



The Effects of Sportive Recreational Activities on the Psychological Adaptation and Anger Levels in Educable Mentally Retarded Individuals

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Abstract

This study aimed to investigate the effects of recreational sportive activities applied to the educable mentally retarded individuals on their psychological adaptation and anger levels. Psychological Adaptation level mean scores were found to be $22,48 \pm 4,322$ in pre-test and $19,16 \pm 3,158$ in post-test. As for the average scores of Neurotic Behaviours and Behavioural Problems which were the sub-components of Psychological Adaptation, while Neurotic Behaviours mean scores were found to be $11,08 \pm 2,499$ in pre-test and $9,00 \pm 1,803$ in post-test, Behavioural Problems mean scores were found to be $11,40 \pm 3,069$ in pre-test and $10,16 \pm 2,625$ in post-test. The findings indicated that the activities implemented led a decrease in individuals' Neurotic Behaviours and Behavioural Problems scores. Mean scores on Trait Anger Scale were found to be $23,56 \pm 4,691$ in pre-test and $21,16 \pm 4,007$ in post-test. As a consequence of these activities, there occurred a decrease in mean scores and it was revealed that there was a significant difference in terms of Trait Anger level ($Z = -4,276, P < 0,05$). As for the mean scores of Anger-in and Anger-out level, it was found that anger-in level was $17,76 \pm 2,743$ in pre-test and $13,20 \pm 1,607$ in post-test. Anger-out Level mean scores were $15,20 \pm 2,415$ in pre-test and $13,36 \pm 2,059$ in post-test. Consequently, as a result of the activities carried out, it was revealed that there was a significant difference in terms of Anger-in Level and Anger-out level. ($Z = -4,423, P < 0,05$) ($Z = -4,153, P < 0,05$).

Keywords: Educable mentally retarded, psychological adaptation, anger, sportive recreative activities

INTRODUCTION

Being able to maintain his life, creating a balance with the changing conditions and adapting to the changing conditions are among the goals of human behaviour. In particular, the adverse effects caused by the environment as well as the natural challenges arising from the children's development periods may lead to certain reactive dissonance problems on children. (Yavuzer, 1997; Kaya et al., 2006).

People with differences cannot see themselves as part of the society. This situation also makes it difficult to adapt to society's expectations. A child with differences is someone who cannot perceive the stimulus coming from the environment in a normal way and cannot convey them normally. In addition, as the child who is different is very slow or very quick to reach information, special education environment should be provided to them (Ataman, 2003). In the recently developing and changing world, that the individuals who receive special education adapt to the society and their life quality is improved are of paramount importance. People are different from each other in terms of their physical structures, psychological characteristics, social status and intelligence levels (Capli 1993). Society's perception of people with these differences is very important for them to be able to continue their lives in community and develop their potentials (Icoz ve Baran, 2002). All of the tools, equipment and institutions provided to be able to respond to the needs of the individuals with these differences are considered within the context of "special education" (Kutlay, 1997).

According to Bilir (1986), retardation is defined as an individual's being unable to join the activities completely that he/she needs to do in daily life without the help of others and as chronic disadvantages that disrupt an individual's adaptation process to normal flow of life. According to another definition, retardation is a state in which activities that a normal individual can put through are limited or cannot be done completely as a result of a deficiency, loss or abnormal situation in anatomical, physiological or psychological structures and functions (Alcak, 1997).

Although mental retardation has had many different definitions, the most common and accepted definition was made by American Association on Mental Deficiency (AAMD). According to this definition, mental retardation is defined as being significantly below the average intellectual functioning together with deficits in adaptive behaviour that occur in the developmental process (Patri, 1990). Another definition indicates that mental retardation is a state which shows continuous slowdown, stagnation, and regression in a child's mental

development and intellectual functions for various reasons and as a result of this which shows retardation and deficiency in effective adaptive behaviours before birth, during birth or during the developmental period after birth (Baysal, 1986).

Adaptation is the state of a person's being in a constant change and development coordinately by following a balance in terms of psychological, physiological and sociological aspects since the day he/she is born. If this balance is disrupted, maladaptive behaviours begin to appear in the individual (Yanbasti 1990).

Psychological adaptation is defined as an individual's being able to establish a balanced relationship between the characteristics he/she has and the environment in which he exists with his own ego and to sustain this relationship (Yavuzer, 1999).

Anger is one of the basic emotions of people felt by everyone from time to time. It is also one of the emotions that arouse interest most and is understood least. Although anger is often seen as an undesired emotional state, as it motivates an individual to protect oneself, to achieve the goal and to overcome the obstacles, anger is a healthy emotional state which sometimes has adaptive functions (Sontuc, 2012).

In the up-to-date dictionary of the Turkish Language Society, anger is defined as aggressive reaction, anger, rage, fury and wrath that are exhibited in response to being prevented, offended and intimidated (TDK, 2009). In addition, anger is an emotional state that changes from a simple nervousness to an intense rage (Balkaya, Sahin, 2003).

Today, sportive recreation has become a part of social life in which we exist. Most of the researches conducted indicate that sportive recreation has taken an important role in people's physical, intellectual and social development. Sportive activities applied to the individuals that require special education are essential factors not only to help those individuals acquire mobility; but also to help them sustain their lives independently without being dependent on others, and turn into productive individuals besides being consumers. Also, the studies carried out revealed that sports has significant contributions to individuals for developing body, soul and personality structure, empowering will, facilitating group work, providing mutual support, building self-confidence, controlling oneself, learning to respect others and developing positive behaviours (Buyukyazi, Saracoglu, Karadeniz, Camliyer, 2003), (Kapikiran, 1993), (Suveren, 1991).

In this sense, it can be stated that sportive recreational activities are important to help individuals become an integrated individual in society by supporting educable mentally retarded individuals' physical development; by helping them get to know their bodies, exceed their limits, be more motivated psychologically and interact with other people. For this reason, the study was conducted on educable mentally retarded individuals who were subject to special education and it aimed to examine whether recreational activities had any effects on mentally retarded individuals' psychological adaptation and anger levels.

METHODS

Research Group

The purpose of this research was to investigate the effect of sportive recreational activities applied to a group of mentally retarded individuals aged between 7 and 15 who were selected at a Special Education and Rehabilitation Centre in Kocaeli on their psychological adaptation and anger levels. There were registered 40 students in the 7-15 age range in the rehabilitation centre. The compose of research group of 25 students as well as regular on going centre and allowed by family.

Measurement Instrument

As one of the data collection tools, Hacettepe Psychological Adaptation Scale was used to gather the data. By applying the scale to the mothers of the subjects, psychological adaptation data of the individuals were obtained from the mothers' evaluations.

The scale was developed by the Pediatric Mental Health and Diseases Department of the Faculty of Medicine of Hacettepe University by selecting questions which would be valid for our country from a variety of scales applied earlier in order to evaluate the psychological adaptation. The validity and reliability measures were conducted by Gokler and Oktem in 1985. The scale comprised of 32 items which included mental symptoms that could show up in every child. For each item, there were options of "None", "A little", "A lot"; scoring was realized by adding up 0,1,2 points that correspond to these options (Ilhan, 2007).

Sunal (2002), (21) tested the reliability of the Hacettepe Psychological Adaptation Scale in his study. Cronbach Alpha reliability coefficient of the overall scale was $r=0,86$. In the analysis, Guttman Split-half reliability coefficient was found out as 0.85 and Spearman- Brown reliability coefficient was found out as 0.87. The first half-alpha value was found to be 0.78, the second half-alpha value was found to be 0.69 and the correlation between the two halves

was found to be 0.77. The total item correlation was above 0.20 and its level was high enough. The two halves which were composed of items with odd and even numbers were consistent with each other and reliability of each half was found high. Overall reliability coefficient of the scale was found to be high enough. Cronbach Alpha reliability coefficient of the subdimension neurotic reliability analysis was determined as 0.79; Guttman Split-half reliability coefficient as 0.76; Spearman-Brown reliability coefficient as 0.80; the first half alpha as 0.74, the second half alpha as 0.52, the correlation between two halves as 0.66. Total item correlations are over 0,20 and found to be sufficient. Cronbach Alpha reliability coefficient of the subdimension behaviour is calculated as 0.82; Guttman Split-half reliability coefficient as 0.82, Spearman-Brown reliability coefficient as 0.83, the first half alpha 0.72, the second half alpha as 0.67, the correlation between two halves as 0.71. Total item correlations are over 0,20 and found to be sufficient. The fact that the internal consistency coefficient of the scale is quite high suggests the idea that the scale can be used reliably.

State Trait Anger Scale was developed by Spielberger, Jacobs, Russell and Crane (1983). Then this scale was combined with Anger Expression Scale and called as State Trait Anger Expression Scale. Trait Anger and Anger Expression subscales were adapted to Turkish by Ozer (1994) The scale designed to identify the individual differences concerning the intensity of anger and tendency towards anger as a personality trait consists of a total of 44 items (Ozer 1994). The scale has three subscales and these are State Anger subscale consisting of 10 items and Trait Anger subscale consisting of 10 items and Anger Expression subscale that involves three subdivisions each consisting of 8 items. Anger Expression subscale includes the subdivisions specifically anger-in, anger-out and anger control. The scale was prepared in such a way that individuals can express how they feel in general. In the study, it was anticipated that the scales would be applied to the mothers' of those individuals who are exposed to special education (Savasir and Sahin 1997). All the items in the Trait Anger and Anger Expression scales are positively keyed. The items were calculated regarding the existence of anger rather than its absence. The answers given according to a four point likert type grading were scored in the following way: for each item, individuals were asked to choose one of the options from "almost never", "sometimes", "usually" and "almost all the time". The answer "almost never" is given 1 point, "sometimes" 2, "usually 3" and "almost all the time" 4 points (Oner, 2008, The score that can be obtained from the Trait Anger subscale changes between 10 and 40 points while the points gathered from the subscales of Anger Expression scale range between 8 and 32. That trait anger, anger-in and anger-out

scores are lower while anger control points are higher is regarded as positive. A total point regarding the whole scale is not calculated (Oner, 2008).

During the adaptation process into Turkish, factor analysis carried out by Ozer (1994) reveals that the scale is highly consistent with the structure presumable in the original version. In various measurements aimed at university, high school and vocational nursery high school students, administrators, neurotic groups and patients with hypertension, the alpha coefficient of Trait Anger subscale was between 0,67 and 0,92, while the alpha coefficients of the subscales of Anger Expression namely Anger control, Anger-in and anger out were found to be between 0,80 and 0,90, 0,69 and 0,91, 0,58 and 0,76 respectively. For the concept validity of the scale, in the study conducted with 81 patients having hypertension, significance was found in F values of Trait Anger and Anger Out subscales. The correlation between the scale and the Anger Inventory developed for concurrent validity by Ozer is found to be between 0,41 and 0,59 and this is regarded as a suitable value for concurrent validity (Ozer 1994).

Method

The sportive recreational activities (darts, mini volleyball, petanga, dance, bowling, P skating, fun athletics, basketball, badminton, table tennis, mini golf, step) lasted for an hour a day and 3 days a week over 12 weeks. The sample group is composed of 15 boys and 10 girls with a total of 25 individuals.

Data Analysis

The obtained data was evaluated using SPSS 21.0 packet program and for the analysis T test was used in repeated measurements. The data was analysed that used Wilcoxon Matched Pairs Test because of abnormal distribution. Level of significance was determined to be 0.05.

RESULTS

Table1. Demographic information on the mentally retarded individuals

		Number	Percentage
Age	7-9	10	40,0
	10-13	8	32,0
	14-15	7	28,0
	Total	25	100,0
Gender	Female	10	40,0
	Male	15	60,0
	Total	25	100,0
Education level of Mother	Primary School	19	76,0
	Secondary School	3	12,0
	High School	3	12,0
	Total	25	100,0
Education level of Father	Primary School	6	24,0
	Secondary School	6	24,0
	High School	13	52,0
	Total	25	100,0

Table2. The comparison of pre and post test means of psychological adaptation levels of mentally retarded individuals as a result of recreational activities

		N	X	SS	T	P
Psychological adaptation	Pre-test	25	22,48	4,322	-4,223	,000
	Post-test	25	19,16	3,158		

The mean of psychological adaptation points in these individuals as a result of recreational activities was calculated as $22,48 \pm 4,322$ in pre test, while it is $19,16 \pm 3,158$ in post test. Thus, it is observed that there is a significant difference in psychological adaptation level as a result of the activities carried out ($Z = -4,223$, $P < 0,05$).

Table3. The comparison of pre and post test means of neurotic behaviours and behavioural problems, the subscales of psychological adaptation of mentally retarded individuals as a result of recreational activities

		N	X	SS	T	P
Neurotic Behaviours	Pre-test	25	11,08	2,499	-4,078	,000
	Post-test	25	9,00	1,803		
Behavioural Problems	Pre-test	25	11,40	3,069	-3,919	,000
	Post-test	25	10,16	2,625		

As a result of the activities, the mean scores of Neurotic behaviours in the individuals is found to be $11,08 \pm 2,499$ in the pre test and $9,00 \pm 1,803$ in the post test, whereas the mean scores of Behavioural Problems were calculated as $11,40 \pm 3,069$ in the pre test and $10,16 \pm 2,625$ in the post test. This indicates that there is a significant difference in the levels of Neurotic behaviours and Behavioural Problems due to the activities ($Z = -4,078, P < 0,05$), ($Z = -3,919, P < 0,05$).

Table4. The comparison of pre and post test means of trait anger levels of mentally retarded individuals as a result of recreational activities

		N	X	SS	T	P
Trait Anger	Pre-test	25	23,56	4,691	-4,276	,000
	Post-test	25	21,16	4,007		

As a result of the activities, the mean scores of Trait Anger in the individuals is found to be $23,56 \pm 4,691$ in the pre test and $21,16 \pm 4,007$ in the post test. This shows that there is a significant difference in the levels of trait anger due to the activities ($Z = -4,276, P < 0,05$).

Table 5. The comparison of pre and post test means of anger -in and anger-out levels of mentally retarded individuals as a result of recreational activities

		N	X	SS	T	P
Anger-in	Pre-test	25	17,76	2,743	-4,423	,000
	Post-test	25	13,20	1,607		
Anger-out	Pre-test	25	15,20	2,415	-4,153	,000
	Post-test	25	13,36	2,059		

As a result of the activities done, the means of the Anger In Management Level points of the individuals were found out as $17,76 \pm 2,743$ in the pre test, and as $13,20 \pm 1,607$ in the post test. The means of the Anger Out Management Level points were found out as $15,20 \pm 2,415$ in the pre test and as $13,36 \pm 2,059$ in the post test.

In short, at the end of the activities done, it was seen that there is a significant difference in the Anger In Management Level in terms of the Anger Out Management Level ($Z = -4,423, P < 0,05$) ($Z = -4,153, P < 0,05$).

Table 6. The comparison of the pre test and post test point means of the mentally retarded individuals' anger management levels after the recreational activities

		N	X	SS	T	P
Anger	Pre-test	25	18,00	2,550	-4,443	,000
Management	Post-test	25	21,36	2,548		

As a result of the activities done, the means of the Individuals' Anger Management Levels were found out as $18,00 \pm 2,550$ in the pre test, and as $21,36 \pm 2,548$ in the post test. In short, in the results of the activities done statistically differ in terms of the Anger Management Level ($Z = -4,443, P < 0,05$).

DISCUSSION and CONCLUSION

The present study was carried out in order to find out if the recreational activity program that is applied for 12 weeks to the mentally retarded individuals at a Special Education and Rehabilitation Centre was effective on the levels of expressing anger like state-trait anger, anger out, anger in, behavioural problems, and the psychological adaptation levels and anger management that are the sub components of neurotic problems.

In the study, the psychological adaptation level point means were found to be $22,48 \pm 4,322$ in the pre test, and $19,16 \pm 3,158$ in the post test. This result shows that there is a decreasing difference in terms of Psychological Adaptation Level, and therefore, there is a statistically meaningful difference ($Z = -4,223, P < 0,05$).

When the means of the Neurotic Behaviors and the Behavioral Problems that are the sub components of Psychological Adaptation are analyzed, the Neurotic Behavioural level means

were found out as $11,08 \pm 2,499$ in the pre test, and as $9,00 \pm 1,803$ in the post test, while the Behavioural Problem means were found out as $11,40 \pm 3,069$ in the pre test, and as $10,16 \pm 2,625$ in the post test. With this result gained, it can be seen that there is a decrease in the points of Neurotic Behaviours and the Behavioural Problems as a result of the activities applied. Therefore, it can be said that these activities have a positive effect on the individuals and thus, there is a meaningful difference ($Z=-4,078, P<0,05$), ($Z=-3,919, P<0,05$).

When the state-trait anger level means are analyzed, they were found out as $23,56 \pm 4,691$ in the pre test, and $21,16 \pm 4,007$ in the post test. Also, as a result of these activities, there was a decrease in the means and a meaningful difference was found in terms of State-trait Anger Level ($Z=-4,276, P<0,05$).

When the anger in and anger out level means are analyzed, the anger in level was found out as $17,76 \pm 2,743$ in the pre test, and as $13,20 \pm 1,607$ in the post test. The anger out level was found out as $15,20 \pm 2,415$ in the pre test and as $13,36 \pm 2,059$ in the post test. In short, as a result of the activities done, Anger in level has a statistically meaningful difference in terms of Anger out Level ($Z=-4,423, P<0,05$) ($Z=-4,153, P<0,05$).

According to this, the positive improvement on the psychological adaptation and its sub components, neurotic behaviour and behavioural problems, anger management, state-trait anger levels, anger in, anger out levels of the educable mentally retarded individuals may also have caused individuals to get pleasure from the activities they do, to struggle, increase their skills, to be able to get away from stress and therefore have peace so that they will be more coherent with their parents and the society and they will become more controlled, it has also caused them to have psychological coherence, and a positive improvement in their anger management, anger in, anger out and state-trait anger levels.

The means in terms of anger management were found out as $18,00 \pm 2,550$ in the pre test and as $21,36 \pm 2,548$ in the post test. As a result of the activities done, it was seen that there was a meaningful difference on Anger Management Level ($Z=-4,443, P<0,05$).

It is seen that the recreational activities done in the end of the research has a positive effect on the mentally retarded individuals' psychological adaptation and anger management. Within this concern, it is thought that this development is the result of these kinds of activities that are regularly applied.

When the previous studies are reviewed, in Bayazit, Meric, Aydin and Seyrek (2007)'s study named "The Enjoyable Athletism Training Program's Effect on Psychomotor Characteristics with Educable Mentally retarded Children" it is emphasized that it is necessary to have paired group inclusion programs as much as possible in order to come over the disabilities in movement in a fast way. They also said that this will enable the individuals with normal intelligence levels to get to know their retarded friends and gain awareness in consorting, and that this also will support and bring a new perspective to the curriculum programs of the special training institutions.

In another study named "The Effect of Physical Education and Sports Activities on the Educable Mentally Retarded Children's Psychological Adaptation Levels" by Ilhan (2007), when the means of the neurotic problems and behavioral problems of the children in the sample group were analyzed, it was concluded that the physical education and sports activities have a positive effect on the mentally retarded students' psychological adaptation levels.

Ilhan and Gencer (2010)'s study "Neurotic Tendencies in Children and Its Relation to Badminton" has shown that after the badminton training applications, there was a meaningful difference in the neurotic tendency point means in the sample group, and this lead to the result that the badminton training causes a decrease in the neurotic behavior tendency of the children.

In Sonuc (2012)'s study "The Effect of Sports on Anger Levels With the Mentally Retarded Individuals" it was seen that there was a meaningful difference between the pre test and post test results of the State-trait Anger levels, which is a sub component of the State-trait anger and Anger Wording Scale.

In Yanci's study (2010), "The Importance of Sportive Recreation in Psychological and Social Adaptation of the Educable Mentally Retarded Individuals", it was seen that there was a meaningful difference in the sub components of psychological adaptation: neurotic and behavioral problem levels of the experimental group, the educable mentally retarded children that regularly attended the sportive recreation activities. This meaningful difference was said to be a decreasing one according to the control group. Therefore, the result that there was a positive improvement in the children's socialization was induced.

Block, Conaster, Montgomery, Flynn, Munson and Dease (2001) applied the special Olympics physical activity program to a 25 mentally retarded individuals, which were at the

same age and to 25 partners from the same age group for 12 weeks. In the end of the study, as a result of the observations of the retarded ones and the partners, it was found out that they showed a meaningful improvement in terms of identity, communication among friends, and expressing themselves, and moreover, there was an increase in the motor skills of all the experience group members compared with the values measured before the study (Bayazit, et al., 2007).

In short, in the study that revealed that the sportive recreation activities both increases the psychological adaptation levels and decreases the anger management levels of the mentally retarded individuals; it is thought that the increase in the regular and systematic activity applications is an important factor in having the self respect, self confidence, socialization and the success feelings

It is an inevitable fact that it has a positive effect for mentally retarded individuals to be able to hold on life, to socialize, to develop self care skills. It should be kept in mind that one of the criteria that show a country's development level is the value it gives to its disabled citizens.

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