ÇOCUKLARDA BEDEN EĞİTİMİ VE SPOR AKTİVİTELERİNİN RUHSAL UYUM DÜZEYLERİNE ETKİSİNİN İNCELENMESİ*

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ÖZET

Bu araştırmanın amacı, düzenli olarak uygulanan beden eğitimi ve spor aktivitelerinin çocukların ruhsal uyum düzeylerinde etkili olup olmadığının belirlenmesidir. Araştırma grubu, Ankara Keçiören Hacı Sabancı Ortaokulu'nda öğrenim gören 10-11 yaş aralığındaki 80 öğrenciden oluşturulmuştur. Araştırma, ön test son test kontrol gruplu deneme modelinde desenlenmiştir. Uygulama grubu öğrencileri ile haftada 4 gün, 2 saatlik süre ile 20 hafta boyunca beden eğitimi ve spor aktiviteleri gerçekleştirilmiştir. Veriler, Hacettepe Ruhsal Uyum Ölçeği aracılığıyla elde edilmiştir. Verilerin istatistiksel değerlendirilmesinde SPSS 15.0 istatistik paket program kullanılmış ve anlamlılık 0,05 ve 0,01 düzeyinde test edilmiştir. Araştırmanın bulgularına göre, beden eğitimi ve spor aktivite programı öncesi, uygulama ve kontrol grubu öğrencilerin benzerlik gösteren ruhsal uyum düzeylerinin, 20 haftalık program sonrasında uygulama grubu lehine olumlu yönde anlamlı farklılıklar gösterdiği belirlenmiştir. Bulgular ışığında, beden eğitimi ve spor aktivitelerinin çocukların ruhsal uyum düzeyleri üzerinde olumlu bir etkiye sahip olabileceği bu araştırmadan elde edilen önemli bir sonuçtur.
Anahtar Kelimeler: Çocuk, oyun, spor, ruhsal uyum, eğitim

INVESTIGATION OF THE EFFECT OF PHYSICAL EDUCATION AND SPORTS ACTIVITIES ON PSYCHOLOGICAL ADAPTATION LEVELS OF CHILDREN

ABSTRACT

The aim of this research was to determine whether regular application of physical education and sports activities was effective on psychological adaptation levels of children or not. The research group was constituted of 80 students in the range of 10-11 years old who take education in Ankara Keçioren Hacı Sabancı Secondary School. The research was designed as a test-module with pretest-posttest control group. Physical education and sports activities were performed with application group as 2 hours a day, 4 days a week throughout 20 weeks. The data were collected by Hacettepe Psychological Adaptation Scale. For the statistical evaluation of the data, SPSS 15.0 statistical software program was used and significance was tested at levels of 0.05 and 0.01. In accordance with findings of the research, while psychological adaptation levels of application and control groups showed similarity before physical education and sports activity program, significant differences in favour of application group were determined positively after 20-week program. In the light of findings, it can be significantly resulted from this research that physical education and sports activities might have positive effect on psychological adaptation levels of children.
Key Words: Child, game, sports, psychological adaptation, education

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INTRODUCTION

Even though psychological adaptation problems are generally considered as specific to an adult's life, adaptation problems can be observed in children as adults. For children having adaptation problems, psychological adaptation period, which is described as establishing a balanced relationship and its sustainability for an individual with himself and his environment, is quite difficult (Yavuzer, 2014; Selimhocaoğlu, 2009). These children are attracted attention with their behaviors such as lying, angriness, anxiety, truancy, stealing and breaking the rules (Yörükoğlu, 2013; Yavuzer, 2012; Karataş, 2011).

Maladaptive behaviours observed in children should not be considered as personal problem. Such maladaptive behaviours that might be encountered as a problem affecting the society in terms of health and education damage the school success, social life and education period of children in the future (Oswald et al., 2001; Öner and Yılmaz, 2001; Sugai and Horner, 2002). In this respect, when the negative effects of adaptation problems are considered in terms of both the child and the society or non-adaptive children might be considered as the adults of tomorrow with psychological problems, the importance of behavioural problems in children as early as their primary school period increased much (İlhan et al., 2011). In early period, determination of the factors affecting the psychological adaptation levels of children and supporting as well as increasing positive factors will provide the development of adaptive behaviours of children while their maladaptive behaviours will be decreased.

At this point, big responsibilities are brought for educators. Every type of development of children should be supported and they should be grown as adapted individuals psychologically rather than gaining children just information and talents. However, it is observed that the educators who should be taken on significant tasks for the education lives of children do not give enough place for the applications supporting the psychological development of children during education period. It is thought that especially physical education and sports activities which are considered as inseparable part of general education and have positive effects on psychological development of children are not adequately involved in education life (İlhan ve Gencer, 2010).

When physical education and sports program is carefully prepared by taking the differences in properties of birth and cognitive, affective and psychomotor development into consideration (Senemoğlu, 2015) and when it is presented to children, possible negative emotions and behaviours in childhood might be overcome (İlhan and Gencer, 2010). Thus, in the related literature, it was expressed that physical education and sports activities can be tools for individuals to be adaptable psychologically (İlhan et al., 2011) who obey the rules and regard to others rights (Doğan, 2015), who are at peace with oneself (Şenduran, 2008), who are more adaptable to their environment (Mülayim, 2014; Arslanoğlu et al., 2013) and who have less negative emotions and behaviours (Korkmaz et al., 2003; Karakaya et al., 2006; Açak, 2006).

Education is one of the most important dimensions of sports. When sports was taken into consideration with this dimension, it should be evaluated in two ways. Education for sports and sports for education. Within education for sports, sports is the aim and education is benefited to perform sports at maximum level. Within sports for education, sports is one of the tools used to reach the targets of education but it can be considered as the most entertaning one and the most effective one if applied accurately (Öztürk, 1998).

However the sports activities are explained, they are the ones that make individuals subjected in terms of psychology and sociology. According to this explanation,

environment and methods can be provided and applications can be done to gain morals education, the feeling of love, the feeling of sharing, to dignify their activities (Özoğlu, 1997). However, the dimensions of sports that have effect on the development of children are generally comprehended as physical, physiological and movement development and most of the time, other dimensions might be ignored. In fact, sports is of vital importance for every section of the society in terms of social, cognitive and mental points of view and can be considered as a mechanism that might provide siginificant contributions for the all-purpose development of children (İlhan et al., 2011).

In the light of these expressions, the main purpose of this research was to determine whether regularly applied physical education and sports activities program affected the psychological adaptation level of children or not.

MATERIALS AND METHOD

Research Design

The research was designed as trial method with pre test-post test control group. In this model which is one of the three trial methods having higher scientific value, more than one group is used and the groups were formed via unbiased assignment approach. Two groups were formed as control and application group via this approach (Karasar, 2014). An independent variable is applied to one of these groups (application group) and when post test grades are higher than pre test grades, it is accepted that it is caused by independent variable (Ekici, 2008). Within the scope of the research, independent variable applied to the application group is "Physical Education and Sports Activity Program". The information related with experimental design used in the research is given in Table 1.

Table 1. Experimental Design

Group	Pre-test	Physical education and sports activities (20 weeks)	Post-test
Application	Psychological adaptation scale was applied.	Physical education and sports activities were performed.	Psychological adaptation scale was applied.
Control	Psychological adaptation scale was applied.	Any participation in physical education and sports activities.	Psychological adaptation scale was applied.

This research was carried out with two groups in accordance with the necessities of experimental design with control group having pre-test and post-test. Thegroups were determined via unbiased assignment approach. Before physical education and sports activities program, Psychological Adaptation Scale was applied in order to determine psychological adaptation levels of groups. Following the pre-test, 20-week physical education and sports activities program was performed with application group. During this period, control group did not participate in any physical activities. After physical education and sports activities, Psychological Adaptation Scale was applied to both groups as post-test.

Properties of Research Group and Its Formation Period

In order to determine the research group, the mothers of 100 students (application group n=50, control group n=50) between 10-11 years old who were getting education at Ankara Keciören Haci Sabanci Secondary School whom were selected by a random sampling method were invited to the school as two groups of 50 in cooperation with counsellors of school and class. 89 mothers were participated in contact meeting about the purpose,

process, period and activities of the research. It was indicated by 80 of the mothers participated in contact meeting that they voluntarily would like to participate and 9 of them indicated that they would not participate in the research. As a result of contact meeting, the research group of the study constituted of 80 students between 10-11 years old. The results of data collecting tools applied to mothers (Personal Information Form and Hacettepe Psychological Adaptation Scale) were evaluated and the application as well as control groups of 40 individuals were determined via unbiased assignment approach. The criteria for determination of application and control groups was to form two groups having closest properties with each other and having equal number of participants. While forming the groups, the opinions of school and class counsellors were also asked. The required permissions for the research were taken from both officials of the institution and mothers of students in application and control groups which are defined as research group.

Data Collecting Tools

In the research, Hacettepe Psychological Adaptation Scale and Personal Information Form were used as data collecting tools. The scale was applied to the mothers of students in research group and psychological adaptation data were obtained by the evaluations of mothers. Personal Information Form was developed by the researcher and was used for the determination of age, gender and perceived level of family income of students in research group.

Hacettepe Psychological Adaptation Scale (HPAS): This scale which was developed by Gokler and Oktem (1985) is a scale constituting of 32 items and examining the psychological health of children. For each item, the choices are present as "Non-existence", "Some" and "Many". The grading was performed by summing up the points of 0, 1, 2 which correspond to these choices. For the first 24 items, getting a grade of 13 or more indicates the presence of psychological adaptation problem. The first 12 questions examine “Neurotic Problems” and the other 12 questions examine “Behavioural Problems”. Moreover, there are 7 items under the heading of “Other Problems”. Odd-numbered items indicate neurotic problems and even-numbered items indicate behavioural problems. The grades until the 25th item are collected on the basis of the whole scale. If thirteen and more grades are obtained, then it can be said that “there is mark of a psychological problem". Cronbach Alpha reliability coefficient belonging to the general of Hacettepe Psychological Adaptation Scale was found as r=0.86. In the analysis, Guttman Split-half reliability coefficient was found as 0.85, Spearman-Brown reliability coefficient was found as 0.87, first half-alpha value was 0.78, second half-alpha value was 0.69 and the correlation between two halves was found as 0.77. Total item correlation was over 0.20 and was found high enough. Two halves which were constituted of odd and even numbered tems were coherent with each other and the reliability of each of them was found high. The reliability coefficient belonging to the general of the scale was found sufficiently high. Quite high values of internal consistency coefficients of the scale give an idea about using it confidingly (Sunal and Cam, 2005). In reliability analysis performed within the scope of this research, Cronbach Alpha internal consistency coefficient of the overall scale was 0.85 whereas Cronbach Alpha internal consistency coefficient of "Neurotic problems" sub-dimension was 0.78 and Cronbach Alpha internal consistency coefficient of "Behavioural Problems" sub-dimension was determined as 0.81.

Physical Education and Sports Activity Program

In this research, 20-week physical education and sports activity program was applied for the students in application group.

Program was designed as 2 hours a day and 4 days a week. During preparation of the program, the draft contents were presented for the opinions and approvals of three academicians who are specialized in Physical Education and Sports as well as Child Development and several studies were removed from the program in accordance with the suggestions of academicians whereas several new studies were added in the content. In expert-supported content preparation, especially psychological adaptation data collected via mothers of children were taken into consideration and the activities that might be considered to have a contribution to the positive variation of psychological adaptation data of children (shyness, timidity, unreliability, etc.) were concentrated on. The program consisted of warm-up exercises (with rhythm and music), functional exercises (paired or individual), station tracks, educational games (paired, cooperative, grouped, technical, with rhythm and music), traditional child games, fun athleticism, and streching-cool down sections. The program was applied for 2 hours on Saturday, Sunday, Tuesday and Thursday.

Procedure

The first step of this research was to gain permission from the parents of children and administrators of the school. The next step was to determined research group (application group n: 40 and control group n: 40) by researcher. In the third step with the application group (n: 40), information about the general purpose of the research, how it will be continued, its process and physical education and sports activities program was given. The children in application group were applied for 2 hour a day for 4 days a week throughout 20 weeks with a special physical education and sports program. The mothers of the control group were exempted from the program. The data were collected before and after 20-week period with scale applied to both application and control groups. All parents of children participating in the research gave written informed consent. Volunteering of students and their mother for the participation in the research was based on. For this research, the required written permissions were taken from Ankara Provincial Directorate for National Education and from the state school managements where this application would be performed.

Analysis of Data

For the evaluation of the data and finding of the calculated values, SPSS 15.0 statistical software program was used. Whether the data indicated normal distribution or not was tested with One-Sample Kolmogorov-Smirnov test and it was determined that the data did not indicate normal distribution. Since the data did not indicate normal distribution, Wilcoxon and Mann-Whitney U test as well as Kruskal-Wallis H test at non-parametric level were used in order to determine the difference between groups. The error level in this research was considered as 0.05 and 0.01.

FINDINGS

In this section, numerical information is present related with the psychological adaptation levels of students between 10-11 years old. In Table 2, descriptive information about the grades of research group taken from Hacettepe Psychological Adaptation Scale is given.

Table 2. Descriptive Statistics of Research Group related with HPAS

Factors	Group	Measurement	n	X	Sd	Min.	Max.
Neurotic Problems	Application	Pre-Test	40	4.95	1.061	3	7
		Post-Test	40	4.45	0.815	3	6
	Control	Pre-Test	40	4.80	0.791	3	6
		Post-Test	40	4.90	0.841	3	7
Behavioural Problems	Application	Pre-Test	40	4.38	1.409	1	8
		Post-Test	40	3.85	1.642	0	8
	Control	Pre-Test	40	4.62	1.580	1	9
		Post-Test	40	4.68	1.685	0	9

When Table 2 is investigated, the grades of research group taken from Hacettepe Psychological Adaptation Scale (HPAS) were found for neurotic problem sub-dimension as follows: application group pre-test (X= 4.95, sd: 1.061), post-test (X= 4.45, sd: 0.815), control group pre-test (X= 4.80, sd: 0.791), post-test (X= 4.90, sd: 0.841). For behavioural problem sub-dimension, it was found as: application group pre-test (X= 4.38, sd: 1.409), post-test (X= 3.85, sd: 1.642) control group pre-test (X= 4.62, sd: 1.580), post-test (X= 4.68, sd: 1.685). Moreover, the highest and lowest pre-test grades of application group taken from HPAS in neurotic problems factor were found as 7 and 3 respectively, while the highest and lowest post-test grades were found as 6 and 3, respectively. The highest and lowest pre-test grades of control group in neurotic problems factor were found as 6 and 3, respectively whereas those grades for post-test were found as 7 and 3, respectively. In addition to this, the highest and lowest pre-test grades of application group taken from HPAS in behavioural problem sub-dimension were found as 8 and 1, respectively whereas the highest and lowest post-test grades were found as 8 and 0, respectively. The highest and lowest pre-test grades of control group were indicated as 9 and 1, respectively while the highest and lowest post-test grades were found as 9 and 0, respectively. In Table 3, HPAS pre-test values of application and control groups are given before physical education and sports activity program
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Table 3. Mann-Whitney U test Result of Students in Application and Control Groups related with HPAS Pre-Test Grades

Factors	Measurement	Group	n	Mean Rank	Sum of rank	U	p
Neurotic Problems	Pre-Test	Application	40	41.90	1676,0		
		Control	40	39.10	1564,0	744.0	0.569
Behavioural Problems	Pre-Test	Application	40	38.70	1548.0		
		Control	40	42.30	1692.0	728.0	0.474

When Table 3 is investigated, the mean ranks of of application and control groups for neurotic problem sub-factor before the program were found as 41.90 and 39.10, respectively. When mean ranks in neurotic problem sub-factor were taken into consideration, it was determined that the difference between grades of application and control groups taken from neurotic problem sub-factor before the program was not significant in terms of statistics (U=744.0, p>0.05). The mean ranks of application and control groups for behavioural problem sub-factor before the program were found as 38.70 and 42.30, respectively. When mean ranks in behavioural problem sub-factor were taken into consideration, it was determined that

the difference between grades of application and control groups taken from behavioural problem sub-factor before the program was not significant in terms of statistics (U=728.0, p>0.05). In Table 4, HPAS post-test values of application and control groups are given after physical education and sports activity program.

Table 4. Mann-Whitney U Test Result of Students in Application and Control Groups related with HPAS Post-Test Grades

Factors	Measurement	Group	n	Mean Rank	Sum of rank	U	p
Neurotic Problems	Post-Test	Application	40	35.16	1406.5	586.5	0.028*
		Control	40	45.84	1833.5		
Behavioural Problems	Post-Test	Application	40	34.69	1387.5	567.5	0.022*
		Control	40	46.31	1852.5		

***(p<0.05)**

When Table 4 is investigated, the mean ranks of application and control groups for neurotic problem sub-factor after the program were found as 35.16 and 45.84, respectively. When mean ranks in neurotic problem sub-factor were taken into consideration, it was determined that the difference between grades of application and control groups taken from neurotic problem sub-factor after the program was significant in terms of statistics (U=586.5, p<0.05). The mean ranks of application and control groups for behavioural problem sub-factor were found as 34.69 and 46.31, respectively. When mean ranks in behavioural problem sub-factor were taken into consideration, it was determined that the difference between grades of application and control groups taken from behavioural problem sub-factor after the program was significant in terms of statistics (U=567.5, p<0.05). In Table 5, HPAS pre-test and post-test values of students in application group are given.

Table 5. Wilcoxon Signed Rank Test Result of Students in Application Group related with HPAS Pre-Test-Post-Test Grades

Factors	Group	Post-Test-Pre-Test	n	Mean Rank	Sum of rank	Z	p
Neurotic Problems	Application	Negative rank	20	13.62	272.50	3.159	0.002*
		Positive rank	5	10.50	52.50		
		Equal	15	-	-		
Behavioural Problems	Application	Negative rank	23	19.39	446.0	2.650	0.008*
		Positive rank	11	13.55	149.0		
		Equal	6	-	-		

*(p<0.01)

When Table 5 is considered, it was determined that there was a significant difference between grades of application group taken from neurotic problem sub-factor before and after the program (Z= 3.159, p<0.01). When the mean ranks and sum of ranks were taken into consideration for difference grades in neurotic problem sub-factor, it was resulted that this difference was in favour of post-test statistically. It was also indicated that there was a significant difference between the grades of application group taken from behavioural problem sub-factor before and after the program (Z= 2.650, p<0.01). When the mean ranks and sum of ranks were

taken into consideration for difference grades in behavioural problem sub-factor, it was determined that this significant difference observed was in favour of post-test. In Table 6, HPAS pre-test and post-test values of students in control group are give.

Table 6. Wilcoxon Signed Rank Test Result of Students in Control Group related with HPAS Pre-Test-Post-Test Grades

Factors	Group	Post-Test-pre-Test	n	Mean	Sum of ranks	Z	p
Neurotic Problems	Control	Negative rank	8	8.50	68.0	0.832	0.405
		Positive rank	10	10.30	103.0		
		Equal	22	-	-		
Behavioural Problems	Control	Negative rank	9	9.22	446.0	0.513	0.608
		Positive rank	10	10.70	149.0		
		Equal	21	-	-		

When Table 6 is investigated, it was determined that there wasn't a significant difference between grades of control group taken from neurotic problem sub-factor before and after the program (Z=0.832, p>0.05). It was also indicated that there wasn't a significant difference between the grades of control group taken from behavioural problem sub-factor before and after the program (Z=0.513, p>0.05). In Table 7, information related with the comparison of pre-test HPAS grades of students in research group in terms of gender variable is indicated.

Table 7. Mann-Whitney U Test Result of Pre-Test HPAS Grades belonging to Students in Application and Control Groups Participated in the Research in terms of Gender Variable

Factors	Gender	n	Mean rank	Sum of rank	U	p
Neurotic Problems	Female	40	43.30	1732.0	688.0	0.254
	Male	40	37.70	1508.0		
Behavioural problems	Female	40	38.11	1524.5	704.5	0.343
	Male	40	42.89	1715.5		

When Table 7 is taken into consideration, it was determined that the grades of students in application and control groups taken from neurotic problem sub-factor in terms of gender variable were not significantly and statistically different (U=688.0, p>0.05). It was also observed that the grades of students in application and control groups taken from behavioural problem sub-factor in terms of gender variable were not significantly and statistically different (U=704.5, p>0.05). The information related with the comparison of pre-test HPAS grades belonging to research group students in terms of perceived family income level variable is indicated in Table 8.

Table 8. Kruskal Wallis H Test Result of Pre-Test HPAS Grades belonging to Students in Application and Control Groups Participated in the Research in terms of Perceived Family Income Level Variable

Factors	Family income level	n	Mean rank	Sd	X^2	p	Significant difference
Neurotic Problems	Low	27	46.09	2	3.824	0.148	-
	Medium	32	40.31				
	High	21	33.60				
Behavioural Problems	Low	27	49.06	2	9.305	0.010*	Low-High Medium-High
	Medium	32	40.77				
	High	21	29.10				

*(p<0.01)

When Table 8 is investigated, the mean ranks of low, medium high family income level belonging to the students in application and control groups participated in the research for neurotic problem sub-factor were found as 46.30, 40.31 and 33.60, respectively. When the mean ranks were taken into consideration, it was determined that the grades of research group taken from neurotic problem sub-factor was not significantly different according to family income level in terms of statistics ($\chi2(2)$= 3.824, p>0.05). The mean ranks of low, medium high family income level belonging to the students in application and control groups participated in the research for behavioural problem sub-factor were found as 49.06, 40.77 and 29.10, respectively. When the mean ranks were taken into consideration, it was determined that the grades of research group taken from behavioural problem sub-factor was significantly different according to family income level in terms of statistics ($\chi2(2)$= 9.305, p<0.05). In order to determine this difference observed in behavioural problem factor, Mann Whitney U test was applied on binary combinations of family income level variable. According to the findings of this test, there was a significant difference between low-high and medium-high family income levels in favour of high level of income. In Table 9, the information related with the comparison of pre-test HPAS grades belonging to research group students in terms of age variable is indicated.

Table 9. Mann-Whitney U Test Result of Pre-Test HPAS Grades belonging to Students in Application and Control Groups Participated in the Research in terms of Age Variable

Factors	Age	n	Mean Rank	Sum of ranks	U	p
Neurotic Problems	10	29	42.07	1220.0	694.0	0.630
	11	51	39.61	2020.0		
Behavioural Problems	10	29	44.41	1288.0	626.0	0.241
	11	51	38.27	1952.0		

When Table 9 is investigated, the grades of students in application and control groups taken from neurotic problem sub-factor were not significantly different according to age variable in terms of statistics (U=694.0, p>0.05). It was also indicated that the grades of students in application and control groups taken from behavioural problem sub-factor were not significantly different according to age variable in terms of statistics (U=626.0, p>0.05).

DISCUSSION AND CONCLUSION

In this research which was carried out in order to investigate the effect of physical education and sports activity program on psychological adaptation levels of children,

pre-test and post-test grades belonging to mothers of students in application and control groups via Hacettepe Psychological Adaptation Scale were compared. One of the findings obtained as a result of the research was that a statistically significant difference was observed in favour of application group after program while the psychological adaptation levels of both application and control groups were similar before physical education and sports activity program. After the program, it was indicated that significant and positive regression was observed in neurotic and behavioural problem levels of students in application group when compared to the levels before the program. This positive development observed in psychological adaptation levels of students in application group can be attributed to physical education and sports activity program which was taken as an independent variable.

In the related literature, it was emphasized that physical education and sports activities regularly applied had a positive effect on psychological adaptation levels of children (Ersoy, 2010; Geylan, 2010; Rokach, 1989) and there were findings indicating that physical education and sports activities decreased neurotic and behavioural problems of children (Gencer and İlhan, 2010; İlhan and Gencer, 2010; Aydoğmus et al., 2009; Ekeland et al., 2005; Karakaya et al., 2006). Moreover, there were also several studies in the literature indicating that physical education and sports activities not only had positive effects on psychological adaptation levels of normal developing individuals but also on psychological adaptation levels of differently developing children (İlhan, 2007; Yancı-Ataman, 2011).

The effects of physical education and sports activities on the psychological adaptation levels mentioned above should not be evaluated as personal gains just for children. Children being in a healthy psychological structure will have some benefits when the society is considered. In the study of Hasırcı (2000) it was expressed that the behaviours of an individual are important for himself as well as his environment and the behaviours are tools like the tongue in order to provide communication, description of himself and performing his life.

According to Demirci (2006) the child who obeys the rules during sports activities will also learn to obey the social rules. For this reason, while physical education and sports activities support the psychological adaptation of children, they also contribute to their adaptation to social rules and the society. This will be a contribution to the society where that child lives in. Thus, the studies in this respect reveal that physical education and sports activities are effective tools on the adaptation of children to the society as well as on their socializations (Gülay et al., 2009; Smith, 2003; Bayazıt et al., 2007).

Another finding of the research was that there was no significant difference between psychological adaptation levels of children in terms of age and gender variables. In accordance with our findings, while some related studies indicated that there was no significant difference between psychological adaptation levels of students in terms of age and gender variables (Doğan et al., 2008; Uluocak, 2009), some other ones, contrary to our findings about gender variable, indicated that male students had more maladaptation problems (Bozkurt et al., 2005; Yıldız and Kavaklı, 1995).

As another finding of the research, when psychological adaptation levels of students in application and control groups were compared in terms of family income level, it was determined that there was no significant difference in neurotic problem sub-factor whereas significant difference was observed in behavioural problem sub-factor. In behavioural problem sub-factor, it was stated that the students having high income level got lower grades when compared to students having low and

medium levels of income and therefore, had lower behavioural problem levels. In the related literature, it was also expressed that low socio-economical structure of the family limited the physical, psychological and social development of the children and caused behavioural and cognitive problems (Dodge et al., 1994; Bolger et al., 1995; Duncan and Brooks-Gunn, 1997). In several studies, the relationship between low socio-economic level and school problems, difficulty in adaptation, emotional difficulties and disruptive behaviour disorder was revealed (Conger and Conger, 1993).

In the light of these findings, it is an important result of this research that physical education and sports activities might have positive effects on psychological adaptation levels of children. Moreover, another important result of this research is that there is a significant relationship between the behavioural problem levels of children and the family income level. It was determined that the children having low and medium level of income might have more behavioural problems when compared to those children having high level of income. The results obtained are considered as important in order to change the thought about contribution of physical education and sports to just limited development areas and in terms of enhancing the information about psychological dimension of physical education and sports as seen in the related literature.

In accordance with these results, suggestions such as using physical education and sports activities as an education tool for children having psychological adaptation problems, increasing the rate of physical education and sports activities in general education, formation of physical education and sports environments except school environment for children can be made. Moreover, number and variety of sampling as well as collecting the data just by means of mothers which were considered as limits of this research might be taken into consideration in further studies. In addition to this, the students in control group who did not participate in any activities throughout the research should be provided to participate in different activities and it is predicted that the comparison of the effects of these activities and the effect of physical education and sports activities in which students of application group participated should be taken into consideration in further studies and this might reveal more effective results for educational environments.

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