International Journal of Health and Psychology Research

Vol.1, Issue 2, pp.14-23, December 2013

Published by European Centre for Research Training and Development UK (www.ea-journals.org)

THE EFFECTS OF SPORT AND DIFFERENT VARIABLES ON DECISION MAKING STRATEGIES OF DISABLED INDIVIDUALS

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ABSTRACT*: In this study, we investigate the effects of sport and different variables on decision making strategies of disabled individuals. Total of 371 disabled individuals, 136 female and 235 male, who reside in different regions of Turkey, participated in the research. Decision Strategy Scale, developed by Kuzgun (2005), was utilized in gathering data. T test and variance analysis were employed in the analysis. The difference amongst th egroups' choices were evaluated based on p: 0.05 significance level. Based on the findings, no difference at the p: 0.05 significance level among genders was observed with respectto decision making strategies. In addition, no difference was noted in terms of instinctive, dependent and indecisive decision making strategies when sporting habits and types of sport performe care compared, where as difference is observed in logical decision making strategies. More over, difference was observe damong types of disability and educational status in terms of logical and dependent decision making strategies but not in terms of instinctive and in decisive decision makin gstrategies. Inconclusion, it is imperative to teach disabled individuals the effective decision making strategies and to emphasize the significance of decision making strategies in daily life and in long term. Given the effect of sport in decision making strategies, it is essential t osupport disabled individuals in sporting activities in the course of formal andin formal education.*

KEYWORDS: Decision making strategies, Sport, Disabled Individual, Sport among Disabled Individuals

INTRODUCTION AND PURPOSE

Individuals with different disabilities encounter scenarios where they are expected to make decisions that affect their life in the society they live in. The reflections of the decisions in terms of them being positive/negative and qualitative/quantitative affect the disabled individuals, their surroundings and their decision making mechanism.

Decision making process is affected greatly by the kind of disability as well as dependent or independent variables. It is well known that decisions made in a limited time, e.g. in seconds, come with many macro and micro changes. That is why decision making may appear insignificant at first. However, it is considered that the quality and the impact of decision making are relatively more important for disabled individual with limited capabilities as compared to other individuals.

Disabled individuals are individuals whose mental, physical, behavioral capabilities or senses are partially or completely impeded due to different reasons (Ataman 1997). Because of such impediments, disabled individuals encounter many challenges in their daily life. In order to minimize these challenges, they need to make the most appropriate decisions. Disabled

individuals need to evaluate effectively all the options available to be able to make the right decisions. Therefore it is imperative to determine the factors that have effect on disabled individual's decision making process.

According to the definition by Budak (2000), decision making is process and method of calculating probabilities among alternatives occurrences and making choices based on that.
On the other hand, Gucray (2003) defines decision making as determining goals for collecting the relevant data, based on such data and its analysis, coming up with options and choosing the best option.

In decision making behavior, the individual's choice may be influenced by his/her personal and social factors. Some individuals believe that they have the control over their decision making behavior whereas others believe that such control is influenced and determined by external factors. Therefore, the individual's center of control is an important factor. Center of control is defined as assumption of either having full control or the control of external factors, e.g. chance, destiny etc, over the consequences of one's behavior (Dag, 1992)

The behavior of decision making is an activity that starts with the realization of the situation that calls for a decision and ends with determination of when and how a decision will be made. The behavior of decision making is considered to be a process of "chain reactions." During the decision making process, the individual evaluates the situation with a certain approach, assesses the options and their consequences, consequently tends to the desired choice (Ersever, 1996).

In literature, decision making strategies are explained in different subtitles. Those strategies are stated as follows.

1. Logical decision making: Analysis of the options encountered during decision making, collecting data and the evaluation of pros and cons of the options (Kuzgun, 1992). According to Scott E. Bruce, it decision making strategy as a result of the research and evaluation of the available options (Scott E. Bruce, 1995).
2. Intuitive decision making: It is the intuitive decision making without evaluating available options (Kuzgun, 1992). It is the decision made with intuition and emotions without researching and evaluating the available options (Scott E. Bruce, 1995).
3. Dependent decision making: Relaying on others' ideas and suggestions during decision making (Scott E. Bruce, 1995).
4. Unwilling decision making: When an individual is easy to change the decision made and always unhappy about the decisions made (Kuzgun, 1992).

In determination of the decision making process, considering the possible consequences of the situation, the individuals can use the decision making strategies in either planning or execution phase of the decision making. This may create different strategies in different situations. The magnitude of the effect the consequences of the decisions have on one's life may result in different decision making strategies.

Sport is defined as the activities performed in presence or absence of competition to be able to reach the efficiency required by one's age and physical, spiritual and mental capacity (Inal 1998). Sport is sum of all activities that improves and sustains one's health (Kalyon 1997). This aspect of sport may have positive effect on the disabled individuals from physical, spiritual, mental and social perspectives. Sport has spiritual-social effects on individuals and

communities. These effects include loving, demanding justice, being fair, sharing, competing, complying with rules, accepting winning and losing, manifestations of animal instincts in compliance with societal consensus, joining new communal environments, making new friends and getting pleasures (Dogan 2004).

Disabled individuals' ability to take active role in the society they live in is proportional to them making right decisions in the face of events. The positive effect sport has on disabled individuals' physical, mental, social and emotional aspects causes disabled individuals to make the right decisions that will affect their lives.

METHOD

The purpose of this study is to investigate the effect of sport, gender, type of disability and educational status on the disabled individual's decision making strategies. In order to study the decision making styles of disabled individuals who reside in different cities of Turkey, Decision Making Scale (DMS) is used (Kuzgun 1992). The scalegrades consist of the following decision making strategies, logical, instinctive, independent and indecisive. The scale is comprised of forty items, ten on each grade.

The answers to the survey are given in five grade Likert type scale as most irreverent, not relevant, somewhat relevant, relevant and most relevant. Internal consistency of the scale is between 0.55 and 0.74. The scale's grade level internal consistency varies between 0.52 and 0.86 when analyzed with test-repeat technique. In this study, Cronbach Alpha coefficients for Logical, Instinctive, Independent, Indecisive decision making are 0.78, 0.65, 0.76 and 0.64 respectively. Total of 371 disabled individuals with average age of 17, 136 female and 235 male, who reside in different regions of Turkey, participated in the research. Among participants, 53.9% have physical, 30.7% have hearing and 15.4% have sight impediment. In this study, data obtained from DMS has been analyzed on SPSS 16.0 software. In the analysis, independent group T-test and ANOVA have been used. For comparisons, a alpha significance level of 0.05 has been considered.

RESULTS

In this section, the results of the analyses and related comments are presented. Table 1 shows the demographic features, Table 2 shows disability status and Table 3 shows the frequency of sporting activities. The average scores obtained from DMS and their standard deviations are presented in Table 5. The statistical analysis of DMS score versus gender and sporting activity status is given in Table 5 and 6. DMS scores compared with the type of disability, education status are analyzed with ANOVA and the results are listed in Table 7, 8 and 9.

Table 1: Demographics

		Number (N)	Percent
Gender	Female	136	36,7
	Male	235	63,3
	Total	371	100,0
Age	14 and below	126	34,0
	15-20	175	47,2
	21-26	25	6,7
	27 and above	45	12,1
	Total	371	100,0
Family Structure	Nuclear Family	281	75,7
	Extended Family	71	19,1
	Split Family	19	5,1
	Total	371	100,0
Education Status	Elementary School	209	56,3
	High School	140	37,7
	College/Post Graduate	22	5,9
	Total	371	100,0

Table 2: Disability Status

		Number (N)	Percent
Type of Disability	Hearing	114	30,7
	Sight	57	15,4
	Physical	200	53,9
	Total	371	100,0
Reason for Disability	Since Birth	288	77,6
	After Birth	83	22,4
	Total	371	100,0
Duration of Disability	Age 16 and below	162	43,7
	Age 17-22	165	44,5
	Age 23-28	23	6,2
	Age 29 and above	21	5,7
	Total	371	100,0

Table 3: Sporting Status

		Number (N)	Percent
Are you Doing Sport?	Yes	246	66,3
	No	125	33,7
	Total	371	100,0
Type of Sport	Individual Sport	139	37,5
	Team Sport	107	28,8
	No Sport	125	33,7
	Total	371	100,0
How Many Times a Week	Never	125	33,7
	2 hours and below	80	21,6
	3-4 hours	90	24,3
	5-6 hours	67	18,1
	7 hours and above	9	2,4
	Total	371	100,0
Should Disabled Individuals do Sport?	Yes	336	90,6
	No	35	9,4
	Total	371	100,0

Table 4:The Averages and Standard Deviations of the Participants' Scores Obtained for the Grades

	Logical	Instinctive	Dependent	Indecisive
	25,73	23,79	24,56	22,70
N	371	371	371	371
Sd	5,44	4,86	4,63	5,20

The averages and standard deviations of the participants' scores obtained for the grade given in Table 4 shows that disabled individuals tend to mostly use Logical Decision Making Strategies, next, they seem to use dependent and instinctive decision making strategies in that order. Results presented in Table 4 shows the fact that the rate of disabled individuals who use indecisive decision making strategies is very low.

Table 5:The Average, Standard Deviation and T-Test results among Averages of the Scores Obtained by Female and Male Individuals from the Grades

DMS Grades	Gender	N	$\dot{X}$	Sd	t	p
Logical	Female	136	25,76	5,87	,077	,099
	Male	235	25,71	5,20	,075	
Instinctive	Female	136	23,65	5,65	-,432	,082
	Male	235	23,88	4,34	-,403	
Dependent	Female	136	24,67	4,50	,349	,892
	Male	235	24,50	4,71	,353	
Indecisive	Female	136	22,90	5,13	,558	,638
	Male	235	22,59	5,24	,561	

Table 5 shows that there is not significant different between genders with respect to the average of scores obtained from the grades at p-level of 0.05.

Table 6: The Average, Standard Deviation and T-Test results among Averages of the Scores Obtained by Female and Male Individuals from the Grades based on Sporting Status

DMS Grades	Sporting Status	N	Ẋ	Sd	t	p
Logical	Yes	246	26,22	5,28	2,43	,015
	No	125	24,77	5,65	2,38	
İnstinctive	Yes	246	23,98	4,59	1,03	,302
	No	125	23,43	5,34	,98	
Dependent	Yes	246	24,78	4,64	1,29	,195
	No	125	24,12	4,61	1,30	
Indecisive	Yes	246	22,95	5,09	1,29	,196
	No	125	22,21	5,39	1,27	

Table 6 shows that the average score obtained from the logical decision making grade of the disabled individuals who do sport is relatively higher than that of those who do not do sport, a difference is observed at the p-level of 0.05.

Table 7: The Average and Standard Deviation of the Scores Obtained by the Disabled Individuals Who perform No Sport, Team Sport and Individual Sport

	Sport Type	N	Ẋ	Sd	F	P	Significance
Logical	No Sport	125	24,77	5,65	3,080	,047	1-3
	Team Sport	107	26,02	5,71			
	Individual Sport	139	26,37	4,94			
Instinctive	No Sport	125	23,43	5,34	,683	,506	--
	Team Sport	107	24,17	4,64			
	Individual Sport	139	23,83	4,56			
Dependent	No Sport	125	24,12	4,61	,921	,399	--
	Team Sport	107	24,65	4,49			
	Individual Sport	139	24,89	4,76			
Indecisive	No Sport	125	22,21	5,39	2,214	,111	--
	Team Sport	107	23,57	4,74			
	Individual Sport	139	22,47	5,31			

In Table 7, it is shown that no difference exists among the disabled individuals who perform no sport, team sport and individual sport with respect to instinctive, dependent and indecisive decision making strategies. A difference is observed with respect to logical decision making

strategies between those who perform individual sport and those who perform on sport ($p < 0.05$).

As a result of these differences; it is noted that the scores of the disabled individuals who perform no sport ($X_{\text{no sport}}$ 24.77) and those who perform individual sport ($X_{\text{individual sport}}$ 26.37) are low with respect to logical decision making grade.

Table 8: The Average and Standard Deviation of the Scores Obtained by the Disabled Individuals Who have Hearing, Sight and Physical Impediment

	Disability Type	N	$\dot{X}$	Sd	F	P	Significance
Logical	Hearing	114	23,83	4,85	11,257	,000	1-2,3
	Sight	57	27,29	6,64			
	Physical	200	26,37	5,12			
Instinctive	Hearing	114	23,07	5,16	1,994	,138	--
	Sight	57	24,42	5,01			
	Physical	200	24,03	4,61			
Dependent	Hearing	114	23,21	4,43	7,698	,001	1-2,3
	Sight	57	25,64	4,43			
	Physical	200	25,03	4,65			
Indecisive	Hearing	114	22,49	5,13	1,299	,274	--
	Sight	57	21,87	4,64			
	Physical	200	23,06	5,37			

Table 8 reveals that no difference exists among the disabled individuals who have hearing, sight and physical impediment with respect to instinctive and indecisive decision making strategies. A difference is observed with respect to logical and dependent decision making strategies between those who have sight and physical impediments ($p < 0.05$).

As a result of these differences; it is noted that the scores of the disabled individuals who have hearing impediment ($X_{hearing}$23.83) are lower than those with sight (X_{sight}27.29) and physical impediment ($X_{physical}$26.37) with regards to logical decision making grade. The scores of the disabled individuals who have hearing impediment ($X_{hearing}$23.21) are lower than those with sight (X_{sight}25.64) and physical impediment ($X_{physical}$25.03) with respect to dependent decision making grade.

Table 9: The Average and Standard Deviation of the Scores Obtained by the Disabled Individuals Who have Elementary School, High School, and College/Post Graduate Education

	Education	N	Ẋ	Sd	F	P	Significance
Logical	Elementary School	209	26,38	5,75	4,820	,009	1-2
	High School	140	24,62	4,73			
	College/Post Grad	22	26,63	5,81			
Instinctive	Elementary School	209	24,30	5,32	2,670	,071	--
	High School	140	23,17	4,08			
	College/Post Grad	22	22,90	4,37			
Dependent	Elementary School	209	25,11	4,96	3,620	,028	1-2
	High School	140	23,75	4,16			
	College/Post Grad	22	24,54	3,43			
Indecisive	Elementary School	209	22,79	5,40	1,065	,346	--
	High School	140	22,81	4,97			
	College/Post Grad	22	21,13	4,52			

Table 9 reveals that no difference exists among the disabled individuals who have elementary school, high school and college/post graduate education and hearing, sight and physical impediment with respect to instinctive and indecisive decision making strategies. A difference is observed with respect to logical and dependent decision making strategies between those who have elementary school education ($p < 0.05$).

As a result of these differences; it is noted that the scores of the disabled individuals who have elementary school education ($X_{elementary}$26.38) are higher than those with high school education ($X_{highschool}$24.62) with respect to logic decision making grade. The scores of the disabled individuals who have elementary school education ($X_{elementary}$25.11) are higher than those with high school education ($X_{highschool}$23.75) with respect to dependent decision making grade.

CONCLUSION AND DISCUSSION

Disabled individuals' sporting habits, disability types and education statuses have been studies as they relate to decision making strategies. As a result of the analyses, it was noted that the disabled individuals who participated in this study tend to use logical decision making strategies based on the scores obtained from each grade and their standard deviation. Subsequent to logical decision making strategies, dependent, instinctive and indecisive decision making strategies have been used in the given order. (Tozoğlu 2013) studied the college students' sporting habits and their decision making strategies, the study revealed that the students primarily use logical decision making strategies. It was also reported that the students subsequently use dependent, instinctive and indecisive decision making strategies. (Eldeleklioğlu 1996)has studied adults from decision making strategies and reported that the

adults mostly use logical decision making strategies. The results reported in this study are consistent with the other studies. As a result of these findings, the fact that the disabled individuals tend to use logical decision making strategies support the validity of the results obtained in this study.

No difference was observed between female and male disabled individuals with regards to the decision making strategies based on the scores obtained from each grade, their standard deviations and the differences among averages according to their t-values with p-value equals 0.05. Despite the fact that no difference was observed between genders, it was found that the female disabled individuals tend to use instinctive decision making strategies more than their male counterparts according to a study on non-disabled adult individuals' decision making strategies by Dinklag. The results reported in this study don't agree with Dinklag's.
No difference was observed between the disabled individuals who do sport and those who do not with regards to instinctive, dependent and indecisive decision making strategies based on the scores obtained from each grade, their standard deviations and the differences among averages according to their t-values with p-value equals 0.05. On the other hand, the disabled individuals with sporting habits have higher average score on logical decision making strategies than those without sporting habits. Sport is not only a physical endeavor but also a process of socializing and blending in the social surroundings (Marris and Ross, 1976).This feature of sport reinforces the idea that sport is an effective factor in an individual's logical decision making. Game, sport and competitive activities are the easiest ways to rehabilitate the disabled individuals and have them communicate their communities (Ergün 1990).This draws on the conclusion that sport is an important factor for the individuals to take a more active role in their community and making logical decisions.

No difference was observed among the disabled individuals who do not do any sport, who do team sport and who do individual sport with regards to instinctive, dependent and indecisive decision making strategies based on the averagescores obtained from each grade and their standard deviations with p-value equals 0.05. On the other hand, the disabled individuals who do individual sports have higher average score on logical decision making strategies than those who don't do any sport, and this is considered to be a significant difference. (Tozoğlu 2013)concluded that the disabled individuals who do individual sports have lower average score on dependent and indecisive decision making strategies than those who do team sport or those who don't do any sport, a significant difference was noted. Individual sport is a sport that is performed individually or a competition where competing parties are individuals. This aspect of individual sports supports the fact that the students who do individual sports tend to have low dependent and indecisive decision making strategies (Şahin, 2005).It is concluded that the type of sports performed affects the decision making strategies, this conclusion seems to be in agreement with the findings by Tozoglu and Sahin.

No difference was observed among the disabled individuals who have hearing, sight and physical impediment with regards to instinctive and indecisive decision making strategies based on the average scores obtained from each grade and their standard deviations with p-value equals 0.05. On the other hand, the individuals with hearing disability have lower scores on the grades of logical and dependent decision making strategies than those with sight and physical disabilities.It is concluded that it will make communication between disabled individuals and nondisabled individuals easier if it is known that the disabled individuals have decision making strategies related to the type of disability they have.

No difference was observed among the disabled individuals who have elementary school, high school and college/post graduate education with regards to instinctive and indecisive decision making strategies based on the average scores obtained from each grade and their standard deviations with p-value equals 0.05. On the other hand, it is observed that the disabled individuals who have elementary school education have higher score with regards to logical and dependent decision making strategies, this is noted as a significant difference.

In conclusion, it is imperative to teach effective decision making strategies to the disabled individuals at formal and informal education; the significance of decision making strategies must be emphasized. Having realized the effect of sport on decision making strategies, it is instrumental to stress the importance of sporting activities in the education process. Thanks to sport, decision making tendencies of the disabled individuals could be influenced positively.

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