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Effects of leisure education programme including sportive activities on perceived freedom in leisure of adolescents with intellectual disabilities

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The objective of this experimental study is to determine the effect of leisure education programme including sportive activities on the perceived freedom in leisure of adolescents with mild intellectual disabilities. The research was designed with an experimental group (n= 37) and a control group (n= 34), and was conducted among a total of 71 adolescent students with mild intellectual disabilities in the spring semester of the 2014- 2015 academic year. The experimental group participated in a leisure education programme including sportive leisure activities that were supported by leisure coaching for 8 weeks. The short form of the Leisure Diagnostic Battery was applied to all participants as a pre- and post-test. Paired sample t tests and independent sample t tests were used to analyze the statistical data within the study, and the collected data were analysed using the R Project package program. A significant difference was found between the pre- and post-tests of the adolescents with mild intellectual disabilities in the experimental group. Moreover, a significant difference was observed between the experimental and control groups. According to the results, a leisure education programme including sportive activities had a positive impact on perceived freedom in the leisure of individuals with intellectual disabilities.

Key words: Sportive leisure activities, leisure education, perceived freedom in leisure, intellectual disabilities.

INTRODUCTION

Perceived freedom in leisure, which is a reflection of the leisure components in the preparation of adolescents with intellectual disabilities for adulthood, is valued as having an effect on their integration with life and involvement in life. Perceived freedom in leisure (PFL) is defined as a cognitive motivational construct of control over leisure experiences, the satisfaction of leisure needs and the participation in leisure behaviour and global life satisfaction (Ellis and Witt, 1994). Sportive recreational activities can facilitate the process of passing from childhood to adolescence. These activities in self-expression have an influence on the individuality, independence and self-confidence of adolescents. Leisure activities, as a means of socialisation, are crucial for all adolescent groups, as peer communication is substantial during this period. Leisure activities, in which

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adolescents with mild intellectual disabilities as well as other adolescents participate, can contribute positively to individual development and integration in their lives. However, participation in such activities may not be easy, as it is accompanied by both the barriers experienced by and the opportunities available to individuals with intellectual disabilities. In this case, a leisure education programme can be planned to enhance the life gaining experiences of individuals with intellectual disabilities. Accordingly, Hoge et al. (1999) stated, in their experimental study, that a leisure education programme including leisure activities has a positive impact on the perceived freedom in leisure of children with intellectual disabilities.

Patterson and Pegg (2008) monitored a development in the level of confidence, skills and self- esteem of adolescents with intellectual disability by participating in leisure activities. Azaiza et al. (2011) and Lifshitz- Vahav et al. (2015) saw that a positive correlation between participation in leisure activities and cognitive functioning supports the importance of participating in leisure activities in order to enhance perceived freedom of adolescents with intellectual disability.

The passage from childhood to adolescence of children who have a high degree self-expression can occur quite easily. Leisure activities can be considered as enhancing autonomy and decision-making skills (Garst *et al*., 2001), which are crucial for individuals with intellectual disabilities. McGuire and McDonnell (2008) expressed that the relationship between recreation and self-determination highlights that increased time spent by adolescents and young adults participating in recreation creates higher levels of self-determination. That is to say, reaction is a way of improving self-determination, and this concept can be enhanced by experiences, as well as by teaching explicit skills. The participation level of individuals with intellectual disabilities in social and recreational activities has been observed to be lower according to the studies of Braun et al. (2006) and Poulse et al. (2007). Barriers to leisure can complicate the lives of this group, which prefers to participate in individual activities alone instead of being with their peers. In addition, this group may prefer to participate in activities with familiar people instead of strangers. According to Abbels et al. (2008), the majority of these adolescents prefer to participate in activities with their family members because of their disabilities and the lack of available support, instead of peer activities. In their study, which was conducted among 34 adolescent students with medium intellectual disability and designed with a semi-structured interview method, Buttimer and Tierney (2005) confirmed that the participants are mostly home based and passive in nature. The reason for their low participation rate in activities might originate from the scantiness of their participation in the sports clubs that were within the scope of their opportunities; however, they did participate in walking (Health Promotion Unit, 1996). In the lives of adolescents with mild intellectual disabilities, their inequality of opportunity and economic status, or their need for the help of another person might be barriers to their access to sportive leisure activities (King et al., 2003; Frederick, 2006). That is, one's country and family opportunities can sometimes indirectly hinder one's achievement of many things that are one's right. However, in many countries, life can be easier. Although a disability is a part of the reality of life, such reality should not include the barriers to achieving the rights of an individual, such as: A. Living independently; B. Enjoying self-determination; C. Making choices; D. Contributing to society; E. Pursuing meaningful careers; and F. Enjoying full inclusion and integration in the economic, political, social, cultural, and educational systems of the society (RAA, 1992). Various studies have investigated whether family income is a factor having an impact on participation in leisure activities; in addition, many studies have affirmed that people who have economic disadvantages prefer to participate in leisure activities at lower levels. Bedia et al. (2011) indicate in their study that personal factors and perceived barriers are the main determinants of participation in leisure activities, rather than disability-related factors. Environmental factors are substantial in the generation of opportunity and the enhancement of the self-determination of adolescents with intellectual disabilities. Leisure activities, which present them with opportunities to choose the best among the alternatives in the environment, are a key point in achieving self-determination for those who have developmental disabilities.

In addition, location, as an environmental factor, might be a barrier to participation in sportive leisure activities. The study of Zijlstra and Vlaskamp (2005) found that, among environmental factors, residence modality has an influence on participation in leisure activities, and adults with ID have more limited access to normalised leisure activities, because they prefer to use day centres and their residences. According to Braun et al. (2006), improving daily activities, increasing attendance at postsecondary school and opportunities for competitive employment and participation in impairment-related programmes are facilitators that enhance the types of leisure activities for young adults with disabilities, thereby aiding their development.

Perceived freedom in leisure reflects self-assessments of participation in leisure activities and is affected in this context by life experiences. Individuals, who believe in having more freedom in leisure experiences, tend to exhibit much more efficiency, locus of control and internal motivation (Janke and Diğ., 2010). Considering the importance of these concepts for adolescents with intellectual disability, it is crucial to develop perceived freedom in leisure. Leisure activities are important tools to improve perceived freedom in leisure (Witt and Ellis,

1985, 1986; Ellis and With, 1994; Hoge et al.,1999; Poulse et al., 2007). Primarily, the literature has many studies about physical development of individuals with intellectual disability through participation in sportive physical activities (Graham and Reid, 2000; Frey et al., 2008; Harada and Siperstein, 2009; Hutzler and Korsensky ,2010; Boddy et al., 2015; Hsieh et al., 2015; Einarsson et al., 2015). However, studies on participation in sportive activities by adolescents with intellectual disability willingly, for fun and relaxation are limited.

Although it is known that perceived freedom in leisure has an indirect impact on the life skills of adolescents with mild intellectual disabilities, the number of research studies that are related to sport-based leisure activities, which are an important means of improving them, is quite limited within the national and international literature. In light of this assumption, the objective of this research is to determine the effect of a leisure education programme including sportive activities on the perceived freedom in leisure of adolescents with mild intellectual disabilities.

Research questions

1. Are any differences observed in the perceptions of freedom in leisure between the groups of adolescents with mild intellectual disabilities who participated in a leisure education programme including sportive activities and those who did not?

2. Is there a difference in the perceptions of freedom before and after the participation of the group of adolescents with mild intellectual disabilities in a leisure education programme including sportive activities?

The Hypotheses of the research

H1: There is a significant difference in support of the experimental group regarding 'perceptions of freedom in leisure' between the experimental group, who participated in a leisure education programme including sportive activities and adolescents who participated in the control group.
H2: There is a significant difference in the 'perceived freedom in leisure' before and after the participation of adolescents who were in experimental group in a leisure education programme including sportive activities.

METHODOLOGY

Participants

The standard deviations of the mean of the perceived freedom in leisure (PFL) scores were used to calculate the sample size. The standard deviation of the mean PFL was accepted as 1-point, and the difference was considered to be the mean PFL score for adolescent groups with mild intellectual disabilities. After an examination of the PFL standard deviations in previous studies, the standard deviation point was taken to estimate for keeping the larger sample size (Hoge et al., 1999; Lapa, 2013; Agyar, 2014). Therefore, it was determined that each group should have at least 16 subjects with a 95 % confidence interval for PFL scores as seen in Table 1. As 71 adolescents with mild intellectual disabilities participated in this study, the results may be generalised to the population. The sample size was calculated using the Minitab Statistical Package Program (Minitab Inc, 2005).

The sample consisted of two groups, the experimental (n=37) and the control (n=34) groups, and students were selected who were mildly mentally retarded. After determining the number, while students were selected for the experimental group from the 9th class students who have attended the school for the mildly mentally retarded in the province of Konya and who were willing to participate in the research, the control group was constituted of students with mild intellectual disabilities who attended a school that includes mixed students with mild intellectual disabilities in the province of Konya. The characteristics of the experimental and control groups can be observed in Table 2.

Experimental design

This experimental study was designed according to the techniques of quantitative research; also pre- test and post- test pattern with control group was used. The aforesaid two schools were selected randomly, and thus, the experimental and control groups were designated. A different school was selected as a control group separately by drawing a number in the same province, because the school selected as the experimental group did not have a sufficient number of students with mild intellectual disabilities to include as a control group. The differences in the pre-tests were not taken into consideration, because the objective of the study was to investigate the effect of a leisure education programme including sportive activities on perceived freedom in leisure. These differences can be caused by the attitudes and approaches of the teachers and executives of the school, and conscious families may prefer the school of the experimental group. In any case, the families in the experimental group have higher education and income levels, as shown in Table 3. The study was conducted in the spring semester of the 2014-2015 academic year.

Experimental procedure (leisure education programme including sportive leisure activities)

A leisure education programme including sportive activities was confected by the literature review and expert opinions, and was scheduled by taking 5 concepts that are concentrated in PFL items. Active and moving leisure activities were conducted among the students during an 8 week period for two hours, two days a week. The study procedure was planned by reviewing previous studies conducted with the same scale in an education programme among similar groups (Zoerink 1988; Zoerink and Lauener 1991; Lovell et al., 1996).

Ultimate care was shown in order to ensure the continuous participation of the students in the programme and the achievement of goals. The study by Hoge et al. (1999) highlights the concepts that are determinants that are useful to have and the perception of freedom in leisure within a leisure education programme, such as leisure appreciation, social interaction and friendship, leisure resources, self-determination and decision-making; the authors also endeavoured to introduce these concepts to the students, whether

Table 1. Sample size calculations for the hypothesis.

	No of questions	Actual Range	Std. Dev.	Previous Surveys Sd	Significant differences Between experimental and control groups	Power	n
Perceived freedom in leisure	17	17-85	1	0.60-0.74	1	0.95	27

Table 2. Demographic characteristics of sample of students in experimental and control groups (n=71) percentage.

		Experimental	Control
Gender	Female	16.2	29.4
	Male	83.8	70.6
Age		16.78	17.5
Primary diagnosis	Mild	100	100
Mother education	Non-writing-reading	5.4	8.8
	Primary school	81,1	91.2
	Secondary school	5.4	0
	High school	4.4	0
	University	2.7	0
Father education	Non-writing-reading	5.4	2.9
	Primary school	70.3	79.4
	Secondary school	16.2	8.8
	High school	2.7	8.8
	University	5.4	0
Income	Below minimum wage	13.5	5.9
	Minimum wage	48.6	73.5
	Twofold of minimum wage	29.7	20.6
	Threefold and over of minimum wage	8.1	0

Table 3. Comparison of pre-test scores of experimental and control groups for perceived freedom in leisure (independent sample t test).

Pre-test	N	Mean	Std. Dev.	Std. Error Mean	t	p
Experimental	37	3.35	0.84	0.0138	9.44	**<0.001**
Control	34	1.98	0.36	0.0620		

they were aware of it or not.

The participants were quite willing and steady during the programme. All participations could involve all sections, since the programme was flexible to the participants.

Leisure Appreciation: In this part of the study, recreation, the definition of leisure activities and sportive leisure activities, the barriers to leisure and the strategies for coping with leisure barriers during crucial activities in our lives were continuously emphasised by the leisure coaches. As an illustration, various sportive leisure activities were among the activities that were included within the opportunities offered. Also, the students were allowed to share and practice the activities they knew with their friends. Moreover, they were told that spending their leisure time actively and moving enables them to feel mentally and physically well, and the leisure coaches endeavoured to create awareness through the use of a question and answer method in order to note their feelings after the fun activities that occurred each day.

Social Interaction and Friendship: In this unit, propositions and

activities were presented, and activities related to social communication skills and improving friendships were also included. Furthermore, activities that determine the importance of body language in social communication and friend relationships were presented. For instance, the students could collaborate with a friend with whom they had perhaps not engaged in any sharing previously toward a common goal while they were playing volleyball. In addition, they worked to achieve their goals in a sportsmanlike manner, without forgetting that the competitors were their friends. The importance of the message that they received was emphasised by asking about the characteristics that were used in choosing a group of friends.

Leisure Resources: Visits to sportive recreation areas in the region were organised for the participants, and there was an endeavour to create awareness by sharing about the leisure areas visited during the week with their friends and leisure coaches.

Self-Determination: Opportunities for choice-making by the participants were provided during the leisure education programme including sportive activities. In addition, opportunities were given for the students to take responsibility for their activities and for self-expression. As an example, while playing musical chairs, the students, who danced without having to worry about their friends, seemed to relax, with smiles and expressions of excitement on their faces.

Decision-Making: Activities which are aimed at enhancing the decision-making skills of the participants were planned. Instructions related to decision- making were presented by the coaches during the activities. To give an example, on some days, many activities were presented for the participants and a choice was sought from them. They made a decision by considering the possible advantages and disadvantages of their choices, and groups participated in activities by separating themselves. In another play activity, the participants chose the group they would like to join.

Leisure coaching

Leisure coaches, who had previously collaborated groups with intellectual disabilities, helped the participants during the programme. Four coaches, who conducted the education programme, were informed through an orientation programme for four hours. The main objective of the study was shared with the coaches and a meeting was organised weekly on their observations to motivate them. They provided motivation for the group to participate in the programme as amusement, and they stimulated the participants to achieve the goals through conscious guidance during the activities. At the same time, they provided support to the participants to help them fulfill the responsibilities involved in the activities. The leisure coaches enhanced the motivation of the participants through observations of the students and continuous interpersonal communication with them, to enable them to behave independently and to improve their coping skills in dealing with barriers during the activities.

Instrument

The questionnaire consisted of two parts: the 'Personal Information Form' and the 'Short Form-Leisure Diagnostic Battery (Perceived Freedom in Leisure Scale -PFL-)'.

The *Personal Information Form* includes demographic questions such as gender, age, mother and father's education and income.

The *Perceived Freedom in Leisure Scale- PFL:* The Perceived Freedom in Leisure Scale 'Short Form—Perceived Freedom in Leisure' is a section of the 'Leisure Diagnostic Battery' developed for individuals with intellectual disabilities by Witt and Ellis (1985). This version was used for data collection to measure the participants' levels of perceived freedom in leisure. The Perceived Freedom in Leisure scale is a tool for measuring perceived competency in leisure, perceived control and perceived internal motivation. A 5-point Likert scale was rated from strongly disagree (1) to strongly agree (5), and it consisted of a total of 25 items. The Cronbach alpha of the scale was found to be between 0.83 and 0.94. It was adapted into Turkish by Yerlisu et al. (2011), and 17 items were collected. While for that study, the internal consistency coefficient for the general scale was found to be 0.91, in this study, the Cronbach alpha value was 0.96.

Analysis

Frequency and percentage calculations were conducted for the demographic features of the sample group. The distributions of the variables, the normality of the distributions and the homogeneity of the variances were examined, as well as the parametric features of their distribution points. The distributions were normal for the pre-test and post-test total score averages of the experimental and control groups. The pre- and post-PFL total score averages of the experimental and control groups were calculated. The pre- and post-tests of the experimental group were calculated by a paired sample t-test. In addition, the differences between the experimental and control groups were determined via an independent sample t-test.

The statistical significance level was accepted as $p<0.05$. The R Project package was used for the analysis of the data.

RESULTS

The results of the study are presented by first indicating the research question, and then, by addressing the corresponding hypothesis.

In Table 4, a comparison of the scores for perceived freedom in leisure of the experimental and control groups is shown. Table 4 presents the differences in the pre- and post-tests of the perceived freedom in leisure scale for the experimental groups.

There was a significant difference in support of the experimental group regarding 'perceptions of freedom in leisure' between the experimental group, who participated in a leisure education programme including sportive activities, and adolescents who were the participants in the control group.

There was a significant difference in the 'perceived freedom in leisure' before and after the participation of adolescents who were in an experimental group in a leisure education programme including sportive activities (Table 5).

DISCUSSION

First, in the study, we investigated the effect of a leisure education programme including sportive activities in

Table 4. Comparison of gain scores of experimental and control groups for perceived freedom in leisure for h_1 (independent sample t test).

Post-test	N	Mean	Std. Dev.	Std. Error Mean	t	p
Experimental	37	3.92	0.41	0.068	21.57	**<0.001**
Control	34	2.14	0.26	0.044		

Table 5. Diversity of pre- and post-test scores for perceived freedom in Leisure for h_2 (paired sample t test).

Experimental	N	Mean	Std. Dev.	Std. Error Mean	t	p
Pre-test	34	3.35	0.84		-3.59	0.001
Post-test	34	3.92	0.41			
Control	**N**	**Mean**	**Std. Dev.**	**Std. Error Mean**	**t**	**p**
Pre-test	37	1,98	0.36	0.06	-3.02	0.005
Post-test	37	2.15	0.26	0.04		

which adolescents with mild intellectual disabilities participated, on their perceptions of freedom in leisure. A significant difference was shown between the experimental and control groups; the average scores for the leisure of the experimental group were higher than those of the control group, which did not participate in the programme. This result demonstrates the positive effect of a leisure education programme including sportive activities on the perception of freedom in leisure. In addition, we can note that the participants became aware of the definition of leisure and resources; in addition, the skills of friendship, social communication, decision-making and self-determination were enhanced.

A high score of perceived freedom in leisure, as determined by the Leisure Diagnostic Battery, addresses high perceived leisure competence, perceived leisure control, recognition that highlights the need and desire for leisure satisfaction and a high level of participation in leisure activities.

This result is parallel to that found in a study which was conducted among adolescents with mild intellectual disabilities who participated in a leisure education programme. Although Hoge et al. (1999) could not find any significant differences between the pre-tests of the experimental and control groups, a significant difference between their post-tests was found, which supported the experimental group. In light of these results, five concepts that were included in the leisure education programme that was conducted by Hoge et al. have a positive impact on the perception of freedom in leisure. In that study, it was observed that adolescents with mild intellectual disabilities who actively participated in recreational activities presented high scores in self-determination (confidence). Accordingly, recreational activities are a crucial means for the enhancement of self-determination skills. This assumption is actualised as it is indirectly related to high PFL scores.

Secondly in the light of my study results, for adolescents in the experimental group who participated in the sportive leisure activities programme, perceived freedom was examined before and after the programme. Higher scores were observed after the sportive leisure programme than in the pre-test scores of experimental group with mild intellectual disabilities; this increase is stated to be statistically significant. In a similar study that was conducted by Hoge et al. (1999), the perceived freedom in leisure scores of the experimental group, before and after the leisure education programme, were shown to have increased; however, this increase was not found to be statistically significant. Although the leisure education programme, which was conducted using leisure coaches for 18 weeks, three hours per week, was not shown to result in a significant difference in experimental group, there was a statistically significant difference in the control group.

The leisure education programme including sportive activities conducted by the researcher in the current study is characterised by a basic difference from the leisure education programme conducted by Hoge et al. (1999): physical mobility. Play that includes the education ladder of sports, such as table tennis, volleyball, basketball, athletics, etc., as well as traditional play, was conducted for 8 weeks, for two hours a day, two days a week, as planned.

The participants were eager and motivated during the programme. The reason is two hours was used for amusement. The positive interaction between the coaches and participants is another reason.

If an education programme and a leisure education programme including sportive activities are compared in terms of efficiency, a mobility-based sportive leisure activity programme seems to be more effective in enhancing perceived freedom in leisure.

In their study, Abbels et al. (2008) stated that adolescents with intellectual disabilities participate in various activities, such as sports teams or youth group activities, with their counterparts. It is important to plan such activities, considering the influence of friend relationships and socialisation on perceived freedom in leisure.

Although the participation of adolescents with intellectual disabilities in recreational physical activities is substantial, their participation rate is lower than their counterparts who do not have any mental disorders (Cairney et al., 2005; Poulse et al., 2006). Previous studies have demonstrated that individuals with mild intellectual disabilities prefer their families as opposed to their counterparts (Pretty et al., 2002; Solish et al., 2003)

Studies in the literature highlight that they choose to participate in activities in which they can be successful, such as leisure activities. This is associated with leisure opportunities and the generation of opportunities. Buttimer and Tierney's (2005) study indicates that the 'access to' and 'location of' leisure facilities are identified as barriers to leisure by both students and parents.

Finally, the reason for the significant difference between the pre- and post-tests of the control group may be the differences that occurred in the pre-test. The reason can be related to the awareness of PFL questions as associated with informing the participants about the subject before using the PFL instrument.

CONCLUSION AND RECOMMENDATIONS

We can state that a leisure education programme including sportive activities has a positive impact on the perceived freedom in leisure of individuals with mild intellectual disabilities. There are a limited number of research studies in the literature that even reflect the positive impact of leisure education programmes on the life skills of individuals with intellectual disabilities (Zoerink, 1988; Bedini et al., 1993; Mahon, 1994; Lovell et al., 1996; Williams and Dattilo, 1997; Hoge et al., 1999; Sivan and Stebbins, 2011). For this reason, sport and amusement-based leisure activities that allow groups with intellectual disabilities to feel perceived freedom should be planned and provided in order to enhance the integration of these groups with society, and they should be included in the national and international literature. A programme based on leisure in education programmes for individuals with intellectual disabilities has not been conducted in Turkey. The sustainability of current active leisure programmes would be a positive development for the students.

Long-term leisure education programmes including sportive activities, which are an important reflection of the components of leisure experiences, are suggested for future research in order to enhance the effectiveness of these programmes. Moreover, it could be a better contribution to the literature, by planning a qualitative study about the evaluation of efficiency of the programme.

Conflict of Interests

The author has not declared any conflicts of interest.

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