age groups in different cultures. The samples of these studies were generally consisted of university students and adults. Analyzing intercultural depression studies in a Turkish sample, it is apparent that these studies are limited in numbers and mainly focus on clinical aspects. This study is significant due to supporting the studies that are found in limited numbers and making contribution on cultural studies. In virtue of this study's results, it will be

possible to evaluate cultural features and differences in depression. Accordingly, the aim of this study is to examine levels of depressive symptoms among Canadian and Turkish secondary school students. This study seeks the answers for the following questions:

- 1- Do the levels of depressive symptoms of Canadian and Turkish secondary school students differ?
- 2-Do the levels of depressive symptoms of Canadian and Turkish secondary school students differ in terms of their genders?
- 3-Do the levels of depressive symptoms of Canadian and Turkish secondary school students differ in terms of their parents' educational levels?

2. Method

2.1. Study Group

The study group consists of 1050 secondary school students of low socioeconomic level. 530 (255 female and 275 male) of them attend several schools in Montreal-Quebec, Canada; and 520 (264 female and 256 male) of them attend school in several schools in Antalya and Burdur cities of Turkey. An average age of students were 13 in both study groups.

2.2. Data Collection Tools

In the study, French and Turkish versions of Depression Scale for Children, which was developed by Kovacs (1985) and available for children aged from 6 to 17, were used along with the information form which was developed by the researchers to obtain information on independent variables. Depression Scale for Children, originally named as Children's Depression Inventory is a 27-item self-notice scale. Internal consistency coefficient of the scale for healthy and hospitalized group was identified as .86 and test re-test reliability reported as .82. The re-test was applied over a month. Similar scale validity studies were conducted for the anxiety and the Coopersmith self-esteem scales, and significant relations were achieved. The coefficients for those tests were .65 and -.59 respectively.

Depression Scale Children - French Version: The scale was developed by Kovacs (1981). It was adapted by Saint Lacoste (1990) in Canada in accordance with the Canadian culture with the participation of children and adolescents. The participants were consisted of 470 French speaking healthy boys and girls aged from 8.5 to 14. The scale includes 27 items and each item is scored between 0-2 points. The scale gives 0-54 score range; it was stated that the scale had high level of validity and reliability and test retest reliability was applied over 2 months, then reliable results were obtained. Chan and Poulin (2009) identified internal consistency coefficient of the scale as .83 after applying on 390 French speaking adolescents. Cyr, Fortin and Lachance (2006) found internal consistency coefficient of the scale as .83 and test retest reliability as .72. Within the scope of this research, Cronbach's Alpha Internal Consistency Coefficient was found as .86, Guttman's split half result was found as .80 for the first 14 items in the first half and as .68 for the last 13 items in the second half as a result of reliability analysis conducted with 300 French-speaking students. Test re-test reliability was identified as .85.

Depression Scale Children - Turkish Version: The scale was developed by Kovacs (1981). It was adapted to Turkish culture by Oy (1991). The scale includes 27 items and each item is scored between 0-2 points. The scale gives 0 to 54 points. The scale's internal consistency coefficient was found as .80 and test re-test reliability as .70. The Cronbach's alpha internal consistency coefficient in this research was found as .84.

Personal Information Form: Data on independent variables of the research was collected via personal information form which was developed by the researchers. The personal information

form contains participants' demographics such as gender, socioeconomic level and parent educational level.

2.3. Process

Measurement tools used in the research were applied on students with low socioeconomic level and attending various schools in Montreal-Quebec, Canada. Data was collected by "Research Unit on Children's Psychological Maladjustment" research department in Montreal, Canada. The data was gathered in 2011-2012 spring semester after the Turkish Researcher (who had higher education scholarship during summer semester for three months 2012) had received research permission from this department by visiting "Research Unit on Children's Psychological Maladjustment" research department in Montreal, Canada during the summer semester. Data from Turkey was collected by Turkish Researcher by visiting study group students' schools to collect it in the related courses during the spring semester of 2011-2012 academic years.

2.4. Data Analysis

To analyze the data, t-test and two-way variance analysis were used. Homogeneity of variances assumption was checked. Levene test suggested that homogeneity of variances assumption held. To determine the source of difference in variance analysis; Tukey HSD test was applied. Data was analyzed in SPSS 15.0 package program. The maximum margin of error in the research was applied as .05.

3. Findings

First of all, depressive symptom scores for secondary school students in Canada and Turkey were compared through t test. Depressive symptom scores n figures of secondary school students in Canada and Turkey, score averages, standard deviations and t test results are provided in Table 1.

Table 1. Depressive Symptom Scores Figures of Secondary School Students in Canada and Turkey, n, Arithmetic Average, Standard Deviation and t Test Results

Dependent Variable	Groups	n	\bar{X}	Sd	Df	t	P
Depressive Symptom	Canada	530	9.59	6.92	1048	4.993*	.000
	Turkey	520	11.76	7.20			

*p<.001

As shown in Table 1, depressive symptom score average for secondary school students in Canada is $\bar{X} = 9.59$, and for students in Turkey, this value is $\bar{X} = 11.76$. As a result of t test, it was determined that depressive symptom score average for Turkish secondary school students are significantly higher than an average score of Canadian secondary school students ($t(1048) = 4.993, p < .001$).

Mean, standard deviation values of Canadian and Turkish secondary school students' depressive symptom score averages according to gender and parents' educational level are presented in Table 2.

Table 2. Mean, Standard Deviation Values of Canadian and Turkish Secondary School Students' Depressive Symptom Score Averages According to Gender and Parents' Educational Level

Independent Variables			n	Mean	Sd	
Gender	Canada	Girl	255	10.83	6.87	
		Boy	275	8.44	6.77	
	Turkey	Girl	264	11.91	7.32	
		Boy	256	11.61	7.08	
Mother's Education Level	Canada	7-11 years	210	10.14	7.18	
		12-15 years	262	9.45	7.09	
		16 years and more	58	8.21	4.65	
	Turkey	Primary	119	11.67	7.01	
		Secondary	250	11.51	7.35	
		High School	110	12.95	7.36	
		Bachelor's Degree	41	10.39	6.08	
	Father's Education Level	Canada	7-11 years	270	9.84	6.97
			12-15 years	182	7.34	7.34
			16 years and more	78	5.46	5.46
Turkey		Primary	102	12.09	6.65	
		Secondary	170	11.74	7.40	
		High School	181	11.67	7.34	
		University	67	11.57	7.20	

T test results regarding examination of depressive symptom scores among Canadian and Turkish secondary school students as per gender are presented in Table 3.

Table 3. T test results Regarding Examination of Depressive Symptom Scores among Canadian and Turkish Secondary School Students as per Gender

Dependent Variable	Groups		N	Mean	Sd	df	t	P
Depressive Symptoms	Canada	Girl	255	10.83	6.87	528	4.033*	.000
		Boy	275	8.44	6.77			
	Turkey	Girl	264	11.91	7.32	518	.462	.644
		Boy	256	11.61	7.08			

*p<.001

As it can be seen from Table 3, while there was a significant difference in depressive symptom scores among Canadian secondary school students in terms of gender ($t(528)=4.033$, $p<.001$), significant difference was not observed in depressive symptom scores among Turkish secondary school students in terms of gender. Analyzing depressive symptom score averages of Canadian secondary school students; it is observed that depressive symptom score average of girls ($\bar{X}=10.83$) is higher than that of boys ($\bar{X}=8.44$).

Two way variance analyses was conducted regarding an examination of depressive symptom scores among Canadian and Turkish secondary school students as per parents' educational levels, and findings are presented in Table 4.

Table 4. Two Way Variance Analysis Results Regarding Examination of Depressive Symptom Scores among Canadian and Turkish Secondary School Students as per Parents' Educational Levels

Independent Variables	Sum Of Squares	df	Average of Squares	F	p
(Canada)					
Mother's Educational Level	16.784	2	8.392	.176	.839
Father's Education Level	182.354	2	91.177	1.908	.149
Mother x Father Educational Level	130.158	4	32.539	.681	.605
Error	24901.513	521			
Total	74019.000	530			
Adjusted Total	25308.508	529			
Independent Variables	Sum Of Squares	Df	Average of Squares	F	p
(Turkey)					
Mother's Educational Level	189.517	3	63.172	1.254	.289
Father's Education Level	84.245	3	28.082	.558	.643
Mother x Father Educational Level	1171.485	8	146.436	2.908*	.004
Error	25434.042	505	50.364		
Total	98808.000	520			
Adjusted Total		519			

*p<.05

Analyzing Table 4, significant differences were not observed in depressive score averages for Canadian and Turkish secondary school students in terms of their parents' educational levels. Analyzing the common interaction of parents' educational level on depressive symptom scores, it is apparent that the educational level of parents creates significant differences on the Turkish secondary school students' depressive symptom scores ($F=2.908$, $p<.05$). To detect between which groups is this difference that is emerged under common influence of two factors on the variable, a new pore variable was created and Tukey HSD test was applied on data. A result of Tukey HSD test suggested that depressive symptom score averages for those whose mother is graduated from high school and father from university ($\bar{X}=16.29$) is significantly higher than the depressive symptom score averages of those whose mother and father are graduated from university ($\bar{X}=6.84$) and the depressive symptom score averages of those whose mother is graduated from secondary school and father from university ($\bar{X}=8.92$).

4. Discussion

In the study focusing on examination of depressive symptom levels among Canadian and Turkish secondary school students, depressive symptom levels of Canadian and Turkish secondary school students were compared and the test values were found significantly higher among Turkish students. The depressive symptom levels of Turkish students did not differ in terms of gender whereas the Canadian students' depressive symptom levels differ in terms of gender and the girls' depressive symptom levels were found significantly higher than the boys'. While depressive symptom levels of Canadian and Turkish students did not differ in terms of their parents' educational level, parents' educational level was found common interactive significant on depressive symptom levels of Turkish students, it was revealed that score average of depressive symptoms for those whose mother graduated from high school and whose father from university have higher values than those whose mother and father were university graduates.

The first finding of the study is the fact that levels of depressive symptoms among Turkish secondary school students are higher than that of Canadian secondary school students. This

finding may be caused by financial problems, peer or teacher or domestic based problems experienced by Turkish secondary students. Besides, this problem of coping mechanism among these students may create disinclination and distress. Failure in sharing this sadness and problems with school support resources and peers, and some students living in larger families or else divorce parents may cause such situation among students included in study groups. Considering the fact that students in Canada may also have shattered families, their lower depressive symptoms levels may be explained in terms of better utilization of school and domestic support sources. Besides, even though socioeconomic levels of these students are lower, the fact that their incomes are higher than Turkish students and Canadian individuals and their families are continuously supported by the government may be other causes. Analyzing the literature, although there are not studies on this age group, we can find a few studies in which depression symptoms of individuals of Turkish and other cultures were compared clinically (Ebert & Martus, 1994; Ulusahin et al., 1994; Akbiyik et al., 1999). Besides, Yoo and Skovholt (2001) stated that the Korean students showed more somatization tendency and negative affect. These studies support this finding obtained regarding depressive symptoms and intercultural differences.

Another finding of the study is that depressive symptom levels of Turkish students do not differ in terms of gender. This indifference in depressive symptom levels in terms of gender in Turkey may stem from the fact that students are affected from similar live condition and they try to cope with overcrowded or shattered families together regardless of their genders. Analyzing the literature, we can see that there are other studies indicating gender indifference for depression in Turkey (Hisli, 1989; Gokcakan, 1997; Aysev et al., 2000; Uz Bas, 2003; Erozkaz, 2005; Cam-Celikel & Erkorkmaz, 2008; Yigit, 2008; Yerlikaya, 2009). These studies support this finding. Besides, considering literature in Turkey, it is also notable that there are studies indicating differ as per gender in depression level, and girls' depression level is higher than that of boys (Kucukkendirici, 2000; Ertem & Yazici, 2006; Ozturk, 2008; Bodor & Kucukkendirici, 2009). This difference among studies may be originated from individual differences among study group participant in these studies.

Another finding of the study found that Canadian students' depressive symptom levels differ in terms of gender and girls' depressive symptom levels were higher. Higher levels of depressive symptom among Canadian girls student may be caused by their certain characteristics such as fragility, vulnerability and sensitiveness. Analyzing the literature, there are also studies stating that gender differences exist in depression and females' depression rates are higher than those of male (National Institute of Mental Health, 2000; Children's Mental Health Ontario, 2001; Blackburn, 2003; Ertem & Yazici, 2006; Ozturk, 2008; Bodor & Kucukkendirici, 2009). In addition, Kessler, Berglund, Demler, Jin, Koretz, Merikangas, Rush, Walters and Wang (2003) states that in developed countries depression incidence rate of women is almost twice compared to men. These studies seem to support the findings of the study on this issue.

The last finding of the study is that depressive symptom levels of Canadian and Turkish students vary in terms of parents' educational level. However, joint interaction of parents' education level factor on depressive symptoms was found meaningful. Depressive symptom score averages of those whose mother is high school graduate and father is university graduate are higher than those of students whose parents are university graduates. Analyzing the field literature, one can see studies stating that the young with lower parental educational level have higher depressive symptom level (Cam-Celikel & Erkorkmaz, 2008). These studies seem to support the findings of the study on this issue partially.

5. Results and Suggestions

In the study, depressive symptoms level of Turkish secondary school students is found higher than Canadian secondary school students'. While depressive symptom level of Canadian girls is higher than boys', Turkish students' depressive symptom levels do not differ in terms of gender. Turkish students' depression levels were found significantly different based upon their fathers'

and mothers' education levels interaction whereas Canadian students did not differ in terms of parents' education levels.

According to the results of this study, the following recommendations can be listed: In this study, levels of depression among Turkish students were found higher than Canadian students. It may be useful to take necessary measures towards ensuring that secondary school students benefit more from support systems and the function of the guidance and psychological counselling services should be improved. It may be useful that psychological counselling working in school guidance and psychological counselling services determine depression levels of students and conduct interactive group studies. Canadian girls were found to have higher levels of depression symptoms compared to boys. It would be appropriate to establish an environment in which girls can express themselves better both at home and school by trying to understand them more and more. Also in the study, Depressive symptom score averages of those whose mother is high school graduate and father is university graduate were found to be higher than those of students whose parents are university graduates. According to this result, because educational level is important, it may be useful to support psychologically those students with lower level of parental education and to conduct informative studies with parents. In addition, it may be useful to ensure participation by those students and their families as high school or university graduates to inform them about understanding children and spending more effective time. In this study, secondary school students from Canada and Turkey were compared. In future studies, working with different age groups and comparison of different cultures are suggested.

References

- Abela, J. R. Z., & Hankin, B. L. (2008). *Handbook of depression in children and adolescents*. Newyork: The Guilford Press.
- Akbiyik, I. D., Mendel, E. G., Onder, E. M., & Cording, C. (1999). The effect on depression and somatic symptoms of "Immigrants have" in The Turks living in Germany. *Crisis Journal*, 7(2), 25-29.
- Anderson, C. A. (1999). Attributional style, depression, and loneliness: a cross-cultural comparison of American and Chinese students. *PSBP*, 25(4), 482-499.
- Angold, A., Erkanli, A., Farmer, E., Fairbank, J. A., Burns, B. J., Keeler, G., & Costello, E. J. (2002). Psychiatric disorder impairment, and service use in rural African and white youth. *Archives of General Psychiatry*, 59, 893-901.
- Aysev, A., Ulukol, B., & Ceyhun, G. (2000). Evaluation of school and street-seller children by childhood depression inventory. *Journal of Ankara University Medicine Faculty*, 53(1), 27-30.
- Blackburn, I. M. (1993). *Depression and coping strategies*. (Translated for Turkish. N.H. Sahin and R.N. Ruganci). İstanbul: Remzi Publication.
- Bodor, S., & Kucukkendirici, H. (2009). Prevalence of depressive symptoms in Turkish adolescents. *European Journal of General Medicine*, 6(4), 204-212.
- Chan, A., & Poulin, F. (2009). Monthly instability in early adolescent friendship networks and depressive symptoms. *Social Development*, 18(1), 1-23.
- Children's Mental Health Ontario. (2001). *Evidence based practices for depression in children and adolescents*. Ontario.
- Cicchetti, D., & Toth, S. (1998). The development of depression in children and adolescents. *American Psychologist*, 53, 221-241.
- Colla, J., Buka, S., Harrington, D., & Murphy, J. M. (2006). Depression and modernization: a cross-cultural study of women. *Social Psychiatry and Psychiatric Epidemiology*, 41(4), 271-279.
- Costello, E. J., Costello, A. J., Edelbrock, C., Burns, B. J., Dulcan, M. K., Brent, D. A., & Janiszewski, S. (1988). Psychiatric disorders in pediatric primary care: Prevalence and risk factors. *Archives of General Psychiatry*, 45, 1107-1116.
- Cyr, M., Fortin, A., & Lachance, L. (2006). Children exposed to domestic violence: Effects of gender and child physical abuse on psychosocial problems. *International Journal of Child & Family Welfare*, 3, 114-130.

- Cam-Celikel, F., & Erkorkmaz, U. (2008). Factors associated depressive symptoms and hopelessness levels on university students. *Archives of Neuropsychiatry*, 45, 122-129.
- Davison, G. C., & Neale, J. M. (2004). *Abnormal psychology*. (Translation Ed. İhsan Dag). Ankara: Turkish Psychological Association.
- Ebert, D. & Martus, P (1994) Somatization as a core symptom of melancholic type depression. Evidence from a cross-cultural study. *Journal of Affect Disorder*, 32, 253-256.
- Erozkan, A. (2005). Interpersonal Sensitivity and Depression Levels of University Students. *Journal of Social Sciences and Humanities Researches*, 14, 129-155.
- Ertem, U., & Yazıcı, S. (2006). Psychosocial problems and depression during adolescence period. *Family and Community Education, Culture and Research Journal*, 3(9), 7-12.
- Gans, J. (1990). *America's adolescents: How healthy are they?*. Chicago: American Medical Association.
- Gokcakan, N. (1997). *Investigating the effectiveness of Beck's cognitive therapy to treat the several levels of depression*. Unpublished Doctoral Dissertation, Karadeniz Technical University, Social Sciences Institute, Trabzon.
- Gokcakan, Z., & Gokcakan, N. (2005). Cognitive therapy for depression. *Mersin University Education Faculty Journal*, 1(1), 91-101.
- Hisli, N. (1989). The reliability and validity of the Beck Depression Inventory for university students. *Psychology Journal*, 7, 3-13.
- Kapıcı, E. G. (2004). Bullying type and severity among elementary school students and its relationship with depression, anxiety and self-esteem. *Ankara University, Journal of Faculty of Educational Sciences*, 37(1), 1-13.
- Kaya, B. (2007). Depression: Socio-economic and cultural perspective. *Clinical Psychiatry Journal*, 10(6), 11-20.
- Kayaalp, L. (1999). *Depression on children and adolescents*. I. U. Cerrahpasa Medicine Faculty Continuing Medical Education Activities, depression, somatization and psychiatric emergency Symposium, 2-3 December, 1999, İstanbul, 59-61.
- Kessler, R. C., Berglund, P., Demler, O., Jin, R., Koretz, D., Merikangas, K. R., Rush, A. J., Walters, E. E., & Wang, P. S. (2003). The epidemiology of major depressive disorder. Results from the National Comorbidity Survey Replication (NCS-R). *Journal of the American Medical Association*, 289(23), 3095-3105.
- Khawaia, N. G., Santos, M. L. R. R., Habibi, M., & Smith, R. (2013). University students' depression: A cross-cultural investigation. *Higher Education Research and Development*, 32(3), 392-406.
- Kovacs, M. (1988). The children's depression, inventory (CDI). *Psychopharmacology Bulletin*, 21(4), 995-998.
- Kucukkendirici, H. (2000). *The relationship between sociodemographic characteristic and the depression scan results with children depression inventory in the students primary school*. Unpublished Doctoral Dissertation, Selcuk University Institute of Health Sciences, Konya.
- Larson, R., & Ham, M. (1993). Stress and "storm and stress" in early adolescence: The relationship of negative events with dysphoric affect. *Developmental Psychology*, 29(1), 130-140.
- Lawrence, V., Murray, J., Banerjee, S., Turner, S., Sangha, K., Byng, R., Bhugra, D., Huxley, P., Tylee, A., & Macdonald, A. (2005). Concepts and causation of depression: a cross-cultural study of the beliefs of older adults. *The Gerontologist*, 46(1), 23-32.
- Lee, E. E., & Farran, C. J. (2004). Depression among Korean, Korean American, and Caucasian American family caregivers. *Journal of Transcultural Nursing*, 15(1), 18-25.
- Lewinsohn, P. M., Hops, H., Roberts, R. E., Seeley, J. R., & Andrews, J. A. (1993). Adolescent psychopathology: I. prevalence and incidence of depression and other DSM III-R disorder in high school students. *Journal of Abnormal Psychology*, 102, 133-144.
- National Institute of Mental Health (2000). *Depression in children and adolescents*. Bethesda: NIMH Publication No. 00-4744
- Oy, B. (1991). Depression Scale for Children validity and reliability study. *Turkish Journal of Psychiatry*, 2, 132-136.
- Ozagi, A. (2007). *The effects of educational group games on the split families children with high levels of depression*. Unpublished Master Thesis. Dokuz Eylül University, Institute of Educational Sciences, Ankara.

- Ozturk, M. O. (2008). *Mood disorders*. in Mental Health and Disorders. 11th edition. Ankara: Tuna Publishing.
- Parker, G., Cheah, Y. C., & Roy, K. (2001). Do the Chinese somatize depression? A cross cultural study. *Social Psychiatry and Psychiatric Epidemiology*, 36(6), 287-293.
- Saint Laurent, L. (1990). Psychometric study of Kovacs's Children's Depression Inventory with a French speaking sample. *Canadian Journal of Behavioral Science/Revue Canadienne des Sciences du Comportement*, 22(4), 377-384.
- Shapiro, P. G. (1997). *Childhood and teenage depression* (Translated for Turkish. Meral Kesim). İstanbul: Papirus Publishing.
- Shashi, K. B., & Subhash, C. B. (2007). Childhood and adolescent depression. *American Family Physician*, 75(1), 73-80.
- Son, E. S., & Kirchner, J. D. (2000). Depression in children and adolescents. *American Family Physician*, 62(10), 2297-2308.
- Steinberg, L. (2002). *Adolescence*. (Sixth Edition). Boston: Mc Graw Hill, 444-452.
- Tamar, M., & Ozbaran, B. (2004). Depression in children and adolescents. *Clinic Psychiatry*, 2, 84-92.
- Twenge, J. M., & Nolen-Hoeksema, S. (2002). Age, gender, race, socioeconomic status, and birth cohort differences on the Children's Depression Inventory: A meta-analysis. *Journal of Abnormal Psychology*, 111(4), 578-588.
- Ulusahin, A., Basoglu, M., & Paykel, E. S. (1994). A cross cultural comparative study of depressive symptoms in British and Turkish clinical samples. *Social Psychiatry and Psychiatric Epidemiology*, 29(1), 31-39.
- Uz Bas, A. (2003). *The Relationship among social skills, school adjustment, and the level of depression of the elementary school students in 4th and 5th grades*. Unpublished Doctoral Disertation, Dokuz Eylul University Institute of Educational Sciences, Izmir.
- Yerlikaya, E. E. (2009). *The relationship between humor styles and perceived stress, anxiety and depression of college students*. Unpublished Doctoral Dissertation, Cukurova University, Institute of Social Sciences, Adana.
- Yigit, R. (2008). *Comparative examination of level elementary junior high school students depression and social skills according to self-esteem and some variables*. Unpublished Doctoral Disertation, Selcuk University, Institute of Social Sciences, Konya.
- Yoo, S. K., & Skovholt, T. M. (2001). Expression and help-seeking behaviour: A comparative study of American and Korean college students. *Journal of College Counselling*, 4(1), 10-19.