The Effect of Empathy Levels of Female School of Physical Education and Sports Students on Problem Solving Skill Levels

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Abstract

This research is made in order to find whether the empathy levels of female school of physical education and sports students' effect on problem solving skills by detecting their empathy and problem solving skills and by exhibiting whether the empathy and problem solving skills differ from according to demographic characteristics. In the research, The Empathic Tendency Scale developed by Dökmen (1988) and The Problem Solving Inventory developed by Heppner and Peterson (1982) adapted into Turkish by Sahin, Sahin, and Heppner (1993) is used on the 167 female students studying at Karamanoğlu Mehmetbey University school of Physical Education and Sports in the 2019-2020 academic year. The correlation analysis is done with t and one way Anova tests in the evaluation of the gathered data's because of the gathered data's show parametric distribution. As a result of the research, the empathy levels of the students who attended the research is $\overline{X} = 68,8323$ and problem solving skills are detected as $\overline{X} = 92,2814$. Also it is detected that, the female students included in the research have empathy and problem solving skills over intermediate level and empathy levels effect problem solving skills.

Keywords: Female, Student, Empathy, Problem solving.

Contents

Contribution of this paper to the literature
This research contributes to the literature by determining the empathy and problem-solving skills of female students of physical education and sports school.

1. Introduction

Individual is in the state of interaction with its surrounding, social environment, family and friend environment by the need of its social life. In this direction sometimes being in the name of a healthier communication, individual starts to develop the relationship with himself and the relationships with others. Because it is important being healthier both the individual and the public at this point. It can't be prevented that the individual, having problem with himself and can't overcome his internal conflicts, to face serious conflicts in the society. In this way the individual may need examine into some of his characteristics (Demiralp, 2017).

It is known that the aim of 21st century of the countries is growing up individuals who are physically, mentally, emotionally and in the aspects of socially healthy, living in harmony with their environment, getting along to their family and social environment, having the skill of problem solving, creative, entrepreneur, productive, dynamic and self-confident. Of all these characteristics becoming as universal values, the most important is having the skill of problem solving (Sanlı, 2005; Seker, 2019).

Naming the problem would be true as it doesn't have a precise solution, causing complexity in mind, allowing to come through by the individual by putting forth his knowledge correctly and in time (Erzincanlı, 2010; Sesli, 2013). Individual faces with various problems in non-consecutive time periods. The reactions of individuals to the problems are different. The solutions of the individuals facing with the same problem make difference. While some of the individuals are successful to overcome the problem, some are not. Problem is not only the definition that we confront in Math's. Life includes in a series of problem patterns and their ways out. Life always requires solving a problem. Problem comes out for the individual when there are difficulties and obstacles on the way going to the aim that should be reached (Cüceloğlu, 2004).

In todays education programmers, the qualifications that a successful student needs to require are sorted as to be able to communicate, thinking scientific, rational and logical, to be able to use technology, being researcher-productive, to be able to share information, to be able to conserve human values and showing the skill of problem solving (Söylemez, 2002). Problem solving is a scientific and behavioral process that consists making up the effective chooses to overcome to certain situation, choosing one and applying it Kneeland (2001); Anderson (1980) defines the problem solving process as directing the cognitive processes to a target by focusing on cognitive processes firstly. According to Heppner and Krauskopf (1987) problem solving is the same as the term of coping with a problem. Problem solving, in this definition, is handled as to direct the cognitive-emotional processes such as being in behavioral reactions by the aim of in order to adapt internal and external demands and to calls. Problem solving is a process consisting a sequence of effort that has cognitive and psychological dimensions according to eliminate the difficulties in order to achieve a definite target (Oğuzkan, 1989). In an another definition; it is defined as " a cognitive and behavioral process that consists creating effective reaction options in order to cope with a problematic situation and to prefer the most suitable one among them (Cantav, 2016; D'Zurilla & Goldfried, 1971).

Empathy is the right understanding of the emotions and thoughts of a human by palcing oneself in the position instead of the human in opposite (Dökmen, 2005). Empathic Tendency is so; social sensitivity and empathy potential in the daily lives of people (Dökmen, 1988). Empathy skill is to understand the feeling, thought and the ways of perception of others facing the events and problems, to share the impressions that one has and using this skill in the daily life (Keser, 2017; Schilling, 2009).

Empathy went through mainly there phases until the definition stage in nowadays (Baston, Fultz, & Schonenrade, 1987). Namely: it is used until the late 1950s with the cognitive quality meaning of for a person getting to know the other, having information about his characteristics by placing oneself instead of the position of the other. In the 1960s empathy is defined as by accepting that there is an emotional aspect of it still the cognitive aspect of it handled primarily, feel the same as what the feelings of the other are, feel as the other. In the 1970s empathy is defined as to understand a specific feeling of somebody and giving an appropriate response to this feeling. According to this approach the emphatic person focuses on the other instead of focusing on himself. He handels the subject as " what does the other feel" instead of " what I feel " (Baston et al., 1987); cited; Dökmen (1988).

Empathy is being together with different people, it is a way of understanding them. It means entering into the perceptional world of different humans and is the way of being together with their perceptions. As far as the emotions that a person feel show no differences, it means that the the emotion that he has, changes in the manner of happiness, anger, fear or affection. It means that living the life of the people temporarily, feel him gently without judging and understanding him (Rogers, 1975). Empathy is a form of relational focus on people. The fundamental elements, that should be considered on developing empathy in relational process, are the manner of entering the life of the other and behaving like living the events without reflecting what he experiences for the person who develops the empathy. According to Bellous (2000) empathy is anticipating the livings of humans and perceiving their experiences accurately. Also an another feature of the relational empathy is besides understanding the other, it is having the ability of sympathize (Gülle, 2015; Hançer & Tanrısevdi, 2003).

Female students studying at school of physical education and sports need a number of skills in order to make an effective communication with both athletes, trainers and the other people in connection with their taking an important task on their career to develop the sports and to expand it after they graduate. While these skills are listed as social skill levels, decision making styles, hardiness, aggression levels, anxiety, one of them is so empathy and problem solving skills levels. The individuals who have empathy and a high levels of problem solving skills are able to make a better communication and are able to be more succeful both in their private lives and in their professional career.

2. Method

In the research descriptive scanning aiming to find out the current state and a method according to relational scanning are used.

2.1. Research Group

The universe of the research is composed by 230 (77 in Physical Education and Sports Teaching department, 67 Sports Management department daytime education, 42 in Sports Management department evening education, 32 in Coaching department daytime education and 12 in Coaching department evening education) female students studying at Karamanoglu Mehmetbey University in the 2019-2020 academic year at fall term. The sample group of the research is composed by 167 (52 in Physical Education and Sports Teaching department, 50 in Sports Management daytime education, 26 in Sports Management evening education, 31 in Coaching daytime education and 8 in Coaching evening education departments) female students.

2.2. Analysis of the Data

In the research, Empathic Tendency Scale (ETS) developed by Dökmen (1988) in order to survey the empathy potential in the daily lives of the individuals and "Problem Solving inventory" developed by Heppner and Peterson (1982) adapted to Turkish by Sahin et al. (1993) were used for data collection.

Empathic Tendency Scale is a kind of fivefold likert scale composed of 20 questions. There are five options in each question. These options are; "Defines me no ", "Defines me slightly", "Defines me partially", "Defines me well", and "Defines me completely". While every question is scored between 1-5 in the answer keys, the questions 3.6.7.8.11.12.13, and 15. are multiplied in reverse. Minimum point that can be get from the scale is 20 and maximum is 100. Being the points high shows that empathic tendency is high, being its low shows that the empathic tendency is low (Cited; Gülle (2015)).

Problem solving inventory is a kind of six fold inventory that is composed of 35 questions. There are 6 options in each question. These options are; " I always behave so", "I mostly behave so", "I often behave so", "I sometimes behave so", I rarely behave so" and " I never behave so". During scoring three questions are excluded from scoring and 14 questions are scored as reverse. The inventory has six sub-dimensions. These are; impatient, thinking, avoidant, evaluative, self-confident, and planned approach. The minimum value that can be get from the total of inventory is 32, the highest is 192. Being high of the total score that is get from the inventory shows that the individual perceives himself as incompetent in problem solving (Akpinar, 2012; Kır, Akpınar, & Akpınar, 2013).

Demographic features of the students attending the research are interpreted in that. 79(%47,3) until 19 years old, 51(%30,5) between 20-21 years old, and 37(%22,2) 22 years old and over of the participants. Of the participants studying 52(%31,1) in physical education and sports teaching department, 50(%29,9) sports management daytime education, 31(%18,6) coaching daytime education, 26(%15,6) sports management evening education and 8(%4,8) coaching evening education. Of the participants 128 (%7,6) in daytime education, 39(%23,4) in evening education studying. Of the participants 65(%38,9) are at first grade, 53(%31,7) are at second grade, 19(%11,4) are at third grade, 30(%18,0) are at fourth grade studying. The range of the participants according to their fathers' educational status is so; 11(%6,6) are literate, 69(%41,3) are elementary school, 34(%20,3) are secondary school, 37(%22,2) are high school and 16(%9,6) are graduates. The range of the participants according to their mothers' educational status is; 13(%7,8) are illiterate, 14(%8,4) are literate, 77(%46,1) are elementary school, 39(%23,3) are secondary school, 16(%9,6) are high school and 8(%4,8) are graduates. The occupations of the participants are 15(%9,0) officer, 25(%15,0) employee, 19(%11,4) craftsman, 26(%15,5) farmer, 35(%28,1) retired and 47(%28,1) freelancer.

The reliability coefficient of the empathic tendency scale applied to the participants is, 7244 and the reliability coefficient is determined as, 8798. Also One-Sample Kolmogorov-Smirnov test is applied to the participants for the analysis made in order to determine the levels of empathy and problem solving levels of the participants for the parametric or nonparametric range.

Table-1. One-sample kolmogorov-smirnov test showing the empathic tendency levels of the participants.

	Empathic Tendency Scale
N	167
Mean	68,8323
Std.Deviation	9,78298
Kolmogorov-smirnov Z	,730
P	,661

Note: p>0,05

If the test results are examined in Table 1; t test and one-way anova tests are applied in relation with the analysis, which are applied on empathic tendency levels of participants as the result of the One-Sample Kolmogorov-Smirnov test, being normal range in other words being parametric (P>0.05) were used test.

Table-2. One-sample kolmogorov-smirnov test showing the problem solving levels of the participants.

	Hasty approach	Thinking approach	Avoidant approach	Evaluative approach	Self-confident approach	Planned approach	Problem solving total
n	167	167	167	167	167	167	167
Mean	34,0958	13,1557	10,4850	8,0898	16,2515	10,2036	92,2814
Std.Deviation	8,07289	5,37842	4,74514	3,71877	6,13180	4,58065	22,04920
Kolmogorov-smirnov Z	1,000	1,355	1,000	,934	,884	1,000	,980
p	,270	,051	,270	,250	,415	,270	,260

Note: p>0,05

If the test results are examined in Table 2; t test and one-way anova tests are applied in relation with the analysis, which are applied on problem solving levels of participants as the result of the One-Sample Kolmogorov-Smirnov test, being normal range in other words being parametric (P>0.05) were used test.

3. Results

Table-3. The $\overline{X}$ and Ss values results related to the total point of general empathic tendency levels of the participants.

	n	$\overline{X}$	Ss	Min	Max	The Minimum and Maximum Score Can Be Get From The Scale
Empathy Level	167	68,8323	9,78298	31,00	93,00	20-100

If the test results are examined in Table 3; that the general empathy score avarege of the participants. The average empathy score of the participants is determined as $\overline{X}$=68,8323. The average score got from the inventory by the students included in the scope of the research is determined as $\overline{X}$=68,8323. When the values that can be get from the total score (min.20- max.100) of the inventory taken into consideration, it is seen that the students have empathy levels over intermediate level.

A significant difference isn't determined in the empathy levels of the participants in the groups of; age, program of study, study of education, grade of education, education status of mother, education status of father and profession of father.

Table-4. The results of the participants related to $\overline{X}$ and ss values belonging to general problem solving sub-dimensions and total sore.

Problem solving inventory sub-dimensions	n	$\overline{X}$	Ss	Min	MAx	The minimum and maximum score can be get from the inventory
Hasty Approach	167	34,0958	8,07289	16,00	52,00	9-54
Thinking Approach	167	13,1557	5,37842	5,00	28,00	5-30
Avoidant Approach	167	10,4850	4,74514	4,00	24,00	4-24
Evaluative Approach	167	8,0898	3,71877	3,00	18,00	3-18
Self-confident Approach	167	16,2515	6,13180	6,00	36,00	7-42
Planned Approach	167	10,2036	4,58065	4,00	24,00	4-24
Total	167	92,2814	22,04920	42,00	161,00	32-192

If the test results are examined in Table 4; problem solving sub-dimensions and problem solving total score means are analyzed. As a result of this analysis it is seen that the participants have score avareges of the problem solving sub-dimensions in hasty approach sub-dimensions $\overline{X}$=34,0958, in thinking approach sub-dimension $\overline{X}$=13,1557, in avoidant approach sub-dimension $\overline{X}$=10,4850, in evaluative approach sub-dimension $\overline{X}$=8,0898, in self-confident approach sub-dimension $\overline{X}$=16,2515 and in planned approach sub-dimension $\overline{X}$=10,2036 and so in problem solving total score 92,2814. When the values that got from the problem solving inventory sub dimensions and from the total score means by the students included in the research, it can be inferred that in problem solving sub-dimensions hasty approach is under intermediate level, in thinking, avoidant, evaluative, self-confident and in planned approach over intermediate level and also problem solving skills levels are over the intermediate level.

While it is not determined a significant difference in problem solving levels of the participants in the aspects of the program having studied, the education that studied, the education status of father, the education status of mother and in the variables of father's profession, a significant relation determined in the averages of hasty approach of the problem solving sub-dimensions. Problem solving skills levels are determined higher with a rate when compared the ones whose age is till 19 than whose age between 20-21 years old on determined the grade in which having studied and in the score avareges of hasty approach of the problem solving sub-dimensions. It is determined that the ones studying in the first grade are higher than the ones studying in second grade. So in the variables there is a significant difference determined.

Table-5. The correlation analysis between empathy levels and problem solving ability of the participants.

		Empathy	Hasty approach	Thinking approach	Avoidant approach	Evaluative approach	Self-confident approach	Planned approach	Problem Solving Total
Empathy	r	1	-,136	-,233(**)	-,249(**)	-,211(**)	-,245(**)	-,281(**)	-,322(**)
	p	-	,79	,002	,001	,006	,001	,000	,000
	n	167	167	167	167	167	167	167	167

Note: p<0,05

If the test results are examined in Table 5; there is a significant relation with empathy levels and thinking approach, avoidant approach, evaluative approach, self confident approach, planned approach and among total problem solving skills.

4. Discussion and Conclusion

It is determined that the female students of school of physical education and sports included in the research have empathy and problem solving skills over intermediate level. It is not determined a significant difference in empathy levels of the participants by the groups of age, the program having studied, the grade in which being

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educated, education status of mother, education status of father and profession groups of father. While it is not determined a significant difference in problem solving levels of the participants in the aspects of the program having studied, the education that studied, the education status of father, the education status of mother and in the variables of father's profession, a significant relation determined in the averages of hasty approach of the problem solving sub-dimensions. Problem solving skills levels are determined higher with a rate when compared the ones whose age is till 19 than whose age between 20-21 years old and whose age 22 years old and elder than whose age is between 20-21 years old and there is a significant relation determined the in grade in which having studied and in the score avareges of hasty approach of the problem solving sub-dimensions. It is determined that the ones studying in the first grade are higher than the ones studying in second grade. So in the variables there is a significant difference determined.

The study made by Pala (2008) aimed to determine the empathy levels of teacher candidates he determined the empathy levels of the participants over intermediate level in his work. Made by Akgün and Cetin (2018) in the studies of determining the communicative skills and empathy levels of university students; it is determined that there is a significant difference between genders of students, the department having studied, birthplace, the status of having communication education, the status of having difficulty in interpersonal relationship and where they stay with empathy and communication skills. In the study of analyzing the empathic tendency, emotional intelligence and irrational belief levels of university students in aspects of some variables made by Keser (2017) it is determined that the "empathic tendency" scores of female students are significantly higher than the empathic tendency scores of male students.

In the study made by Akpinar (2012) on the problem solving sufficiency of elite female hockey players in the aspects of some variables, the problem solving skill levels of elite female hockey players in Turkey are determined as $\overline{X}$ =85,23, it is determined that they have problem solving skills over intermediate level and while it is not determined a significant difference in age and education status variables, a significant difference determined in the variables of hockey playing year, being national athlete status, the top championship being attended and the rank being got. In the studies made by Akpınar and Akpınar (2017) on analyzing the problem solving skills and decision making styles of school of students in aspects of some variables, the problem solving skill levels of the participants are determined as $\overline{X}$ =96,4771 and having problem solving skill levels over intermediate level, while there is not a significant difference determined in problem solving skills in the aspects of age, the grade in which being studied, the education status of mother and in the groups of profession of father, it is determined that there is a significant difference in the variables of the academy in which being educated, gender, the education in which being educated, where they stay, the education status of father, the income level of per month and whether doing sport actively. In the studies made by Yılmaz, Karaca, and Yılmaz (2009) on the analyzing of problem solving skills of vocational school of health students in aspects of some variables, problem solving skill levels of the participants are determined as $\overline{X}$ =94,35 and while it is not determined there is a significant difference in problem solving skills on the condition of the department being studied, age, gender, the education status of mother, the education status of father and problem solving skill with having education, there is a significant difference determined in grade variable. In a study made by Elkin and Karadagli (2015) on the evaluation of problem solving skills of university students, by determining the problem solving skills of the students in intermediate level, in their problem solving levels when the gender, the branch that they study, the grade in which they are, the kind of high school graduation, the status of pre-school education, the settlement in which they spend most of their childhood, income level, the education status of father and mother, family type, presence of sibling, raising child style of parent, the perception of academic success, having close friend and hobby compared with the total score averages of Problem Solving Inventory, it is not determined statistical significance between total score averages. A study made by Seker (2019) on analyzing the relation of problem solving skills of university students with academic self-efficacy, it is determined that the problem solving skill perceptions of the participants are medium-level and they perceive themselves sufficient on the problem solving subject and genders of the students and the patterns of studying effect some sub-dimensions of problem solving skill inventory.

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