

Does Studying with the Local Students Effect Psycological Symptoms in Refugee Adolescents? A Controlled Study

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Abstract

Integration of refugees into the education system at the resettlement country is a significant issue. In this study, we investigated how refugee students are affected in terms of psychological symptoms by studying in the same classroom with their local peers. This cross-sectional study was conducted during the school year in Mardin, Turkey. Participants consisted of 105 Syrian refugee adolescents and 66 Turkish adolescents attending a secondary school. The participants completed the socio-demographic data form, war-related traumatic experiences questions, and the Strengths and Difficulties Questionnaire (SDQ). Syrian refugees had lived for an average of 5 years in Turkey. Number of adolescents who have more than one traumatic experience was 50 (47.6%). As quantified by the SDQ, it has been found that children who experience more than one traumatic event have more psychological problems than those who experienced only one traumatic event in all areas except the social problems subscale. Emotional Problems Subscale, Peer Problems Subscale and Total SDQ scores have shown statistically significant differences according to classroom typology. Experiencing a traumatic moment in war increased the psychiatric symptoms of adolescents as quantified by the SDQ. If refugee children study in the same classes as non-refugee children, their psychiatric symptoms were less frequent.

Keywords Refugee · Adolescent · Education · Psychological problems · War

People have had to migrate in order to have better living conditions, to find safer places, to escape torture, cruelty and violence in every period of history. In addition, famine, droughts, natural disasters and wars have also caused migration. Therefore, the history of migration started with the history of mankind (Barnes, 2001; Li & Teixeira, 2007). The Syrian civil war that erupted in 2011 caused one of the biggest migrations in human history. According to a comprehensive survey published by a research company, 13 million Syrian citizens have left their homes as a result of the 8-year civil war in Syria, out of which, nearly half were displaced within their country. Nearly 6 million Syrians live in neighboring countries. Europe has opened its doors for about a million refugees (UNHCHR, 2017). In addition to the social,

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Gaziantep University Medical School Child and Adolescent Psychiatry Department, Gaziantep, Turkey economic and psychological impacts, the school enrollment status of Syrian children was also affected.

After the Syrian war started, the educational situation in Syria deteriorated quickly day by day. Syria had a good educational background, reporting universal enrollment in primary school and near-universal enrollment in secondary school (Watkins, 2014). But 51 percent of all Syrian children did not enroll to school in 2015. Now, Syria's net primary education enrollment rate is the second-lowest in the world (Mehchy, Nasser, Jebaie, Marzouk, & Saba, 2015). There are also difficulties in the enrollment of refugee children who have fled to a foreign country. Refugee children ended up being behind in all subjects. They need to catch up while simultaneously learning a new language and adjusting to a completely new cultural and social environment (Brown, Miller, & Mitchell, 2006). Additionally, refugee children who have war related traumatic experiences may have disturbed cognitive, emotional, and social development and more academic challenges (Fraine & McDade, 2009).

Children's bad experiences can force them to communicate only with people from their own country. For this reason, both parents and children would like to study with their



own ethnic group. This situation makes a child feel socially accepted but may delay her adaptation to the new environment. Language learning, accommodation to the new culture and the recognition of people are delayed without integration (Coll et al., 1996; Phinney, 1989; Rumbaut, 1994; Spencer & Markstrom Adams, 1990). Socio-cultural integration is commensurate with the level of proficiency in the local language, because language helps to increase communication, make new friends, get involved in social activities and solve school-related problems. On the other hand, psychological integration involves includes belonging, life satisfaction and social support (Berry, 2005). While psychological integration of refugee children improves belonging, socio-cultural integration and academic performance, it reduces rates of depression, anxiety, social exclusion and alienation (Oikonomidoy, 2010). Previous studies have observed that being in multicultural classrooms promotes integration (Suárez-Orozco, 2001; Vedder & Horenczyk, 2006). Although being in the same environment with local students for a long time has advantages, there are also negative aspects such as exclusion, stigmatization and discrimination due to different language and culture-related situations (Yamamoto, 2014). Questions about how to integrate refugee children into the education system of the host country are increasing and literature information about the psychological effect of studying in homogenous classrooms or mixed classrooms with their peers from the host country are limited(Hamilton & Moore, 2003; Seker & Sirkeci, 2015). To this end, we evaluated refugee adolescents studying in mixed classrooms with their host country peers and refugee adolescents studying in refugee-only classrooms in terms of psychological symptoms in Mardin, Turkey. We assumed that the severity of psychological symptoms will be higher among refugees who study only in refugee-only classrooms, compared to children studying in mixed classrooms, also that both groups would have more severe psychological symptoms than their host country peers.

Method

Study Design and Participants

This cross-sectional study was conducted during the school year, in March 2019, in Mardin, a city in southeastern Turkey on the border with North Syria. We received approval from the regional ethics committee for this research. This representative school was chosen from a district where Syrian refugees live. All Syrian adolescents who enrolled in this school were included in the study and host country adolescents were individually matched with refugee adolescents for age and sex. We randomized by selecting randomly from the class list (alphabetical order). In our study, we divided

the participants into three groups. The first group consisted of only Syrian adolescents who attended a classroom with Syrian refugees only (Group 1). The second group consisted of Syrian adolescents integrated into a class of Turkish adolescents (Group 2). The last group consisted of local Turkish adolescents (Group 3). This group was included in the study as a control group. According to these criteria, there were 51 Syrian adolescents in the first group, 54 Syrian adolescents into the second group and 66 Turkish adolescents into the last group. Participants and their parents were involved in the study after signing the informed consent form. The inclusion criteria for the study were willingness to participate in the study. Adolescents who had problems with language skills in their native language were excluded from the study. Information about socio-demographic and war related events was collected on data sheets prepared by the researchers, with an interview with the participants at school conducted through an interpreter. The socio-demographic information relating to the Turkish students was directly obtained through an interview conducted by the researchers at the school.

Measures

We used One-sided Strengths and Difficulties Questionnaire (SDQ) for the teachers of 4-17 year olds which was translated and shown to be valid in the Turkish language (Goodman, 2005). The questionnaire was filled out by teachers for each student individually. The Turkish version of the scale was used, as it has been used on the Arab population in previous studies (Shahrivar, Tehrani-Doost, Pakbaz, Rezaie, & Ahmadi, 2009; Woerner et al., 2004). SDQ consists of 25 questions, each assessing behavioral features of both a positive and negative quality. The questionnaire consists of subheadings such as Attention deficiency and hyperactivity, Behavior problems, Emotional problems, Peer problems, and Social behavior. The first four scales are summed, generating a total difficulties score (Goodman & Scott, 1999). This instrument can be used to screen for psychiatric symptoms in children. Socio-demographic data form and information covering war-related traumatic experiences were gathered by the socio-demographical form prepared by the authors of the study; the data sheet on war-related traumatic experiences included dichotomous questions (yes/no) and yielded nominal data. We asked the refugee children questions about war-related traumatic experiences: "Did you lose any family members in the war? Did you witness the death of a family member or a close friend? Was a family member or a close friend ever abducted or taken hostage? Did you witness or experience torture or violence during the war? Did you experience or witness serious injuries or accidents? Did you witness (see or hear) any explosion?".



Statistical Analysis

We used SPSS 22.0 package software for statistical analysis. Normal distribution of numerical data was tested by the Shapiro–Wilk test. To compare normally distributed variants in both groups, Student T-test was used. Mann–Whitney U test and Kruskal–Wallis tests were used to compare nonnormally distributed variants groups. Correlation between categorical variants was tested with the Chi-Square test. To compare the SDQ scores among refugee group and control group, one-way analysis of variance were used with post-hoc Tukey tests for individual group comparisons. p < 0.05 was accepted as statistically significant.

Results

In this study, we interviewed 105 refugee adolescents and a control group of 66 Turkish adolescents attending secondary school. The first group were the 51 adolescents in the refugee-only class, consisting of Syrian adolescents, 22 (43.1%) of which were male, 29 (56.9%) of which were female, with a mean age of 13.80 ± 1.02 . There were 54 Syrian refugee adolescents in the second group, who studied in the same classes as other Turkish adolescents, 30 (55.6%) were male,

24 (44.4%) were female, and the mean age was 12.96 ± 0.88 . Lastly in the third group there were 66 Turkish adolescents controls, 35 (53%) were male, 31 (47%) were female and the mean age was 13.27 ± 0.73 . Syrian refugees were found to have lived for an average of 5 years in Turkey. The extended family life style was more frequent in refugees than in the control group. In addition, although there were no adolescents in the control group who lost any of their parents, a total of six refugee adolescents had lost at least one parent (Table 1).

We asked refugees to report the frequency of war-related traumatic experiences. As expected most of them reported traumatic experiences. Among the refugee children we investigated, 36 (34.3%) adolescents had lost a family member in the war. 35 (33.3%) adolescents had witnessed a death of family members or a close friend. 20 (19%) adolescents had a family member or a close friend abducted or taken hostage in the war. 14 (13.3%) adolescents had witnessed or experienced torture or violence during the war. 18 (17.1%) adolescents had experienced or witnessed serious injuries or accidents. 48 (45.7%) adolescents has either seen or heard an explosion. Finally, the number of adolescents who had more than one traumatic experience was 50 (47.6%) (Table 2).

In the statistical analysis with traumatic life events and SDQ subscales; it was found that children who lost a family

Table 1 Sociodemographic data

	The first group (refugee adolescents of homogeneous class)	The second group (refugee adolescents of mixed class)	The third group (non-refugee adoles- cents)
Number of adolescents	51	54	66
Age (years) ^a	13.80 ± 1.02	12.96 ± 0.88	13.27 ± 0.73
Sex ^b			
Boy	22 (43.1%)	30 (55.6%)	35 (53%)
Girl	29 (56.9%)	24 (44.4%)	31 (47%)
Number of siblings ^a	4.23 ± 3.14	3.46 ± 1.86	3.37 ± 2.05
Mean age of mother (years) ^a	37.84 ± 4.8	34.18 ± 7.65	37.67 ± 6.84
Mean age of father (years) ^a	43.39 ± 4.77	37.61 ± 10.4	43.20 ± 7.08
Family typology ^b			
Nuclear family	39 (76.5%)	42 (77.8%)	59 (89.4%)
Extended family	12 (23.5%)	12 (22.2%)	7 (10.6%)
Marital status of parents ^b			
Married	47 (92.2%)	49 (90.7)	64 (97%)
Divorced	3 (5.9%)	0	2 (3%)
Deceased ^c	1 (2%)	5 (9.3%)	0
Years spent in Turkey ^a	5.01 ± 1.77	5.66 ± 1.28	_

Socio-demographic information, as collected on data sheets prepared by the researchers, with an interview with the participants at school conducted through an interpreter in case of refugee adolescents, through direct interviews in case of non-refugee Turkish adolescents



^aMean ± standard deviation

^bNumber (percentage)

^cMother and/or father

Table 2 War related traumatic experiences of refugee adolescents

	Yes ^a	No ^a
Did you lose anyone from your family in the war?	36 (34.3%)	69 (65.7%)
Did you witness the death of anyone from your family members or a close friend?	35 (33.3%)	70 (66.7%)
Has a family member or a close friend been abducted or taken hostage?	20 (19%)	85(81%)
Did you witness or experience torture or violence during the war?	14 (13.3%)	91 (86.7%)
Did you experience or witness serious injuries or accidents?	18 (17.1%)	87 (82.9%)
Did you witness any visual or auditory explosions?	48 (45.7%)	57 (54.3%)
Multiple traumatic experiences	50 (47.6%)	55 (52.4%)

Information relating to war-related traumatic experiences collected using a data sheet with dichotomous questions

member in the war had increased the problems as quantified by all sub-scales, except for Social Problems subscale, with statistical significance. In addition, adolescents who witnessed death had increased behavioral, emotional, social, and peer problems, and those with experience of serious injury or accident had more behavioral and peer problems, and those who witnessed explosions had increased emotional and peer problems. Finally, it was found that children who experience more than one traumatic event had more problems than those who experienced only one traumatic event, in all areas except the social problems subscale (Table 3).

In the ANOVA analysis performed to compare the three groups, there was a statistically significant difference in the SDQ Attention deficiency and hyperactivity subscale, Behavior subscale, Emotional subscale, Peer subscale and Total SDQ scores. However there was no significant difference in the social behavior subscale (Table 4). The results found in the post hoc analysis of the sub-scales are as follows: In the attention deficiency and hyperactivity subscale, there was a significant difference between the groups 1 and 2 while there wasn't a significant difference between the control group and the other groups. While there was no significant difference between the control group and the second group, a significant difference was found in the other two comparisons (the first and the control/the first and the second) in the Behavior problems subscale. Emotional Problems Subscale, Peer Problems Subscale and Total SDQ scores were found to have statistically significant differences

Table 3 Presence of war-related traumatic experiences and symptom severity in SDQ subscales

P value War-related experience	Attention defi- ciency and hyper- activity	Behavior problems	Emotional problems	Peer problems	Social behavior	Total SDQ score
Loss of a family member in the war	0.004	< 0.001	< 0.001	< 0.001	0.528	< 0.001
Witnessing the death of a family member or a close friend	0.500	< 0.001	< 0.001	0.002	0.007	< 0.001
A family member or a close friend being abducted or taken hostage	0.200	0.023	0.263	0.109	0.422	0.084
Witnessing or experience of torture or violence dur- ing the war	0.881	0.235	0.883	0.649	0.640	0.886
Witnessing or experience of serious injuries or accidents	0.451	0.018	0.227	0.019	0.626	0.050
Witnessing any visual or auditory explosion	0.313	0.397	0.007	0.014	0.870	0.025
More than one traumatic experience	0.001	< 0.001	< 0.001	< 0.001	0.291	< 0.001

Severity of psychological symptoms as quantified by the SDQ was compared between refugee adolescents who reported the war related experiences listed above, and those who did not. p < 0.05 was accepted as statistically significant, and shown bolded

SDQ Strengths and Difficulties Questionnaire



^aNumber (percentage)

Table 4 Comparison of adolescents SDQ results according to class typology with ANOVA

SDQ subscales	The first group ^a (refugee adolescents of homogeneouos class)	The second group ^a (refugee adolescents of mixed class)	The third group ^a (non-refugee adolescents)	p value	Effect size (f) ^b	95% CI for effect size
Attention deficiency and hyperactivity	3.47 ± 1.59	3.10 ± 2.24	2.20 ± 2.00	0.008	0.22	0.07-0.39
Behavior problems	3.90 ± 2.49	1.93 ± 1.87	1.14 ± 1.49	< 0.001	0.55	0.39-0.72
Emotional problems	4.41 ± 2.02	2.50 ± 2.09	1.07 ± 1.56	< 0.001	0.67	0.51-0.84
Peer problems	4.41 ± 1.77	3.22 ± 1.85	2.10 ± 1.90	< 0.001	0.45	0.30-0.62
Social behavior	7.70 ± 1.66	7.20 ± 2.66	7.07 ± 2.30	0.350	_	_
Total SDQ score	23.90 ± 5.50	18.04 ± 5.30	13.68 ± 4.73	< 0.001	0.76	0.58-0.93

To compare the SDQ scores among refugee groups with different class typologies and the control group, one-way analysis of variance was used with post-hoc Tukey tests for individual group comparisons. p < 0.05 was accepted as statistically significant, and shown bolded

SDQ Strengths and Difficulties Questionnaire, ANOVA Analysis of Variance, CI Confidence Interval

among pair comparisons for all three groups. According to Cohen's criteria, the classroom typology had a small effect size on the Attention Deficiency and Hyperactivity and Peer Problems Subscales, a medium effect size on the Behavior Problems, Emotional Problems Subscales and the Total Score of the SDQ.

Discussion

Our aim in this study was to investigate how different refugee class typologies in Turkish education system affect the psychological symptoms of Syrian refugee students. According to the results of our study: SDQ scores of the host country adolescents overall were lower than the refugees, as expected. In addition, SDQ scores of adolescents in the refugee-only class were higher than the adolescents who studied with the host country adolescents at a mixed class, in all subscales except for the social problems subscale. When the effect sizes of classroom typology on SDQ scores are considered, classroom typology has a more pronounced effect on behavior and emotional problems as quantified by the SDQ, where refugee adolescents studying in refugee only classes had more severe behavioral and emotional problems when compared to peers studying in mixed refugee and non-refugee classrooms. Although there are many studies conducted among refugees, the number of comparative studies is not very high (Betancourt et al., 2017; Fazel & Stein, 2003; Merrill Weine et al., 2013; Seglem, Oppedal, & Roysamb, 2014). To our knowledge, there are no comparable data from literature on the typology of class for refugee adolescents. Another result of the study was that, the psychiatric symptoms of adolescents who had war-related traumatic experiences were higher than their peers who reported no such experiences. This result is also compatible with the literature. Exposure to war-related traumatic events is associated with many psychiatric diseases and symptoms, especially PTSD (Herzog, Everson, & Whitworth, 2011).

Refugee adolescents are more likely to be exposed to displacement, violence and traumatic events than their host country peers. So they have a greater risk for psychological disorders (Betancourt et al., 2017). In our study, in accordance with literature, the psychological symptoms among refugee adolescents were found to be higher than their Turkish peers. Even though they may have arrived in a safer country, apparently they could not leave all their problems behind. Issues such as financial hardships, housing and nutrition, language barriers, discrimination, social isolation and peer bullying contribute to the continuation of their psychological stress in the host counties for refugee children (UNHCR, 2006; Howard & Hodes, 2000). The cost of this psychological stress for the country is very high. Individuals who develop psychological disorders and who cannot adapt to society may end up with low functioning and high crime rates (Brent & Silverstein, 2013). Another reason for the fact that refugees have more psychological symptoms than other youngsters may be due to lack of access to services in comparison to nonimmigrant children and the fear of stigmatization when applying to psychiatry clinics (Durà-Vilà, Klasen, Makatini, Rahimi, & Hodes, 2013; Huang, Yu, & Ledsky, 2006).

Due to concerns such as the language barrier, discrimination or the need to feel normal, refugee people would tend to prefer being closer to people from their country of origin. For this reason, they may prefer to work in companies established by refugees or study in schools where only refugees study (Ellis, Miller, Baldwin, & Abdi, 2011). But this isolation may bring positive aspects as well as negative aspects. In studies conducted with schools specific to ethnic minorities, it has been shown that students attending these schools

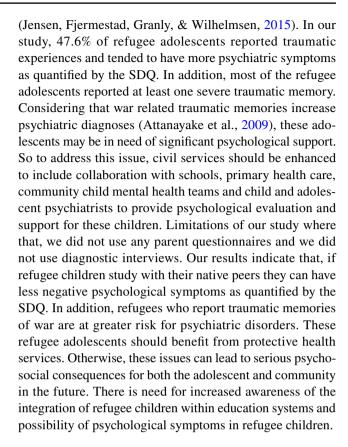
^aMean ± standard deviation

^bAccording to Cohen's criteria: 0.20 (small); 0.50 (medium); 0.80 (large)

have more depressive symptoms, they are more likely to be stigmatized and less likely to achieve cultural integration (Wei et al., 2010). A few studies with immigrants in schools hosting international students have achieved different results. A study in Norway focused on the importance of teachers and the social environment in the psychosocial integration of unaccompanied refugee students into the host country. It was also emphasized that it is important to spend time with the peers of the host country in accomplishing psychological well-being (de Wal Pastoor, 2015). In our study, we reached findings that are consistent with these results. Psychological symptoms are more severe in children attending classes that are composed only of refugee students, while the severity of symptoms is less in children attending integrated classes.

There are publications indicating that integration with the citizens of the resettlement country can reduce psychological disorders. Furthermore, this integration may also help wipe out traces of war (Almqvist & Broberg, 1999; Dyregrov, Gjestad, & Raundalen, 2002; Weine et al., 1995). Over time, the longer the refugees have a stable place to stay in the host country, the more they can learn the resettlement county's language, build up social networks and have educational or professional opportunities (Hauff & Vaglum, 1997; Laban, Gernaat, Komproe, van der Tweel, & De Jong, 2005). We also found that refugee adolescents who studied in integrated classes had decreased SDQ scores when compared to refugees studying in isolated classes, in accordance with the previous literature. Only social behavior subscale didn't show significant difference between these groups. The first group may have had more Syrian friends among whom they may have tended to have less social problems. Our analysis has shown that the social behavior problems quantified by the SDQ in the second group did not exceed those in the first group. In other words, this group may have also adapted to the class of Turkish students and were able to show similar social characteristics with Turkish peers. Thus, from a psychological perspective we deduce that refugee children and adolescents can benefit from studying with native peers. Additional school or community-based studies can help increase social adaptation and integration of refugee children (Durà-Vilà et al., 2013; Ellis et al., 2011; Fazel, Doll, & Stein, 2009).

Traumatic experiences such as torture, kidnapping, death or loss of a family member and bomb attacks may adversely affect every human being (Kandemir et al., 2018; Sapmaz et al., 2017; Soykoek, Mall, Nehring, Henningsen, & Aberl, 2017). In a study evaluating 93 refugees, participants described an average of 5.5 serious life events. 68% of the refugee group they evaluated experienced death of a close relative or friend, 63% witnessed violence, and 62% had other war-related traumas. In this previous study, researchers found that serious life events were found to be associated with PTSD, depressive disorders and anxiety disorders



Conclusion

The integration of refugees into the education system is a major public health problem. Moreover, it is not clear that this group benefits from which education model. In this paper, two education models were included and a comparison was made to contribute to this restriction in the literature. According to our results, refugee adolescents have more intense psychological symptoms than local adolescents. Besides, adolescents who studied in the refugee-only class have had more psychiatric symptoms than adolescents who studied with the host country adolescents at a mixed class in almost all subscales. As a result, children who study in refugee-only classes may have more psychological needs and it may be appropriate to develop additional interventions to address these students.

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Compliance with Ethical Standards

Conflict of interest The authors declare that they have no conflict of interest



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