DETERMINATION OF THE HANDBALL PLAYERS' PROBLEM SOLVING SKILLS IN TERMS OF SOME VARIABLES

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ABSTRACT: Purpose: This research was done with the aim of revealing whether problem solving skills differ in terms of different variables or not. Descriptive method, one of the quantitative research methods, was adopted as the search model.

Materials and Methods: Research group consisted of 64 male athletes who participated at the third sports UNIKOP handball competition. In this study, "Problem Solving Skills Inventory" developed by Heppner and Petersen (1982) and the adaptation work of this scale to Turkish was conducted by Şahin, Şahin and Heppner (1993) and "Personal Information Form" which was developed by researcher in order to determine personal characteristic of athletes, were used as data collection tool. The unique Kolmogorov Smirnov Test was used in order to determine whether measures were suitable for normal dispersion or not. Kruskal Wallis-H test and Mann Whitney-U test were used on analyzing and evaluating the data and meaningfulness was obtained as $P<0,05$. SPSS (Statistical package for social sciences) package programme was used on evaluating data and finding calculated values.

Findings: It could be said that problem solving total point average of the athletes, participated in the research, with (Mean=110,1719), considering approach point average with (Mean=14,7656), Evuluator Approach point average with (Mean=9,5469), Self-confidence approach point average with (Mean=22,9219) and planned approach point average with (Mean=12,63) were low, but impetuous approach point average with (Mean=33,9219) and avoidant approach point average with (Mean=16,3594) were high.

Results: Meaningful difference was found in terms of personal characteristic on problem solving total and sub dimensions of the problem solving skills of participants' "class which they study at", "school which they study at", "department which they study at", "father occupation" and "mother education" variables whereas meaningful difference was not found on "age", "place in which they spend most of their life", "mother occupation", "father education" and "position which they play" variables.

Key Words: Problem Solving, Athletes, Handball, University

INTRODUCTION

Problem solving is a skill that is necessary for human life and even beyond that it is the most frequently used skill to overcome the problems encountered. [14]. Heppner ve Petersan have used the terms "to cope with problems" and "problem solving" in the same meaning.[8].

D'Zurilla ve Nezu have defined the problem solving as cognitive, affective and behavioral processes formed and developed to overcome the difficulties faced by individuals effectively.[5] [9] have also explained the problem-solving phenomenon as an important feature which is closely related to success in the social and professional life.[9],[15].

Problem solving ability is an important factor to create a favorable environment for the life of the individual [20]. Being a social existence, human life must continue by performing different status and taking on different roles in the community. Individuals determine their status and the roles they have acquired during their life with the help of problem-solving skills. It is contemplated that the individuals with better problem solving skills will reach a

higher level status and will assume important roles in social life[3]. It is determined by Şahin and his colleagues that the individuals who cannot effectively solve the problems are more anxious and insecure when compared with those who have effective problem-solving skills [13].
Problem solving method requires creative and scientific thinking skills. This method also requires a six-stage process which can be summarized as follows: to feel the difficulty, to recognize and classify the difficulty, to express the difficulty as a problem, to determine observable truths and to develop a hypothesis, to put into this hypothesis into practice and to evaluate the whole process [21].
Sports develops creative thinking, supports problem solving skills and conceptual change, and activates cognitive skills. It also develops social competency skills and sense of emphaty, supports positive self-development. Thus, an individual gets much more stronger in dealing with the problems. Sports also improves people's social life skills such as collaboration and teamwork. [15].
In this day and age, there are many factors that affect the level of sportive performance. The psychological state and performance of the athletes are closely related to the level of their problem-solving skills. For example; to train a lot or to have very high condition alone is not enough for an athlete to be successful. It can be said that the ability to make the right decisions as soon as possible provides an advantage in reaching success more quickly for an athlete. Consequently, problem solving skills of an athlete can be considered as an important factor in achieving success [10].
According to Koray and Azar problem solving is a social activity [12],[7]. Taken in this context, it is possible to say that those who engaged in sports trust themselves more and they are less impressed by stress. When the individuals engaged in sports faced with a problem, they are trying to solve their problems through problem-solving thinking on the basis of thinking schemes arises depending upon experience. With the idea of problem solving athletes can use their existing talents and skills to reach their goals. Although the problems faced in real life are valid for all individuals, it can be said that individuals engaged in sports are more flexible and comfortable when they encountered the problems compared those who do not [1].

METHODS

In this chapter there is information about the model of research, the research group, the collection of data, the data collection tools and the transactions in the process of analysis of data.

The Model of Research

This research is a descriptive study. Descriptive statistics is a statistical process that allows the collection, depiction and presentation of the numerical values related to a variable [2].

The Research Group

The research group is consisted of 64 male handball players who participated in the handball competitions in the 3rd UNIKOP Games.

The Collection of Data

Firstly, the current information about the purpose of the study is given in a systematic manner by scanning the literature. Thus, a theoretical framework has been created about the topic. Secondly, "Problem Solving Inventory (PS-A)" developed by [8] has been applied over the participants through random sampling.

The Data Collection Tools

The data collection tools needed to achieve the desired goals related to research are given below in order:

The Personal Information Form

An information form consisting of 10 questions has been prepared by researcher in order to create arguments of the research topic and to gather information about the personal characteristics of the players who participated in the handball competitions in the 3rd UNIKOP Games.

The Problem Solving Inventory (PSI)

The Problem Solving Inventory has been developed by [8] to determine the dimensions of the problem-solving methods and to determine how the person perceive himself about the competence to solve problems. On this inventory such problem-solving stages as "general tendency", "the definition of the problem", "develop alternatives", “decision making” and "evaluation" have been taken into account [16]. Within the framework of the Turkish version works, translation studies have been done by [6,18,19],and validity and reliability studies have been done [18,19,3]. As a result of the factor analysis conducted by [18], it is stated that the scale consists of six factors. These factors are as follows:

1. Impetuous Approach: Articles 13, 14, 15, 17, 21, 25, 26, 30 and 32, α = 0.78,
2. Considering Approach: Articles 18, 20, 31, 33 and 35, α = 0.76,
3. Avoidant Approach: Articles 1, 2, 3 and 4, α = 0.74,
4. Evuluator Approach: Articles 6, 7 and 8, α = 0.69,
5. Self-Assured Approach: Articles 5, 11, 23, 24, 27, 28 and 34, α = 0.64,
6. Planned Approach: Articles 10, 12, 16 and 19, α = 0.59

The answers are scored from 1 to 6. The 9th, the 22nd and the 29th articles have been kept off the scoring. Scoring has been carried over 32 articles. The Article 1, 2, 3, 4, 11, 13, 14, 15, 17, 21, 25, 26, 30 and 34 have been scored as reverse. The score range which can be taken from inventory is between 32 and 192. If the total points received from the scale is high, it means that the individual is feeling himself inadequate in the matter of problem-solving skills. If the total points received from the scale is low, perception of problem-solving skills are considered to be positive. In the scoring of the sub-dimensions, as the scores of the sub-dimensions that measure problem-solving approaches decreases (Considering Approach, Assuredapproach, evaluatives approach, planned approach) it has been seen that more use of the relevant approaches. And as the scores of the sub-dimensions that measure problem-solving approaches (Impetuous Approach and avoidant approach) it has been seen that less use of the relevant approaches [6]. This scale is aiming to measure problem-solving skills of physical education and sports teachers. Internal consistency reliability coefficient was found as 0.72 (Cronbach Alpha).

The Analysis of Data

Kruskal Wallis-H ve Mann Whitney-U tests have been used in the interpretation of the datas, and meaningfulness has been taken as P<0,05. SPSS 21 (Statistical package for social sciences) and a package software has been used to evaluate the data and to find the calculated value.

FINDINGS

Table 1. Kruskal-Wallis Test Results Regarding to the total score and Problem Solving Skills Sub-Dimensions According to the Father's Occupation of the participants

		n	Mean rank	Sd	X^2	p	Meaningful Differences
TOTAL POINT	Officer	23	112,13	60	1,089	,361	-----
	Artisan	18	110,44				
	Farmer	10	105,60				
	Self employment	13	109,84				
IMPETUOUS APPROACH	Officer	23	35,17	60	1,363	,263	-----
	Artisan	18	31,77				
	Farmer	10	34,90				
	Self employment	13	33,92				
CONSIDERING APPROACH	Officer	23	15,00	60	,120	,948	-----
	Artisan	18	14,38				
	Farmer	10	14,70				

	Self employment	13	14,92				
AVOIDANT APPROACH	Officer	23	17,56	60	1,103	,355	-----
	Artisan	18	15,05				
	Farmer	10	16,50				
	Self employment	13	15,92				
EVALUATOR APPROACH	Officer	23	9,60	60	2,048	,117	-----
	Artisan	18	10,50				
	Farmer	10	8,20				
	Self employment	13	9,15				
SELF ASSUREI APPROACH	Officer	23	22,13	60	3,218	,029*	2-3
	Artisan	18	25,22				
	Farmer	10	21,00				
	Self employment	13	22,61				
PLANNED APPROACH	Officer	23	12,65	60	2,299	,087	-----
	Artisan	18	13,50				
	Farmer	10	10,30				
	Self employment	13	13,30				

*p<0,05

In Table 1, it was analyzed by Kruskal-Wallis test if the problem solving sub-dimensions and the total scores of the average of players are changed or not according to the occupation of the fathers of the participants. In the study results; no significant differences in any other sub-dimensions, there were statistically significant differences in the self-assured sub-dimensions scores according to the father's occupation (X^2 =3,21 P<0.05).

Table 2. Kruskal-Wallis Test Results Regarding to the total score and Problem Solving Skills Sub-Dimensions of participants According the school which they study at

		n	Mean rank	Sd	X^2	p	Meaningful Differences
TOTAL POINT	Karamanoğlu Mehmetbey University	18	112,44	60	,833	,481	-----
	Niğde University	17	107,35				
	Selçuk University	14	110,71				
	Aksaray University	15	110,13				
IMPETUOUS APPROACH	Karamanoğlu Mehmetbey University	18	34,38	60	,587	,626	-----
	Niğde University	17	34,76				
	Selçuk University	14	34,07				
	Aksaray University	15	32,26				
CONSIDERING APPROACH	Karamanoğlu Mehmetbey University	18	14,44	60	,113	,952	-----
	Niğde University	17	14,82				
	Selçuk University	14	15,14				
	Aksaray University	15	14,73				
AVOIDANT APPROACH	Karamanoğlu Mehmetbey University	18	18,88	60	3,617	,018*	1-3
	Niğde University	17	15,17				
	Selçuk University	14	14,35				
	Aksaray University	15	16,53				
EVALUATOR APPROACH	Karamanoğlu Mehmetbey University	18	9,33	60	1,832	,151	-----
	Niğde University	17	8,88				
	Selçuk University	14	10,85				
	Aksaray University	15	9,33				
SELF ASSUREI APPROACH	Karamanoğlu Mehmetbey University	18	22,88	60	,714	,548	-----
	Niğde University	17	22,00				
	Selçuk University	14	22,78				
	Aksaray University	15	24,13				
PLANNED APPROACH	Karamanoğlu Mehmetbey University	18	12,50	60	,849	,473	-----
	Niğde University	17	11,70				
	Selçuk University	14	13,50				

	Aksaray University	15	13,13

*p<0,05

In Table 2, it was analyzed by Kruskal-Wallis test if the problem solving sub-dimensions and the total average scores of the players are changed or not according to the school which they study at. In the study results; there were no significant differences in any other sub-dimensions, there were statistically significant differences in the avoidant approach sub-dimensions scores according to the school which they study at (X^2 =3,61 P<0.05).

Table 3. Kruskal-Wallis Test Results Regarding to the total score and Problem Solving Skills Sub-Dimensions of participants According to the class which they study at

		n	Mean rank	Sd	X^2	p	Meaningful Differences
TOTAL POINT	1.class	15	109,53	60	,435	,728	-----
	2.class	14	108,28				
	3.class	12	112,50				
	4.class	23	110,52				
IMPETUOUS APPROACH	1.class	15	33,13	60	2,962	,039*	2-3
	2.class	14	30,85				
	3.class	12	36,83				
	4.class	23	34,78				
CONSIDERING APPROACH	1.class	15	16,00	60	1,050	,377	-----
	2.class	14	14,85				
	3.class	12	14,00				
	4.class	23	14,30				
AVOIDANT APPROACH	1.class	15	14,33	60	1,421	,246	-----
	2.class	14	17,07				
	3.class	12	17,41				
	4.class	23	16,69				
EVALUATOR APPROACH	1.class	15	10,33	60	1,058	,374	-----
	2.class	14	8,71				
	3.class	12	9,33				
	4.class	23	9,65				
SELF ASSUREI APPROACH	1.class	15	22,40	60	,614	,609	-----
	2.class	14	23,21				
	3.class	12	21,83				
	4.class	23	23,65				
PLANNED APPROACH	1.class	15	13,33	60	1,667	,184	-----
	2.class	14	13,57				
	3.class	12	13,08				
	4.class	23	11,43				

*p<0,05

In Table 3, it was analyzed by Kruskal-Wallis test if the problem solving sub-dimensions and the total average scores of the players are changed or not according to the class which they study at. In the study results; there were no significant differences in any other sub-dimensions, there were statistically significant differences in the impetuous approach sub-dimensions scores according to the class which they study at (X^2 =2,96 P<0.05).

Table 4. Kruskal-Wallis Test Results Regarding to the total score and Problem Solving Skills Sub-Dimensions of participants According to the department which they study at

		n	Mean rank	Sd	X^2	p	Meaningful Differences

TOTAL POINT	P.E.Teaching	21	110,04	60	,383	,684	-----
	Coaching	20	108,85				
	Sports Management	23	111,43				
IMPETUOUS APPROACH	P.E.Teaching	21	34,71	60	2,330	,106	-----
	Coaching	20	35,35				
	Sports Management	23	31,95				
CONSIDERING APPROACH	P.E.Teaching	21	14,66	60	1,609	,208	-----
	Coaching	20	13,85				
	Sports Management	23	15,65				
AVOIDANT APPROACH	P.E.Teaching	21	17,00	60	2,364	,103	-----
	Coaching	20	17,50				
	Sports Management	23	14,78				
EVALUATOR APPROACH	P.E.Teaching	21	8,85	60	3,843	,027	1-3
	Coaching	20	9,00				
	Sports Management	23	10,65				
SELF ASSUREI APPROACH	P.E.Teaching	21	21,95	60	3,418	,039	3-1 3-2
	Coaching	20	21,95				
	Sports Management	23	24,65				
PLANNED APPROACH	P.E.Teaching	21	12,85	60	3,315	,043	3-2
	Coaching	20	11,20				
	Sports Management	23	13,73				

*p<0,05

In Table 4, it was analyzed by Kruskal-Wallis test if the problem solving sub-dimensions and the total average scores of the players are changed or not according to the department which they study at. In the study results; there were statistically significant differences in the sub-dimensions scores of evuluator approach (X2=3,84 P<0.05), self-assured approach (X2=3,41 P<0.05) and planned approach (X2=3,31 P<0.05) according to the class which they study at. But there were no significant differences in any other sub-dimensions.

Table 5. Kruskal-Wallis Test Results Regarding the total score and Problem Solving Skills Sub-Dimensions According to the educational level of the mothers of the participants

		n	Mean rank	Sd	X^2	p	Meaningful Differences
TOTAL POINT	Non-literate	10	108,00	60	2,039	,139	-----
	Primary school	32	108,59				
	High school	22	113,45				
IMPETUOUS APPROACH	Non-literate	10	37,50	60	2,548	,087	-----
	Primary school	32	33,46				
	High school	22	32,95				
CONSIDERING APPROACH	Non-literate	10	14,30	60	2,627	,080	-----
	Primary school	32	14,03				
	High school	22	16,04				
AVOIDANT APPROACH	Non-literate	10	16,90	60	,124	,884	-----
	Primary school	32	16,40				
	High school	22	16,04				
EVALUATOR APPROACH	Non-literate	10	7,50	60	4,828	,011*	2-1
	Primary school	32	10,15				
	High school	22	9,59				
SELF ASSUREI APPROACH	Non-literate	10	19,80	60	7,221	,002*	3-1
	Primary school	32	22,43				
	High school	22	25,04				
PLANNED APPROACH	Non-literate	10	12,00	60	1,892	,159	-----
	Primary school	32	12,09				
	High school	22	13,77				

*p<0,05

In Table 5, it was analyzed by Kruskal-Wallis test if the problem solving sub-dimensions and the total average scores of the players are changed or not according to the educational level of the mothers of the participants. In the study results; there were statistically significant differences in the sub-dimensions scores of evuluator approach ($X2=4,82$ $P<0.05$), and self-assured approach ($X2=7,22$ $P<0.05$) according to the class which they study at. But there were no significant differences in any other sub-dimensions.

DISCUSSION and RESULTS

It can be said that the total scores of problem solving skills of the participating athletes and the sub-dimensions such as Evuluator Approach, self Assuredapproach and planned approach are also low. But it can be clearly understood from the study that the average scores of Impetuous Approach and avoidant approach are high. The reason there are higher average scores in the hasty and avoidant approach compared to the other sub-dimensions of the problem-solving skills is that people tend to move in line with the first idea that comes to their mind to solve problems and people think that they cannot succeed if they act in accordance with their planned solution.

According to the variable of the father's occupation of the participants; the scores of those whose fathers are tradesmen in the sub-dimension of self-Assuredapproach are higher than those who are farmers. It can be said that those whose fathers are tradesmen have much more self confidence because they are able to express himself more comfortably and they imitate their fathers to overcome the problems they faced.

According the variable of school which they study at; the avoidant approach scores of the students of Karamanoğlu Mehmetbey University are higher than the students of Selçuk University. It is believed that the province where the university is located and the social structure of the province have significant effects on overcoming the problems encountered and dealing with the problems.

According the variable of the class which they study at; Impetuous Approach scores of the students of the third class are higher than the students of the second class. The reason why people act without taking into account various factors on coping with problems is because they are closer to professional life. By doing so they increase the possibility of sudden and accurate decisions.

According to the variable of department which they study at; it is seen that the Evuluator Approach scores of the students of management department are higher than the students of schoolteaching department, the self-Assuredapproach scores of the students of management department are also higher than the students of schoolteaching and coaching department. Similarly, it is seen that the planned approach scores of the students of management department are higher than the students of coaching department. It is believed that the reason of the findings match the qualifications required to have an administrator is because each and everyone of the participants is an adminastor candidate.

The Evuluator Approach scores of the participants whose mothers are graduated from the primary school compared to the participants whose mothers are illiterate. The self-Assuredapproach scores of the participants whose mothers are graduated from the high school compared to the participants whose mothers are illiterate. The educational level and mother's education level are effective in self-confidence and the ability of making decision of the participants.

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