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Research Article

The Effect of Behavioral System Model Based Nursing Intervention on Adolescent Bullying

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ABSTRACT

Aim: The study was conducted experimentally with pre–post tests and a control group to determine the effect of Behavioral System Model based education that given by the creative drama method on adolescent bullying.

Method: As a result of the power analysis performed, eighty-three students (43 in study group, 40 in control group) attending 7th degree were recruited. Education is given in nine sessions with creative drama method. Data were collected with Individual Information Form, Traditional Peer Bullying Scale, Problem-Solving Inventory for Children, and the Empathy Index for Children. Data were analyzed with decrease/increase in percentage, Cronbach α, chi-square, two way/two factor repeated measures analysis of variance (Post-Hoc: Bonferroni) and Mann–Whitney U tests.

Results: The decrease in percentage in the mean Traditional Peer Bullying Scale scores of study group students was higher than those of control group ($p<0.05$). Mean pre-education 1st measurement Traditional Peer Bullying Scale scores of study group students were reduced in the post-education 2nd and 3rd measurements ($p<0.05$). The increase in percentage in the mean Problem-Solving Inventory for Children and Empathy Index for Children scores of study group students was higher than those of control group ($p<0.05$). The mean pre-education 1st measurement scores of PSIC and Empathy Index for Children was increased in post-education 2nd and 3rd measurements ($p<0.05$).

Conclusion: Drama education is effective on prevention of bullying, and that may be used in prevention programs.

Keywords: Adolescent health, Behavioral System Model, bullying, creative drama, school nursing

INTRODUCTION

Bullying in school is a common problem all over the world (Holt, Green, Tsay-Vogel, Davidson & Brown, 2016; Rigby & Johnson, 2016). In the studies that were conducted in different countries, it changes between 8-75% (Brank, Hoetger & Hazen, 2012; Le, Dunne, Campbell, Gatton, Nguyen & Tran, 2017; Rigby & Johnson, 2016; Zhang, Musu-Gillette & Oudekerk, 2016). However, as the result of the studies in Turkey, it is determined that bullying prevalence was between 30-40% (Burnukara & Uçanok, 2012; Kapçı, 2004).

Development process of the student is important in terms of bullying behavior. Bullying is seen especially in the early adolescent period that authority of the family could be rejected, problems, senses, fears and anxieties could be shared with peers in, mostly (Craig et al., 2009; Jansen et al., 2012). In early adolescent process, it is suggested that being exposed to bullying could affect expressing oneself, self-concepts, academic performances, socializations and problem-solving skills with emotional healths of the children (Cook, Williams, Guerra, Kim & Sadek, 2010; Havik, 2017).

Bullying that affects physical and psychosocial health statutes is a subject which health professionals should deal with (Arslan & Savaşer, 2009; Karataş & Öztürk, 2009). Multidiscipliner team work is important in preparing plans that could supply early definitions of the statute (Notarianni, Clements & Tillman, 2007). Nurses have an important role in protecting health and preventing violence direct to the child in this multidiscipliner team (Borup & Holstein, 2007; Vessey & O'Neill, 2011). In the literature, it is seen that intervention programs performed by the nurses direct to decrease bullying were effective on decreas-

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ing peer bullying (Albayrak, 2012; Albayrak, Yıldız & Erol, 2016; Skybo & Polivka, 2007). Each conceptual model/theory reflects a different perspective on nursing discipline and provides the researcher with a different roadmap, framework and methodological rules (Fawcett & Gigliotti, 2001). Johnson Behavioral System is one of the systems that could be used in intervention for bullying problem by the school nurses (Figure 1). For this, after school nurse determined risk groups and problematic areas, she could give education about problem solving and emphaty skills for solving conflicts between peers (Şahin, 2012; Uysal & Temel, 2009). In Behavioral System Model, there is active participation of person at every stage of nursing care process (Brown, Conner, Harbour, Magers & Watt, 1998; Lobo, 1995). So, interactive education methods should be included in education programs related to prevent of bullying. Creative drama that could make the participant as active during education process and supply their learning by doing-living and socialization is one of these methods (Adıgüzel, 2013). Moreover, drama is a very useful method in teaching social skills (Joronen, Rankin & Astedt-Kurki, 2008). It is stated that the students with high social skills have positive relations with both their peers and their teachers (Fox & Boulton, 2003), and with the development of social and emotional skills, effective intervention can be provided to bullying problems (Fox & Boulton, 2003; Hussein, 2013; Perkins, Craig &Perkins, 2011).

This study was conducted to determine the effect of model based education that given by the creative drama method on adolescent bullying.

Research Hypothesis

H_0: Johnson's Behavioral System Model in accordance with the method of creative drama empathy and problem solving skills training has no effect on bullying.

H_1: Johnson's Behavioral System Model in accordance with the method of creative drama empathy and problem solving skills training has an impact on bullying.

METHOD

Study Design

This study was conducted as a quasi-experimental study with pre-post test and control group.

Sample

The study was conducted in the a city located in Cappadocia in Turkey. Literature showed that bullying is mostly observed in 6th, 7th and 8th grade students of primary school (Cook et al., 2010; Galitz & Robert, 2014). For group similarity, the study was conducted in 7th grade students. Universe of the study consisted of 1043 secondary class students at 7th degree of the schools in city center. To determine the sample, bullying percentage was accepted as 31.9% (Burnukara & Uçanok, 2012), Type II deviation as 0.20 (80%

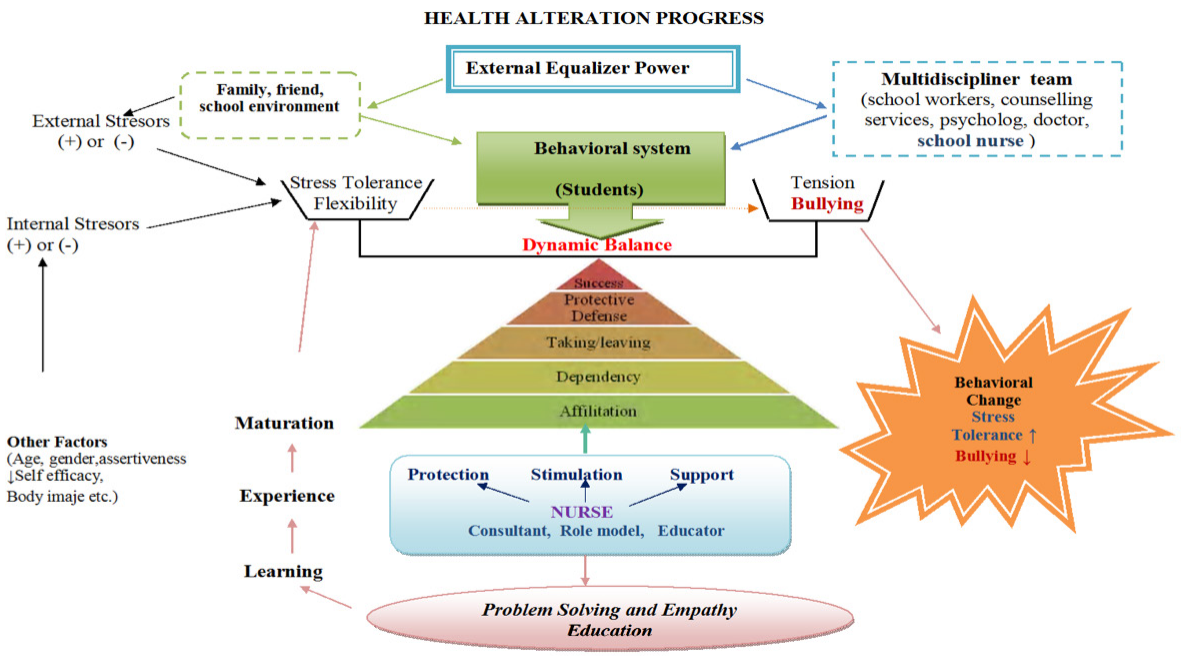

Figure 1. Bullying according to Johnson Behavioral System Model

power) and 0.05 Type I deviation as statistically significant (95% probability). As a result, sample was calculated as 40 for every group.

Schools in the city center were classified according to socioeconomic status; low, middle and high according to the data taken from the official institution. According to this list, among schools with middle socioeconomic status, one school was separately selected for the intervention and control groups with simple random sampling. To prevent interaction of students, study and control groups were selected from different schools.

In the school in intervention group, three classes of 7th grade students were observed. Two branches (50 students) determined by lot from these three classes were used in the study with simple random sampling. In the intervention group, 7 students who refused to proceed with the study were excluded. Thus, educational sessions were completed with a total of 43 students, comprising 18 students in one class and 25 students in another. It is recommended that the number of ideal groups in creative drama activities be 16-20 (Adıgüzel, 2013). However, the students were all students at the branch at the branch training sessions in order to prevent them feel excluded. Again, two classes were determined in the 7th grade students for the control group school; students totaled 46, with 20 students in one class and 26 students in another. These students were all considered in the study. However, in the control group, some students who declined to proceed with the study (4 students) during repeated measurements or who went to another school (2 students) were excluded, leaving 40 students for completion of the study.

Data Collection

Data were collected with Individual Information Form, Student Interview Form, Traditional Peer Bullying Scale (TPBS), Problem-Solving Inventory for Children (PSIC) and Empathy Index for Children (EIC between 01.04.2014–18.09.2014.In this work, frequency of bullying in class, types of bullying faced by students, and risk groups were determined by using data collection form prepared by the researcher at the first level and TPBS.

Measurements/Instruments

Individual Information Form: This form consists of 23 questions in socio-demographic characteristics, including age, gender, class, academic success, characteristics of mother–father, and their knowledge about bullying and exposure to bullying. The form was developed by the researcher by screening literature (Albayrak, 2012; Burnukara & Uçanok, 2012; Debarbieux, 2009; Kapçı, 2004; Rigby & Johnson, 2016; Zhang et al., 2016).

Student Interview Form: This form was used in pre-study practice to determine the content of the training to be given to the study group. This form consists of 12 substructural questions improved. These questions determine subjects' knowledge about bullying, effects of bullying on people and their negative or positive attitudes related to bullying. Some questions are related to how they perceive bullying behavior of their relatives or social environment (family, friend, teacher and school staff) as in-or-out obstacles, resulting in difficult bullying behavior (Albayrak, 2012; Burnukara & Uçanok, 2012; Debarbieux, 2009; Kepenekci & Çınkır, 2006; Yaman, Eroğlu, Bayraktar & Çolak, 2010).

Traditional Peer Bullying Scale (TPBS) This form consists of two parallel question forms that were improved to supply information on both exposure to peer bullying and frequency of performing such behavior with types of bullying. The form was reformed by Burnukara and Uçanok (2012). The scale is a 4 Likert-type scale self-assessment consisting of 31 items. Each 'a' choice measures experiences of victims, and 'b' choice measures experiences of bullies. In the study of Burnukara & Uçanok, Cronbach's alpha of victim form reached .90 but totaled .91 for the bully form in TPBS (Burnukara & Uçanok, 2012).

In the study group, Cronbach's alpha of victim form reached 0.92 and 0.91 for bully form. These values amounted to 0.92 and 0.86 for the control group in this study, respectively.

Problem-Solving Inventory for Children (PSIC)**:** PSIC was developed by Serin, Bulut Serin & Saygılı (2010). This inventory measures self-perception about problem-solving skills of students. PSIC is a 5 Likert-type scale assessment consisting of 24 items for confidence in problem-solving (12 items), self-control (7 items) and avoidance (5 items) with 3 subscales. The lowest score is 24 and the highest 120. High scores show that students perceive themselves to possess high-level problem-solving skills, whereas low scores indicate students' low perception of their

problem-solving skills. Cronbach's alpha coefficient for the whole PSIC is 0.85 (Serin et al., 2010).

In this study, Cronbach's alpha values for subscales of PSIC was 0.80 in the study group and 0.78 in the control group.

Empathy Index for Children (EIC): This index, which was developed by Bryant, was adapted in Turkish by Yüksel (2004). This form consists of 20 items and is performed to 7–13 aged children. This questionnaire is also answerable by yes or no. The score is between 0–20. High score from the scale indicates more empathy. Cronbach's alpha of EIC is 0.70, and stability level, r, is 0.694 ($p<0.001$) (Yüksel, 2004).

Pre-Study Practice

Pre-study was performed for 10 students who were except from the study and met the criterias in order to determine clearness of the Individual Information Form and scales. Also, for organizing education context with this group, interview was performed with 'focused group interview' by using substructural Student Interview Form. In interview, data was collected according to Behavioral System Model; within close affiliation, dependency, relationship, addiction, taking/leaving, success and protective defense sub systems. Focused group interview lasted until arriving saturation point about the subject. During interviews, consents of students were taken and voice was recorded with recorder.

Education Booklet

After focused group interview, education subjects and knowledge from literature were considered and education booklet was prepared for the study and control groups to give after education. After preparing the education booklet, views of four experts were taken. In education booklet; there are some titles as aggresives and definition of violence, relation between bullying with violence and aggression, definition of peer bullying, rolles in bullying, normal peer review and differences between bullying behaviors, causes of bullying, bullying types, characteristics of bullies and their families, results of bullying behaviors and advices for coping with bullying.

Education Plan

While education had been preparing, education subjects that were determined at focused group interviews and literature were considered. After preparing education plan, advised corrections were done by takin views of 6 experts. Education sessions consisted of some steps as preparation, animation and evaluation. Every step had got a lot of activites inside. In the sessions, role playing, improvisation, dull image, brainstorming, behavior list, information cards, role writing, photographic memory techniques were used as training methods. In the introductory (1st session) session of the training, the interaction of the group members was ensured and the group rules were determined. In the awareness and emotion recognition (Session 2) session, students were made aware of their emotions and supported their emotion expression styles. In the bullying session (3rd session), topics such as identification of bullying behavior, types of bullying, causes, family characteristics of bully and victims and problems that may arise in bully and victim were discussed. The empathy session (session 4) focused on the emotions of the victim's followers, the empathy skills of the victim, and the necessary steps to empathize a victim through stories that include the feelings of a bullied student.

In problem solving (5th session), problem-solving skills and effective problem solving steps were discussed. In the problem solving steps (sessions 6, 7 and 8), the stories about bullying were handled according to the effective problem solving steps, and it was studied what the bullied student could do and the witnesses of bullying could do. In the evaluation session (9th session), the training was ended with suggestions for dealing with bullying.

Practicing the Study According to Behavioral System Model

According to this model; when the student that a behavioral system is under stress, they live stress and this situation could cause bullying. In order to identify the problem early and to restore the balance, external balancing power, that is, a multidisciplinary team approach is needed. The nurse is a member of this multidisciplinary team. Nurse who is a member of external supportive environment should do some interventions direct to protect, support and give stimulus for preventing bullying, eliminating negative effects on person, person's getting healthy behavior again and helping his/her structuring again. Nurse protection, support and export functions in accordance with the stimulus plan nursing interventions (Brown et al., 1998; Lobo, 1995).

Protection: The aim of this course is to define individual, family and environmental risk factors in terms

of bullying behavior and to provide students with the ability to use appropriate methods (empathy and problem solving) when faced with problems.

Stimulation: Students were informed about bullying, reasons of bullying, harms of bullying and what to do when bullied.

Supporting: Students were given supportive feedback on their anti-bullying behavior and increased their motivation and encouraged to use intervention techniques.

Nursing care process according to Johnson occurs from three stages as determineation (at first and second stage), planning and evaluation (Brown et al., 1998; Lobo, 1995). In adoptation progress of Behavioral System Model to bullying (Figure 1);

Firt Stage: "Peer bullying" among the intervention and control groups was defined prior to the research and before the start of data collection as stated below. Frequency of bullying in class, bullying types and risk groups were determined. Given this aim, Individual Information Form, Student Interview Form, TPBS, PSIC and EIC were administered in March 2014.

Seconder Stage: Problem-solving, empathy and creative drama education for prevention of bullying at school were given by researcher (between 09.04.2014–11.06.2014, nine sessions).

A indoor gym at the study school was selected as the education room. Some educational posters related to bullying, empathy and problem solving were hung on the wall. A computer with a CD driver and woofer system were used as education materials. Telling, discussing, power point presentations, videos, role playing, information cards, and some techniques. directed at skill development were used during the education. In both groups, education was given at the time of the technology design course. Educational sessions were completed in two different group, 18 students in one class and 25 students in another. Time of every step was determined as two lesson time (40+40 min) one day per week for each group. A 10-minute break was given between the two lesson times.

The students, teachers and school staff as well as the parents of students were provided with counseling on bullying.

Third Stage: One week (18.06.2014) and three months (22.09.2014) after educational TPBS, PSIC and EIC were performed on the intervention and control groups, at the same time and effectiveness of intervention was controlled.

After the third measurement, the students in the control group were given a training booklet.

Before starting the study, teachers and parents were consulted in the form of an information meeting on bullying, and individual questions about bullying were answered during the study and solutions were offered for the problems they experienced.

Statistical Analysis

Sample of the study was calculated using the G*Power 3.1 program. Data were evaluated with Statistical Package for the Social Sciences Statistics 15.0 (SPSS Inc.; Chicago, IL, USA) package program, and $p<0.05$ value was accepted as statistically significant. For data evaluation, two-way/two-factor repeated measures analysis of variance (Post-hoc: Bonferroni) and decrease/increase in percentage (increase in percentage; ((2 measurement-1. measurement)/1. Measurement) x 100, decrease in percentage; ((2 measurement-1. measurement)/1. Measurement) x 100) tests were used. For homogeneity, evaluation was performed with nonparametric test (Mann–Whitney U test). Continuous variables were defined as arithmetic mean, median, standard deviation and percentile values. Chi-square tests were performed to compare categorical variables. Cronbach's alpha values of PSIC, TPBS and EIC were calculated.

Ethical Considerations

Before the study, consent from Ethical Committee of University (approval no 2013.02.01), Governorship and Provincial Directorate of National Education were obtained (approval no. 49405861/44/2355037). Aim, plan and duration of the study were explained to students and their parents, and their written and verbal consents were obtained.

RESULTS

This study was conducted to determine the effect of education given by creative drama method on school bullying.

Intervention and control groups are similar in terms of their and families' descriptive characteristics (class, age, gender and economical status and education status mother and father) ($p>0.05$) (Table 1).

Table 1. Similarity criteria for students in study scope

	Study group (n_2=43)		Control group (n_1=40)		
Descriptive statistics	**Number**	**%**	**Number**	**%**	**Test**
Age					
12 years old	0	0.0	3	7.5	
13 years old	36	83.7	27	67.5	χ^2= 4.713 p= 0.097
14 years old	7	16.3	10	25.0	
Gender					
Female	22	51.2	19	47.5	χ^2= 0.013 p= 0.909
Male	21	48.8	21	52.5	
Economical statute					
Good	17	39.5	15	37.5	
Medium	22	51.2	24	60.0	χ^2= 1.906 p= 0.464
Bad	4	9.3	1	2.5	
Education statute of mother					
Illiterate	1	2.3	2	5.0	
Primary school graduation	27	62.8	25	62.5	χ^2= 0.484 p= 0.952
Secondary school graduation	12	27.9	10	25.0	
High school graduation	3	7.0	3	7.5	
Education statute of father					
Primary school graduation	21	48.8	23	57.5	
Secondary school graduation	11	25.6	10	25.0	χ^2= 2.283 p= 0.630
High school graduation	9	20.9	7	17.5	
University graduation	2	4.7	0	0.0	
Total	43	100.0	40	100.0	

When the knowledge and attitudes of the students in the study and control groups were examined. According to this, students stated that bullying behaviors were verbal behaviors (taunting, nicknaming, swearing, affronting etc.) mostly (69.8% in the study group, 52.5% in the control group). It is found that 65.1% of the students in the study group and 35.0% of the control group said swearing and affronting were the bullying behaviors that most common seen. When they met with bullying behaviors, 25.6% of the study group students stated that they told the event to their teacher or family members, while 27.5% of the control group students stated they didn't do anything (Table 2).

According to TPBS mean scores of students, no significant difference was observed in bully, victim and bully-victim mean scores between the intervention and control groups ($p>0.05$). Group time interaction of bully, victim and bully-victim mean scores of students was significant ($p<0.05$). Statistically significant difference was identified between measurements in bully, victim and bully-victim mean scores of students in the intervention group ($p<0.01$) (Table 2).

In the study, when the students' mean scores from the TPBS bully form subdimensions were examined, The difference between the study and control groups was not statistically significant ($p>0.05$). In the comparison between the measurements, the

Table 2. Traditional Peer Bullying Scale score means of students

	Study group (n1=43)			Control Group (n2=40)			Study and control group (n=83)			Test		
TPBS Score Average	1. Measurement ($\bar{\chi}\pm ss$)	2. Measurement ($\bar{\chi}\pm ss$)	3. Measurement ($\bar{\chi}\pm ss$)	1. Measurement ($\bar{\chi}\pm ss$)	2. Measurement ($\bar{\chi}\pm ss$)	3. Measurement ($\bar{\chi}\pm ss$)	1. Measurement ($\bar{\chi}\pm ss$)	2. Measurement ($\bar{\chi}\pm ss$)	3. Measurement ($\bar{\chi}\pm ss$)	p*	p**	p***
Bully	42.88±12.33[a]	39.72±10.21[ab]	36.63±8.15[b]	38.75±8.21	38.23±10.92	37.83±12.83	40.89±10.69[a]	39.00±10.52[ab]	37.20±10.61[b]	00.003	00.034	00.469
Victim	50.65±16.25[a]	45.56±14.54[ab]	42.60±11.44[b]	46.72±14.51	46.40±18.12	45.20±18.04	48.76±15.47[a]	45.96±16.26[ab]	43.86±14.95[b]	00.005	00.049	00.957
Bully-Victim	93.53±24.18[a]	85.28±21.33[b]	79.23±16.53[b]	85.48±18.80	84.63±25.30	83.03±27.13	89.65±22.00[a]	84.96±23.18[ab]	81.06±22.22[b]	<0.001	00.012	00.709

*Comparison between measurements, **Time group interaction, ***Difference between groups, a,b,cAccording to multiple comparison test (Post-hoc: Bonferroni) results, different letters define significant difference between scale scores. TPBS: Traditional Peer Bullying Scale

Table 3. Problem-Solving Inventory for Children and Empathy Inventory of Children score means of the students

	Study group (n1=43)			Control group (n2=40)			Test**		
PSIC	1. Measurement ($\bar{\chi}\pm ss$)	2. Measurement ($\bar{\chi}\pm ss$)	3. Measurement ($\bar{\chi}\pm ss$)	1. Measurement ($\bar{\chi}\pm ss$)	2. Measurement ($\bar{\chi}\pm ss$)	3. Measurement ($\bar{\chi}\pm ss$)	p*	p**	p***
Confidence to Problem-solving skill	41.79±10.02[a]	48.26±6.93[b]	47.60±7.52[b]	38.25±11.95	39.13±11.51	38.90±12.58	<0.001	0.014	<0.001
Self-control	22.00±4.29[a]	28.53±3.68[b]	24.72±4.46[c]	25.08±6.37	24.40±6.85	23.80±5.28	<0.001	<0.001	0.446
Avoidance	18.60±4.22[a]	21.26±3.42[b]	20.79±3.22[b]	19.40±3.65	18.53±5.13	19.38±3.65	0.047	<0.001	0.103
PSIC total	82.40±14.33[a]	97.40±10.63[b]	93.77±10.24[c]	82.73±13.54	81.83±13.15	82.30±183	<0.001	<0.001	<0.001
EIC	12.07±2.69[a]	13.51±2.40[b]	13.16±3.09[b]	12.88±2.95[a]	11.53±3.51[b]	12.30±3.16[ab]	0.674	<0.001	0.212

*Comparison between measurements, **Time group interaction, ***Difference between groups,
[a,b,c]According to multiple compare test (Post-hoc: Bonferroni) results, different letters define significant difference between scale scores
PSIC: Problem-Solving Inventory for Children EIC: Empathy Inventory of Children

difference between the means of attacking personal items (p<0.01), verbal, physical and relational bullying scores was found to be significant (p<0.001). In the verbal bullying subscale scores, the interaction between group and time was significant (p<0.05).

According to PSIC mean scores of students (Table 3), the difference between group time interaction and groups in total PSIC mean scores was significantly high (p<0.001). Significant comparison results were observed between measures, difference between groups (p<0.001) and group time interaction (p<0.05) in mean scores of confidence to problem-solving skill subscale. Comparison between measurements and group time interaction in mean scores of self-control were significantly high (p<0.001), but the difference was not significant between groups (p>0.05). In mean scores of avoidance subscale, comparison between measurements and group time interaction was significant (p<0.001), whereas difference between groups was not (p>0.05).

Statistically significant difference was observed between mean score of total PSIC (p<0.001), confidence in problem-solving skill (p<0.001), self-control (p<0.05) and avoidance (p<0.05) of students in intervention and control group at the second measurement one week after education (Table 3). Group effects were not significant in EIC mean score of students (p>0.05). Group and time interaction of EIC mean scores was statistically significant (p<0.001). A statistically significant difference was detected between measurements in EIC mean

Table 4. Decrease and increase in percentage of difference between scales mean scores of students

	Study group (n_1 = 43)	Control group (n_2 = 40)	
TPBS	**Median (25th–75th percentile)**	**Median (25th–75th percentile)**	**Test***
Bully difference between 1. and 3. measurement	12.50 (0.00–19.51)	4.59 (0.00–13.07)	U=-2.117
			p=0.034
Victim difference between 1. and 3. measurement	11.27 (−3.77–32.00)	6.44 (−2.45–13.73)	U=-1.317
			p=0.188
Bully-victim difference between 1. and 3. measurement	10.64 (0.00–27.78)	5.34 (−2.36–12.63)	U=- 1.964
			p=0.049
PSIC			
Confidence to problem-solving skill Difference between 1. and 3. Measurement	9.26 (0.00–34.29)	1.77 (−13.93–22.00)	U=−2.042
			p=0.041
Self-control Difference between 1. and 3. Measurement	15.79 (3.03–28.57)	−7.29 (−22.40–6.14)	U=−3.396
			p=0.001
Avoidance Difference between 1. and 3. Measurement	8.70 (0.00–30.77)	0.00 (b14.25–16.80)	U=−2.562
			p=0.010
PSIC Total Difference between 1. and 3. Measurement	14.10 (7.21–25.71)	−1.29 (b9.33–10.12)	U=-4.607
			p<0.001
EIC			
EIC Difference between 1. and 3. Measurement	7.69 (0.00–27.27)	−6.07 (−19.55–10.61)	U=−2.760
			p<0.01

* Mann–Whitney U Test TPBS: Tradional Peer Bullying Scale PSIC: Problem-Solving Inventory for Children EIC: Empathy Inventory of Children

scores of students in the intervention and control groups ($p<0.05$) (Table 3).

In the bully and bully-victim mean scores, decrease in percentage between 1st measurement before education and 3rd measurement after education in the intervention group was higher than that of the control group, and difference between two groups was significant ($p<0.05$). Increase in percentage in all subscale and total score means of PSIC of the intervention group was higher than the control group, and the difference between two groups was significant ($p<0.001$). During evaluation of EIC score means of the intervention and control groups according to increase in percentage between 1st measurement before education and 3rd measurement after, percentage in score means of the intervention group increased, whereas that of the control group decreased. The difference between two groups was significant ($p<0.01$) (Table 4).

DISCUSSION

Peer bullying is an important problem that is getting increased at schools, has got some results that affect human health at short and long period, is required preventive and therapeutical measures (Galitz & Robert, 2014; Yüksel, 2004). Especially, it is seen in early adolescent period (Craig et al., 2009; Jansen et al., 2012) and so it is a subject that some health professionals as school nurse at school, psycholog, psychologic consultant and doctor with families should deal with (Carter, 2012). School nurse could use different theories and models in interference to bullying that is accepted as aggressive behavior (Albayrak, 2012; Albayrak et al., 2016; Arslan & Savaşer, 2009; Karataş & Öztürk, 2009; Skybo & Polivka, 2007). Johnson Behavioral System Model emphasized that nursing should focuse on behavioral problems more than the biological functions (Brown et al., 1998; Lobo, 1995), so, it is a model that could be used to prevent bullying behaviors by school nurses. In this study, it was aimed to increase empathy and problem solving skills of students and decrease bullying incidents among students after the education given by creative drama method.

One of the most effective methods to create sensitivity about bullying can be thought of as creative drama (Mavroudis & Bournelli, 2016). In some study, it was stated that bullying students gained social and emotional awareness through their creative drama method, and they noticed and decreased their negative behaviors (Stan & Beldean, 2014; Şahin, 2012). Using the drama as an educational method can change the behavior of students and prevent aggression. For this reason, the method of drama in education is used to combat bullying in international intervention and programs (Burton & O'Toole, 2009; Joronen, Häkämies & Astedt-Kurki, 2012). In this study that aims to reduce bullying with drama education, after intervention mean TPBS scores of the intervention group decreased comparing with scores prior to education, but the difference between intervention and control groups was not significant. Additionally, significant decrease in percentage was observed between 1st measurement before education and 3rd measurement afterward in bully and bully-victim score means of the intervention group students was more from the control group and the difference between two groups. This result is similar with studies showing that preventive programs are effective for bullying (Andreou, Didaskalou & Vlachou, 2007; Albayrak, Yıldız & Erol, 2016; Evans, Fraser & Cotter, 2014; Skybo & Polivka, 2007).

It is found that the education that given by creative drama method and in accordance with Behavioral System Model was effective for decreasing in exposing to threatening/suppression and physical bullying also, doing verbal bullying in the study group students. Again it is determined that it was not effective on attack to personal objects, social exclusion and relational bullying. The cause of this could be that the students defined verbal and physical bullying behaviors was the most seen bullying types and so they didn't know other bullying types mostly. In the study, it is determined that verbal bullying as swearing and affronting were the most seen behaviors by the students. In the other studies also it is found that the students exposed to verbal bullying mostly (Burnukara & Uçanok, 2012; Kartal, 2008; Kepenekci & Çınkır, 2006). The most of the study group students stated that when they met a behavior like this, they told to their teacher or family members but, the control group students told that they didn't do anything. According to these results, it is seen that the study group students wanted help for coping; however control group students used uneffective coping methods as remaining unresponsive. There are similar results in other studies also. In a study of Yaman et al. (2010), the students stated that when they met any bullying, they responded as verbal or physical, shared with school management, teacher and telling subject to the family. Emotion-

al-focused coping strategies represent risk factors for the development of bullying behaviors, whereas problem-focused coping is important protective factors (Mora-Merchan, 2006; Sesar, Dodaj, Šimić & Sesar, 2016).

Methods that are used in coping with bullying affect both physical and psychological health of victims and perception and social relationships with other students (Kepenekci & Çınkır, 2006; Sesar et al., 2016). D'Zurilla, Chang and Sanna (2003) suggested that when a person possesses negative views on the problem, he can show carelessness and avoidance instead of logically solving the problem of anger and aggressive behavior. After the problem-solving education given by the creative drama method, increase in total PSIC and all subdimensions score means in the intervention group was higher than that in the control group, and the difference between groups was generally significant. When total PSIC and confidence in problem-solving skill, self-control and avoiding sub scale score means were compared according to increase in percentage between 1st measurement before education and 3rd measurement after, increase in total PSIC and all sub dimensions score means in the intervention group was higher than that in the control group, and the difference between groups was significant. Similar to this study, in a research conducted in Greece, some activities related to increased bullying awareness improved self-efficacy and problem-solving skills in a preventive program for bullying. After the program, the number of students who did not interfere with bully/victim cases decreased positively, and self-efficacy belief improved interference with bully/victim problems (Andreou, Didaskalou & Vlachou, 2007).

Some people prefer solving their problems by jackboot and using physical violence instead of understanding and listening to others. Violence and aggression are common in primary school period as solving methods (Rehber & Atıcı, 2009). Also, people with improved empathy skill can communicate healthily, make sense of life, make more healthy decisions, and thus, show less aggressive behaviors (Froeschle Hicks, Le Clair & Berry, 2016). Through drama education, students can understand how, bullies are themselves victims and how it is the behavior, not the child, which is bad. Besides, there is a negative connection between developed empathy and bullying (Mavroudis & Bournelli, 2016). After empathy education given by the creative drama method, mean score of empathy scale of the intervention group increased at the second and third measurements compared with the first measurement. The difference between mean empathy score of the intervention and control groups was not significant. Increase in percentage in empathy score means of intervention group students was higher than that of the control group, and the difference between two groups was significant creative drama education increases empathy skills of the intervention group students. Joronen et al. (2012) aimed to determine the effect of school-based drama program on social and emotional developments of 4th and 5th grade students. As a result, similar to our study, empathy level of the intervention group increased. Similar to the present study, in a study of Şahin (2012), children were asked to act various roles, feel senses in these roles, and improve perspectives related to their characters. Some experts suggest that bully students develop social and emotional awareness with this practice, and afterward, they recognize negative behaviors and avoid manifesting them. In this process, bullies learned to discover through their roles how victims feel and to comprehend the human pain they are causing, the victims can find ways of resisting and reacting against what is being done to them (Salas, 2005).

Teaching to children how to show empathy for their peers exposed to bullying is considered a helpful and comprehensive approach for preventing and decreasing bullying (Nickerson, Mele & Princiotta, 2008).

Study Limitations

This program which was developed to prevent the bullying is not an integrative program that student, teacher and parents take place in. Another limitation is that we didn't give education in the control group. Since common lecture hours were used in the trainings, creative drama training was required with 25 students in a branch in order to prevent some students in the branch from feeling excluded. Another limitation is the Cronbach Alpha Coefficient of the empathy scale; in the study group 0.41 and 0.55 in the control group.

CONCLUSION AND RECOMMENDATIONS

Creative drama education increases empathy and problem-solving skills of the intervention group students and decreases bullying and victim status ($p<0.01$). According to these results, school nurses

should use this method to prevent bullying behavior. Especially, empathy and problem-solving skills should be considered in these programs, which can be implemented by disciplined team (school workers, counseling services, psychologist, school nurse and doctor). In teaching these skills, some interactive methods such as creative drama can be used.

Ethics Committee Approval: Ethics committee approval was received for this study from the ethics committee of Nevşehir University (approval no 2013.02.01).

Informed Consent: Written informed consent was obtained from students and their parents who participated in this study.

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