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Full Length Research Paper

Mathematics teaching anxiety and self-efficacy beliefs toward mathematics teaching: A path analysis

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The purpose of this study was to investigate the relationship between pre-service primary school teachers' mathematics teaching anxiety and their self-efficacy beliefs toward mathematics teaching through path analysis. There were a total of 250 pre-service primary school teachers involved in this study. Of the total, 202 were female and 48 were male pre-service primary school teachers. To collect the data, the researcher employed two types of instruments: the mathematics teaching anxiety scale and self-efficacy beliefs toward mathematics teaching scale. For data analysis, Linear Structural Relationship (LISREL) program was used. In the analysis of the data, the researcher used path analyze technique in order to explain the relations. The study revealed that the content knowledge dimension of mathematics teaching anxiety had a negative effect on the efficacy in teaching, motivation and taking on responsibility and effective teaching dimensions of self-efficacy beliefs toward mathematic teaching. Similarly, self-confidence dimension of mathematics teaching anxiety affected the efficacy in teaching and effective teaching dimensions of self-efficacy beliefs toward mathematic teaching negatively. And also, the teaching knowledge dimension of mathematics teaching anxiety had a negative effect on the effective teaching dimension of self-efficacy beliefs toward mathematics teaching.

Key words: Mathematics, teaching anxiety, self-efficacy belief, mathematics teaching.

INTRODUCTION

Self-efficacy can be defined as the beliefs of individuals on their capabilities to perform certain specific aims (Bandura, 1997). The theoreticians of social cognitive approach define self-efficacy as the belief of individuals on their capacities in order to carry out and organize the activities which are necessary to fulfill a task (Bandura, 1997; Pajares and Kranzler, 1995). Therefore, the evaluation of self-efficacy refers to the difficulty levels which individuals believe to overcome (Bandura, 2006).

The self-confidence of students on their capabilities helps them shape what they can do with their knowledge and skills. In other words, self-efficacy belief is the belief of individuals on the dichotomy of "I can do" or "I cannot do".

Another significant belief in the cognitive psychology is anxiety. The mathematics anxiety was defined as "feelings of tension and anxiety that interfere with the manipulation of numbers and the solving of mathematical problems in a wide variety of ordinary life and academic

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situations” (Richardson and Suinn, 1972). Due to the significance of self-efficacy beliefs and mathematics anxiety, the researchers scrutinized these two concepts in many studies (Cooper and Robinson, 1991; Kathleen, 2008; Pajares and Kranzler, 1995).

However, since limited research exists regarding the relationship between pre-service primary school teachers' mathematics teaching anxiety and their self-efficacy beliefs toward mathematics teaching, the present study attempted to bridge the gap. By examining the issue, the relationship between pre-service primary school teachers' mathematics teaching anxiety and their self-efficacy beliefs is expected to contribute to the teacher training programs at universities.

REVIEW OF LITERATURE

According to Bandura (1986), the origins of self-efficacy are the past performances, vicarious experiences, verbal persuasion and physiological states. In a similar way, Wood and Bandura (1989) reviewed the origins of individuals' self-efficacy beliefs under four main themes:

1. Mastery experiences: The most effective way for individuals to develop a powerful efficacy feeling is through mastery experiences. While performance achievement strengthens self-beliefs, failure creates the lack of self-confidence. However, if individuals gain success just in an easy way, they want to have its consequences immediately and become discouraged in the case of any failure. For the attainment of a burgeoning efficacy belief, individuals should have experiences which they overcome with perseverance. The difficulties and obstacles in people's lives serve for a beneficial aim in the instruction process which requires perpetual effort. After individuals gain the confidence on their capacities through their recursive achievements, they are able to overcome the difficulties and failures which affect them negatively.

2. Modelling: The second way to gain robust self beliefs is modeling process. To manage a variety of challenges, proficient models help individuals believe the efficacy of their capacities through the exercise of effective strategies. Modelling has also an effect on self-efficacy beliefs through social comparison. Individuals usually come to conclusion on their own capacities by comparing their capacities with the others'. Usher and Pajares (2009) call this source as vicarious experiences. According to them, individuals form their self-efficacy beliefs by comparing others through vicarious experiences. Since there are no absolute measures of proficiency, individuals can measure comparing their capabilities with the performances of others. Thus, students can both evaluate their own academic capabilities and compare themselves

with classmates, peers and adolescents.

3. Social persuasion: Social persuasion is the third way to increase the self-efficacy beliefs related to the capabilities individuals have to overcome their aims. Providing that individuals receive real support, they show much more effort to alleviate their anxiety which stems from their lack of self-confidence, and they become more successful. However, they can be captivated by the sense of failure which has a negative effect on personal competency perceptions if their beliefs on personal competencies increase in a nonrealistic way. The factors which motivate success and develop efficacy feeling build up much more positive effect than predicted. To ensure progress in personal development, success should be measured in terms of self-development rather than other aspects.

4. Physiological states: While evaluating the capabilities of individuals, it is of importance to consider the judgments of individuals related to their psychological states. Individuals attribute their poor performances to emotional excitement and tension. Individuals also attribute their poor performances in the activities that requires strength and endurance to their pain, ache and exhaustion.

Similarly, the sources of Middle School Mathematics Self-Efficacy are categorized under four factors; mastery experience, vicarious experience, social persuasions and physiological state (Usher and Pajares, 2009). Self-efficacy belief is considered to be one of the most important factors in the affective domain of mathematics teaching (Dede, 2008). According to Pajares and Kranzler (1995), self-efficacy beliefs are the self-judgments of individuals related to the beliefs on their capacities to carry out and organize necessary activities which are essential to get accomplishment.

Pajares and Kranzler (1995) describe mathematics self-efficacy as the belief of an individual on his/her own capabilities to perform mathematics tasks successfully. Different studies on mathematics self-efficacy can be found in the literature. For instance, these studies were on the effect of general mental ability, gender and high school math level on mathematics self-efficacy (Pajares and Kranzler, 1995), the effect of mathematics self-efficacy on mathematics anxiety and mathematics performance (Cooper and Robinson, 1991; Hoffman, 2010; Jain and Dowson, 2009; Pajares and Kranzler, 1995), the role of self-efficacy beliefs in the mathematical problem-solving of gifted students (Pajares, 1996), the effect of gender on self-efficacy (Avcı, 2012), the effect of gender on mathematics self-efficacy (Hall and Ponton, 2005), the effect of mathematics self-efficacy on mathematics teaching anxiety (Ural, 2015), and so on. However, there could not be found any study which

examines the relationship between self-efficacy belief toward mathematics teaching and anxiety toward mathematics teaching in the literature.

Mathematics teaching anxiety can be defined as the tension or anxiety feeling which teachers or pre-service teachers experience in the instruction of mathematical concepts, theorems, formulas or problem-solving approach, briefly in the teaching of mathematics (Peker, 2006). Recently, many studies have been carried out on the anxiety toward mathematics teaching (Alkhateeb, 2014; Ertekin, 2010; Ertekin et al., 2010; Peker, 2006, 2009a, 2009b, 2009c, 2015; Peker and Ertekin, 2011; Sağlam, 2014; Yazıcı et al., 2011; Ural, 2015). For instance, Peker (2008) found that the teaching anxiety of pre-service teachers increases as long as the need of student group for concretization rises. Similarly, Sağlam (2014) and Alkhateeb (2014) stated that the anxiety levels of pre-service teachers lessen as their grades further. Peker (2009a) that expanded microteaching practices have an effect on the reduction of the mathematics teaching anxiety of pre-service teachers. Peker (2009b) pointed out that teaching problem-solving strategies have an effect to decrease the teaching anxiety of pre-service teachers. Peker (2009c) argued that teaching anxiety differ by the learning styles of pre-service teachers.

Peker and Ertekin (2011) asserted a moderate positive relationship between mathematics anxiety and mathematics teaching anxiety of pre-service teachers. Ünlü and Ertekin (2013) pointed out there is a moderate positive relationship between self-efficacy beliefs of pre-service teachers toward mathematics teaching and their mathematics self-efficacy beliefs.

In another study, Ertekin (2010) found a very low relationship between the mathematical beliefs of pre-service teachers and their mathematics teaching anxiety. Ural (2015) found a moderate negative relationship between self-efficacy perceptions of pre-service teachers and their anxiety levels toward mathematics teaching. Lastly, Peker (2015) made out that there is a moderate negative relationship between self-efficacy beliefs of pre-service teachers toward mathematics teaching and their anxiety levels toward mathematics teaching. In the study of Peker (2015), the correlation analyses were conducted through statistical package for the social sciences (SPSS) package software.

As can be understood from the review of literature, the previous studies examined the relationship between self-efficacy and math anxiety simply. Also, it is clear that there is a dearth of studies studying on the relationship between pre-service primary school teachers' mathematics teaching anxiety and their self-efficacy beliefs toward mathematics teaching. Therefore, in the current study, a path analysis was carried out to examine this relationship following the results of the correlation analyses. Thus, more concrete results were expected to

be produced on the relationship among the variables.

The purpose and importance of the study

This study aims to examine the relationship between pre-service primary school teachers' mathematics teaching anxiety and their self-efficacy beliefs toward mathematics teaching, and instead of giving the relationship in terms of a basic correlation analysis, the study aims to delineate the direction and effect size of the relationship with a Path analysis. In line with the aim of the study, the following research question was posed:

1. What is the direction and effect size of the relationship between pre-service primary school teachers' mathematics teaching anxiety and their self-efficacy beliefs toward mathematics teaching?

METHODOLOGY

Research design

This study is an associational research which is a descriptive research methodology and attempts to describe the relations among variables. Associational research studies help researchers understand phenomenon thoroughly, and the primary examples of the associational research are correlational and causal comparative methodologies (Fraenkel and Wallen, 2009). Following the principles of the associational research, the relationship between the anxiety toward mathematics teaching and self-efficacy belief toward mathematics teaching was examined. Then, the effect of the anxiety toward mathematics teaching on the self-efficacy beliefs toward mathematics teaching was illustrated through Path diagrams to understand the direction and effect size of the variables.

Participants

The study group was comprised of 250 primary school pre-service teachers who studied in a city of Aegean Region of Turkey. The participants passed the courses such as basic mathematics, mathematics teaching, and teaching practice, and became ready to teach at schools. Of the participants, 19.2% was male and 80.8% was female. The participation to the study was on a voluntary basis.

Instruments

In this research, Mathematics Teaching Anxiety Scale (MATAS), which was developed by Peker (2006), was used. The second scales used in the study was Self-Efficacy Beliefs toward Mathematics Teaching Scale (SEBMTS), which was originally developed by Riggs and Enochs in 1990 with the name of STEBI (Science Teaching Efficacy Belief Instrument) and adapted by Dede (2008).

Mathematics teaching anxiety scale

The mathematics teaching anxiety scale is a five-point Likert-type

Table 1. Descriptive statistics for mathematics teaching anxiety scale and self-efficacy beliefs toward mathematics teaching scale (N = 250).

Scales	Sub-dimensions	Mean	SD
Mathematics teaching anxiety scale	Content knowledge	2.078	0.714
	Self-confidence	2.347	0.666
	Attitude toward mathematics teaching	2.025	0.670
	Teaching knowledge	1.969	0.682
Self-efficacy beliefs toward mathematics teaching scale	Efficacy in teaching	3.593	0.651
	Motivation and taking on responsibility	3.741	0.714
	Effective teaching	3.949	0.537

scale with 23 positive and negative items. Peker (2006) made a factor analysis that revealed four factors, *content knowledge* – 10 items (factor loading ranging from 0.53 to 0.86), *self-confidence* – 6 items (factor loading ranging from 0.57 to 0.76), *attitude toward mathematics teaching* – 4 items (factor loading ranging from 0.61 to 0.70), and *teaching knowledge* – 3 items (factor loading ranging from 0.68 to 0.78). The reliability estimates of the MATAS obtained by using Cronbach's alpha measure for the total scale were 0.91, and for the each subscales were; 0.90 (*content knowledge*), 0.83 (*self-confidence*), 0.71 (*attitude toward mathematics teaching*), and 0.61 (*teaching knowledge*), respectively. In this study, the researcher made confirmatory factor analysis that revealed four factors, *content knowledge* – 10 items (factor loading ranging from 0.55 to 0.78), *self-confidence* – 6 items (factor loading ranging from 0.59 to 0.69), *attitude toward mathematics teaching* – 4 items (factor loading ranging from 0.58 to 0.69), and *teaching knowledge* – 3 items (factor loading ranging from 0.59 to 0.71). The reliability estimates of the MATAS were obtained by using Cronbach's alpha measure for the total scale was 0.93, and for the each subscales were; 0.92 (*content knowledge*), 0.86 (*self-confidence*), 0.88 (*attitude toward mathematics teaching*), and 0.87 (*teaching knowledge*), respectively.

Self-Efficacy beliefs toward mathematics teaching scale

The self-efficacy beliefs toward mathematics teaching scale is a five-point Likert-type scale with 14 positive and negative items. Self-Efficacy Beliefs toward Mathematics Teaching Scale was originally developed by Riggs and Enochs in 1990 with the name of STEBI (Science Teaching Efficacy Belief Instrument) and adapted by Dede (2008). Dede (2008) made a factor analysis that revealed three factors, *efficacy in teaching* – 4 items (factor loading ranging from 0.58 to 0.78), *motivation and taking on responsibility* – 6 items (factor loading ranging from 0.46 to 0.76) and *effective teaching* – 4 items (factor loading ranging from 0.45 to 0.76). The reliability estimate of the SEBMTS obtained by using Cronbach's alpha measure for the total scale was 0.80 by Dede (2008). In this study, the researcher made confirmatory factor analysis that revealed three factors, *efficacy in teaching* – 4 items (factor loading ranging from 0.30 to 0.64), *motivation and taking on responsibility* – 4 items (factor loading ranging from 0.27 to 0.77) and *effective teaching* – 4 items (factor loading ranging from 0.24 to 0.46). As the factor loadings of the two items in *motivation and taking on responsibility* subfactor were lower than 0.20, they were ignored in the current study. The reliability estimates of the SEBMTS obtained by using Cronbach's alpha measure for the total scale was 0.76, and for the each subscales were; 0.52 (*efficacy in teaching*), 0.60 (*motivation and taking on responsibility*), and 0.47 (*effective teaching*)

respectively.

Process

To analyze the data, SPSS and LISREL package softwares were used. The descriptive statistics of the variables and correlation analysis were conducted through SPSS. The model which examines the effect of mathematics teaching anxiety on self-efficacy belief toward mathematics teaching was tested through LISREL (Linear Structural Relationship). Firstly, correlation analysis was used in order to determine the relationship between mathematics teaching anxiety and self-efficacy beliefs toward mathematics teaching. After that, for data analysis, LISREL (Linear Structural Relationship) program was used. The structural equation models help researchers to assess and modify their models and to make use of the model to develop their theories (Anderson and Gerbing, 1988). One of the types of the structural equation model is path analysis known as causal modeling, and the path analysis aims to analyze the relationships between observed variables (Bayram, 2010). Therefore, in the analysis of the data, the researcher used Path analysis technique in order to explain the relations.

RESULTS

The results of this study were given in this section. The arithmetic mean and standard deviation values for the subfactors of Mathematics Teaching Anxiety Scale and Self-Efficacy Beliefs toward Mathematics Scale were presented in Table 1.

According to Table 1, the anxiety which stems from teaching knowledge was the lowest one (M = 1.969, SD = 0.682), and the anxiety related to self-confidence was the highest one (M = 2.347, SD = 0.666) in terms of mathematics teaching anxiety of primary school pre-service teachers. Considering the self-efficacy beliefs of primary school pre-service teachers toward mathematics teaching, efficacy in teaching had the lowest mean (M = 3.593, SD = 0.651), and effective teaching had the highest mean (M = 3.949, SD = 0.537).

The path diagram was given in Figure 1 to show the effect of the subfactors of the anxiety toward mathematics teaching on the subfactors of mathematics teaching self-efficacy beliefs. The path analysis was conducted to

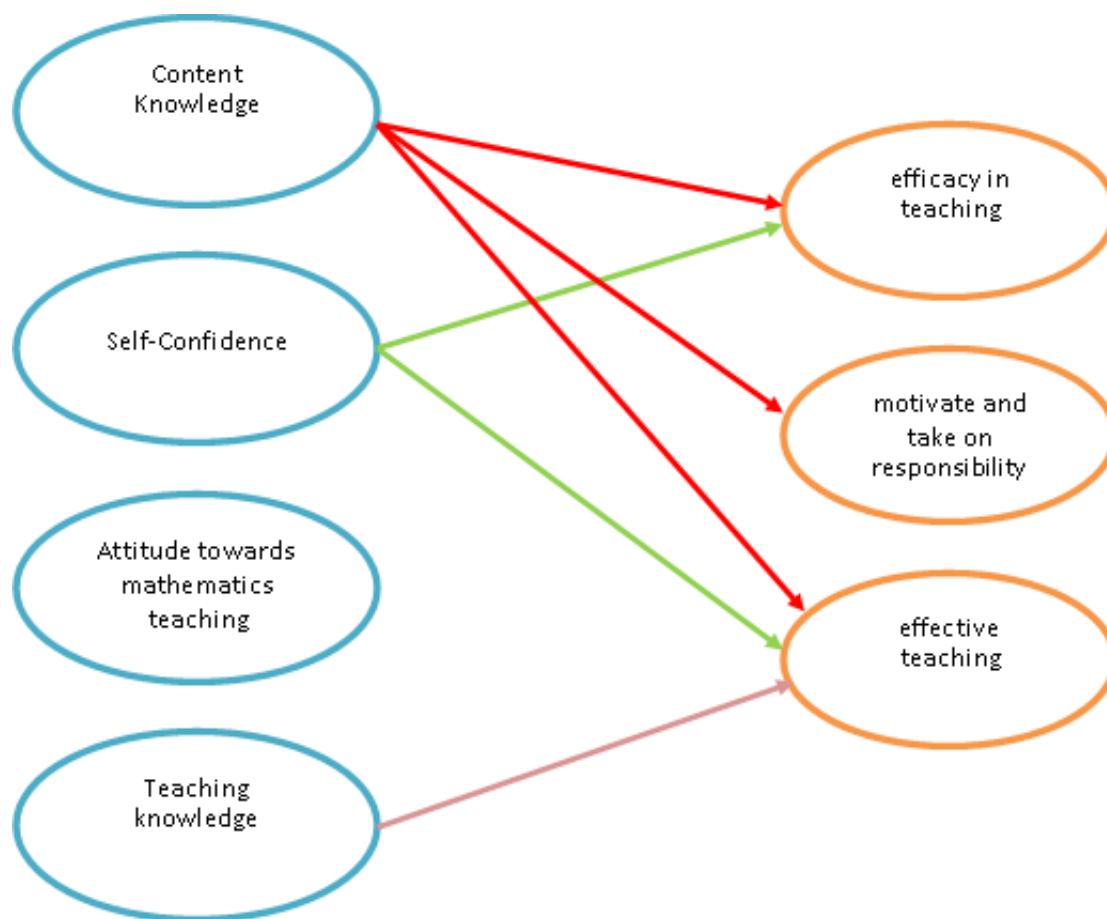


Figure 1. Path diagram related to mathematics teaching anxiety and self-efficacy beliefs toward mathematics teaching.

determine how and at which level the anxiety levels of pre-service primary school teachers towards mathematics teaching affect self-efficacy beliefs.

In Figure 2, you can see the results of Path Analysis related to mathematics teaching anxiety and mathematics teaching self-efficacy belief. The goodness of fit for the results of path analysis in Figure 2 was examined, and the chi-square values were found to be significant ($X^2 = 1264.15$, $df = 548$, $p < 0.01$). The ratio between the chi-square value and the degree of freedom was found to be $X^2 / df = 2.31$, and Çokluk, Şekercioğlu, and Büyüköztürk (2010) consider the model congruent with real values. Among the good of fitness indices, Root Mean Square Error of Approximation (RMSEA) was 0.075, and Standardized Root Mean square Residual (SRMR) was 0.074. As the values were less than 0.08, they indicated a good fit. The values for other goodness of fit indices such as Goodness of Fit Index (GFI) and Adjusted Goodness of Fit Index (AGFI) were found to be 0.77 and 0.73 respectively. Also, Comparative Fit Index (CFI) was 0.96, and it indicated a perfect fit with a larger value than

0.95. These values indicated that the goodness of fit indices for the model were at an acceptable level (Çokluk, Şekercioğlu, and Büyüköztürk, 2010).

The results of this study revealed that the *content knowledge* dimension of mathematics teaching anxiety affected the *efficacy in teaching* dimension of self-efficacy beliefs toward mathematics teaching negatively at the level of -0.36, the *motivation and taking on responsibility* dimension of self-efficacy beliefs toward mathematics teaching negatively at the level of -0.62, and the *effective teaching* dimension of self-efficacy beliefs toward mathematics teaching negatively at the level of -0.33.

Similarly, *self-confidence* dimension of mathematics teaching anxiety affected the *efficacy in teaching* dimension of self-efficacy beliefs toward mathematics teaching negatively at the level of -0.45, and the *effective teaching* dimension of self-efficacy beliefs toward mathematics teaching negatively at the level of -0.30. And also, the *teaching knowledge* dimension of mathematics teaching anxiety affected the *effective teaching* dimension of self-efficacy beliefs toward

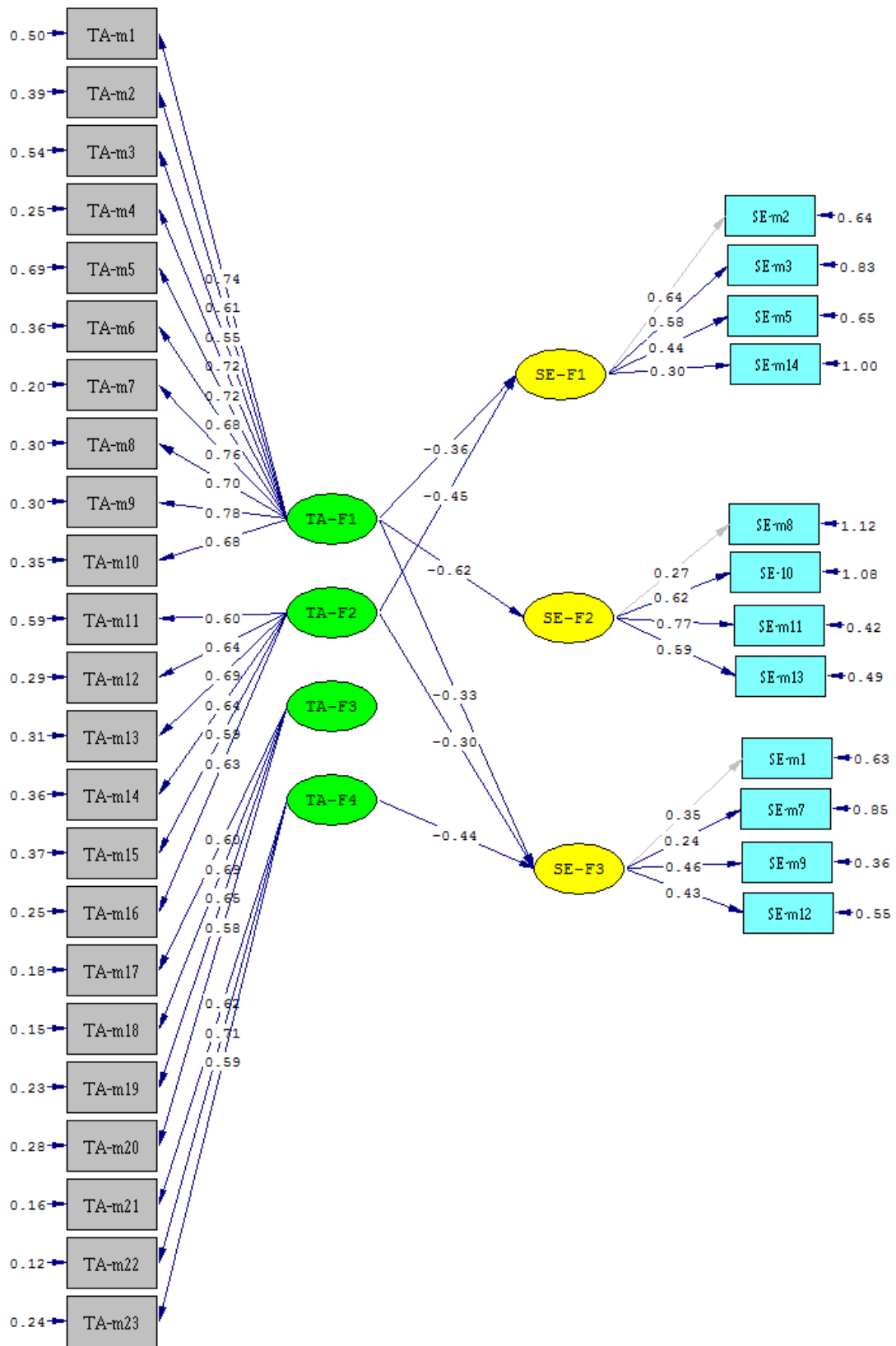


Figure 2. Results of path analysis related mathematics teaching anxiety and self-efficacy beliefs toward mathematics teaching.

mathematics teaching negatively at the level of -0.44.

DISCUSSION

In the present study, the relationship between the mathematics teaching anxiety of pre-service primary school teachers and their self-efficacy beliefs toward mathematics teaching were investigated through path analysis. As stated in the review of literature, many studies scrutinized the relationship between mathematics anxiety and mathematics self-efficacy beliefs (Cooper and Robinson, 1991; Hoffman, 2010; Jain and Dowson, 2009; Pajares and Kranzler, 1995).

Among these, Jain and Dowson (2009) found that self-efficacy beliefs affect mathematics anxiety, and Hoffman (2010) indicated a negative moderate relationship between self-efficacy and mathematics anxiety. However, limited studies have examined the relationship between mathematics teaching anxiety and self-efficacy belief toward mathematics teaching (Ural, 2015; Peker, 2015). In his study with pre-service mathematics teachers, Ural (2015) made out a negative moderate relationship between mathematics teaching anxiety and mathematics self-efficacy perception. Peker (2015) found significant negative relationship between pre-service primary school teachers' mathematics teaching anxiety and their self-efficacy beliefs toward mathematics teaching. On the other hand, the previous studies could not implicitly explicate which variable, among the variables of mathematics teaching anxiety and self-efficacy belief toward mathematics teaching, had an effect on the other. Therefore, through the path analysis, the current study suggested that mathematics teaching anxiety has an effect on the self-efficacy beliefs toward mathematic teaching.

All subfactors of mathematics teaching anxiety except for the subfactor of the attitude toward mathematics teaching emerged to have an effect on the subfactors of self-efficacy beliefs toward mathematics teaching. That is, *Content Knowledge* subfactor of mathematics teaching anxiety have an effect upon *efficacy in teaching*, *motivation and taking on responsibility* and *effective teaching*. Peker (2015) revealed negative moderate relations between the subfactor of *content knowledge*, and the each subfactor of *efficacy in teaching*, *motivation and taking on responsibility* and *effective teaching*.

The results of this study indicated the effect of the mathematics teaching anxiety's *self-confidence* subfactor on *efficacy in teaching* and *effective teaching*. Also, Peker (2015) determined a negative moderate relation between *self-confidence*, and *efficacy in teaching* and *effective teaching*, and a low negative relation between *self-confidence* and the subfactor of *motivating and taking on responsibility*. The Path analyses in the current study also point out that the effect of the relations between

these two subfactors were not at a significant level.

As one of the results of the current study, *teaching knowledge* subfactor of mathematics teaching anxiety have an effect on *effective teaching*. Peker (2015) pinpointed to a negative moderate relationship between the subfactors of *teaching knowledge* and *effective teaching*, and a low negative relationship between *teaching knowledge*, and the subfactors of *efficacy in teaching* and *motivation and taking on responsibility*. According to the path analysis, the subfactors which have low negative relations seem not to have a significant effect.

On the one hand, any significant effect could not be found between *attitude toward mathematics teaching* subfactor of mathematics teaching anxiety and the subfactors of self-efficacy beliefs; on the other hand, Peker (2015) found negative moderate relations between *attitude toward mathematics teaching*, and each of *efficacy in teaching* and *effective teaching* subfactors. Furthermore, the relation between the subfactors of *attitude toward mathematics teaching* and *motivating and taking on responsibility* was found to be at a low level. However, according to the path analysis, the subfactors which have low negative relations seem not to have a significant effect again.

To sum up, there has been a dearth of studies that examine the relationship between mathematics teaching anxiety of pre-service teachers and their self-efficacy beliefs toward mathematics teaching so far, and this increases the significance of the results presented in the current study.

Certainly, the results of the current study mean much and have implications for the teacher education programs. To increase the self-efficacy beliefs of pre-service teachers towards mathematics teaching, the mathematics teaching anxiety levels of the students should be lowered. To be able to achieve this, the aim should be to plan and apply some activities in mathematics and mathematics teaching courses. Also, the curriculum, more specifically course syllabi, should be designed to give part to this kind of activities.

LIMITATION AND FURTHER STUDY

First, the results regarding the subscales of "Self-Efficacy Beliefs toward Mathematics Teaching" scale should be interpreted with caution as the reliability values of the subscales were lower than 0.70. However, the reliability value of the whole scale was higher than 0.70, and it means that the scale was reliable.

The results of this study are limited to the data collected from the pre-service teachers in the sampling group. However, pre-service secondary school mathematics teachers and pre-service high school mathematics teachers are among the groups which will

have concerns on mathematics teaching. Therefore, some similar studies can be carried out through collecting data from a larger group of pre-service secondary school mathematics teachers and pre-service high school mathematics teachers. The results of these studies can be compared to the results of the current study.

Also, self-report instruments have limitations in revealing the perception of the participants. Therefore, in the following studies, the interview technique can be benefited from regarding the responses of pre-service teachers to the scale, and the results can be delineated deeply.

Lastly, some similar studies can be conducted with the pre-service teachers from different geographies considering the limitations in the current study, and the results of these studies can be compared to the ones in the current study.

Conflict of interests

The author has not declared any conflict of interests.

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Full Length Research Paper

The effects of diversity management on job satisfaction and individual performance of teachers

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In this research, the effects of teachers' perceptions of the diversity management on their job satisfaction and individual performance were examined. Teachers who are working in public high schools during 2014 to 2015 academic year constituted the study group of the research. The data of the research in which quantitative method used were gathered with "Diversity Management Scale", "Minnesota Satisfaction Questionnaire" and "Self-Reported Individual Performance Scale". As a result of the analyses done, significant relationships were found between the diversity management and job satisfaction; and between the diversity management and individual performance. Also, it was found that sub dimensions of diversity management as individual attitudes and behaviors, organizational values and norms, administrative practices and policies together predict the general job satisfaction significantly.

Key words: Diversity, diversity management, job satisfaction, individual performance, teacher.

INTRODUCTION

Organizations which are social systems are needed to retain its employees by meeting employees' individual expectations to achieve the objective (Barnard, 1982). It is inevitable that the individual needs of employees who are different from each other will be different. If organizations could assess and better manage these differences of employees, they would be much more effective. Especially in today's changing conditions and competition environment, it can be said that managing diversity is a need for organizational success.

From the perspective of organizations, it is meant with differences that collective mix of similarities and differences which are used in line with the realization of organization's objectives (Hubbard, 2004). In other

words, differences are individual intrinsic and extrinsic characteristics which make individual different from or similar to others (Mujtaba, 2007; Surgevil, 2010).

Differences among employees can be grouped as primary differences such as; age, gender, ethnicity, cognitive/physical ability, race, sexual orientation and as secondary differences such as; communication style, education, marital status, military experience, organisational role and position, religion, mother tongue, geographic location, income, work experience and work style (Hubbard, 2004).

Diversity management is the ability to take quality decisions in between differences and similarities mentioned earlier (Thomas, 2010). Diversity management

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can be defined as creating an environment based on team work and mutual respect of employees, recognising and assessing the contributions of each employee to the organisation (Herrera, 2008).

The effective diversity management provides many contributions to the performance of organizations by encouraging employees to work together and allowing the use of employees' all skills. The discovery of creativity, more qualified personnel selection, reduction of costs, management efficiency increase, the ability of organization to adapt and provide flexibility to continue this activity are some of those contributions. Beside those organizational contributions, organizations which value differences and create the opportunity for its members to use their potential fully provides individual contributions such as comfort and confidence to employees, morale, job satisfaction, effective communication, teamwork, high performance and loyalty (Barutcugil, 2011).

Related literature also supports this. When literature is reviewed, in organizations which diversity is well managed, outcomes such as performance (Allen et al., 2007; Choi and Rainey, 2010), creativity (Cox and Blake, 1991; Millikan and Martins, 1996; Austin, 1997; Bassett-Jones, 2005; Lattimer, 1998; Roberge and van Dick, 2010; Ewoh, 2013), satisfaction (Pitts, 2009; Buckingham, 2010; Demirel et al., 2012), identifying problems and creating solutions (Watson et al., 1993; McMahan et al., 1998) are seen to be high.

In this research, it was expected that diversity management may contribute to employees' job satisfaction and performance. In the literature only one research which examines diversity management with job satisfaction and performance has been found. Pitts (2009) in his study has examined the relations between diversity management, job satisfaction and perception of work group performance. The findings of the research have shown that there is a positive and high level relation between diversity management and job satisfaction, perceived group performance. However, in this research as different from Pitts (2009), the contribution of diversity management on job satisfaction and perceived individual performance is examined. Job satisfaction which is one of the most studied variables in organizational behavior may be defined as individual's feel for his job and the distinctive aspects of the job (Spector, 1997). Individual's positive emotions to his job arise as a result of his evaluation of the job (Locke, 1976).

Many approaches have been proposed for the reason of job satisfaction. These approaches or theories can be analyzed in three main categories. First of them is situational theories. Situational theories argue that job satisfaction results from the nature of the job or other environmental features. The second one is dispositional approaches. These approaches argue that job satisfaction is shaped by the personality traits of the individuals. Job satisfaction is rooted in the personal makeup of the individual. Lastly, holistic or interactional theories argue that job satisfaction is composed as a result of the

interaction between situational conditions and personality (Judge et al., 2001).

The relation between job satisfaction and the organization's management style and climate created in the organization is high. An environment which is trustworthy, honest, fair treated, has good relations and minimizes the conflict affects employee's job satisfaction positively (Basaran, 1992). Hence, job satisfaction is expected to be high in an organization which differences are respected, valued and well managed.

Another dependent variable of the research is perceived individual performance. Performance can be expressed as the productivity level of individual's behavior and outputs related to his job compared to other employees (Babin and Boles, 1998). In other words, performance is the contribution of an employee or a group to the job or the objective of the organization (Pasa, 2007). It can also be defined as employees' performing the task given and set in accordance with the features and capabilities of themselves (Erdogan, 1991; Gumustekin and Oztemiz, 2005).

Factors affecting employees' performance can be divided into three groups as factors related to work environment, personal factors and stress, and administrative factors (Odabas, 2004). Although individual performance may seem as related to person at first glance, actually it is a reality about management approach and the application type of leadership and its' perception in the organizational climate (Ozmutaf, 2007).

In line with the earlier mentioned information in this research, firstly relationships between the perception of teachers on diversity management in schools and job satisfaction, individual performance will be determined. Then, whether diversity management is a significant predictor of job satisfaction and individual performance will be examined.

METHODOLOGY

Research model

This research is a descriptive research designed as a relational survey model. Relational survey model is a research model which aims to determine the presence or level of changing together of two or a great number of variables (Karasar, 1999).

Study group

The population of the study is 2,362 teachers who work in 42 public high schools in Merkezefendi and Pamukkale districts of Denizli province in 2014 to 2015 education year spring semester. The sample of the study is determined with "proportional cluster sampling". In proportional cluster sampling, population is divided into sub-populations and cluster is chosen from each sub-populations according to its percentage in the whole population (Karasar, 1999). High schools were divided into sub-populations according to their types in this research. Teacher numbers included in each sub-population was given in Table 1. Then, each groups represent rate is calculated as %. The minimum numbers of teacher needed in each group or sub-population was found according to

Table 1. The study group of the research.

School type	Number of schools	Number of teachers in population (N)	Percentage of sub-populations in population (%)	Minimum number of teachers needed in the sample	Number of teachers included in the sample (n)
Science High School	2	62	2,6	9	10
Anatolian (General) High School	16	839	35,5	117	127
Multi-program high school	3	48	2	7	10
Religious-Vocational High School	5	215	9,1	30	38
Vocational High School	14	1140	48,3	159	171
Social Sciences High School	1	16	0,7	2	6
Fine Arts High School	1	42	1,8	6	8
Total	42	2362	100	330	370

percentages based on calculated sampling number.

An appropriate sample size to represent the population was found out with Cochran (1962)'s formula proposed. According to this formula, appropriate sample size should be at least 330. Also, according to the table proposed by Krejcie and Morgan (1970) and Gay (1996), it was seen that the sample size was appropriate. 425 surveys were delivered to teachers as a paper form by the researcher and 400 of them were returned as completed by the teachers. Examining the returned surveys, 30 of them were seen having missing information so they were removed. As a result, a total of 370 teachers were included in the sample.

Measures

"Diversity Management Scale" developed by Balay and Saglam (2004) and revised by Memduhoglu (2007) was used to determine teachers' perceptions about diversity management in their schools. The instrument consisted of 28 items and three dimensions including individual attitudes and behaviors, organizational values and norms, administrative practices and policies. Items were rated on a Likert type scale ranging from 5 to 1 and the scoring equated to: 5 completely, 4 a lot, 3 sometimes, 2 a little, 1 never. When the scores obtained from the scale get higher; it can be said that teachers' perceptions about the diversity management increase in a positive way. The reliability coefficients of this research were calculated as

0.97 for total scale; 0.83 for the first dimension; 0.93 for the second dimension and 0.97 for the third dimension.

In order to measure job satisfaction of teachers, "Minnesota Satisfaction Questionnaire – short form (MSQ)" was used. MSQ was developed by Weiss et al. (1967) and adapted into Turkish and tested for reliability by Baycan (1985). It was consisted of 20 items measuring general job satisfaction, intrinsic job satisfaction and extrinsic job satisfaction. Intrinsic satisfaction included the factors relating to the intrinsic nature of the job, such as achievement, recognition work itself and advancement. Extrinsic satisfaction included the factors related to work environment, such as organization policy, supervision, relationships with administrator, colleagues and subordinates, work conditions, salary. Items were rated on a Likert type scale ranging from 5 (very satisfied) to 1 (very dissatisfied). Total scores on this inventory could range from 20 to 100. It could be said that the more scores get closer to 100; the more the overall satisfaction level of teachers increase. The reliability coefficients were 0.90 for general satisfaction, 0.87 for intrinsic satisfaction and 0.82 for extrinsic satisfaction.

"Self-Reported Individual Performance Scale" was used to measure teachers' perceptions about their individual performance. The scale was developed by Staples et al. (1999) and revised by Rego and Cunha (2008) and adapted to Turkish by Donmez (2014). The reliability coefficient of translated scale was 0.92 (Cronbach Alpha). The reliability coefficient of this research was calculated as 0.89.

Data analysis

The data gathered was analyzed by the Statistical Package for Social Sciences (SPSS) software. In the analysis, diversity management and its dimensions (individual attitudes and behaviors, organizational values and norms, administrative practices and policies) were considered as independent variables. General job satisfaction, intrinsic job satisfaction, extrinsic job satisfaction and individual performance were dependent variables of this study. The correlation between variables was examined by utilizing a Pearson product moment. In order to determine the predictiveness of dependent variable related to independent variable, the multiple regression analysis was used. Significance level was 0.05 and 0.01.

RESULTS

Correlation analysis

According to analysis, there were significant positive relationships between individual attitudes and behaviors and general job satisfaction ($r=,48$), intrinsic satisfaction ($r=,37$), extrinsic job satisfaction ($r=,53$), individual performance ($r=,19$). Similarly, significant positive relationships

Table 2. The correlation values between diversity management, job satisfaction and individual performance.

Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Individual attitudes and behaviors	1	0.675**	0.660**	0.484**	0.366**	0.531**	0.193**
Organizational values and norms	-	1	0.709**	0.465**	0.350**	0.513**	0.102
Administrative practices and policies	-	-	1	0.538**	0.385**	0.618**	0.134**
General job satisfaction	-	-	-	1	0.928**	0.882**	0.181**
Intrinsic job satisfaction	-	-	-	-	1	0.643**	0.210**
Extrinsic job satisfaction	-	-	-	-	-	1	0.106*
Individual performance	-	-	-	-	-	-	1

** Correlation is significant at the 0.01 level (2-tailed); * Correlation is significant at the 0.05 level (2-tailed).

Table 3. Multiple regression analysis results for the predictiveness of general job satisfaction related to dimensions of diversity management.

Variable	B	Standard error	Beta	t	P
Constant	420.308	20.284	-	180.526	0.000
Individual attitudes and behaviors	0.707	0.224	0.196	30.152	0.002
Organizational values and norms	0.161	0.122	0.088	10.322	0.187
Administrative practices and policies	0.285	0.054	0.346	50.320	0.000

R= 0.567, R²= 0.322, P=0.000.

were found between organizational values and norms and general job satisfaction ($r= 0.47$) intrinsic job satisfaction ($r= 0.35$) extrinsic job satisfaction ($r= 0.51$). But there was no significant relationship between organizational values and norms and individual performance ($r= 0.10$). Lastly there were significant positive relationships between administrative practices and policies and general job satisfaction ($r= 0.54$) intrinsic satisfaction ($r= 0.39$) extrinsic job satisfaction ($r= 0.62$) and individual performance ($r= 0.13$). When analyzing the Table 2 the highest relationship between independent and dependent variables was found between administrative practices and policies and extrinsic job satisfaction ($r= 0.62$).

Regression analysis

Regression analysis results for the predictiveness of job satisfaction

In order to determine the predictiveness of job satisfaction related to dimensions of diversity management, the linear multiple regression analysis was used. Firstly, general job satisfaction was considered as a dependent variable. Then, the same analysis was performed for the dependent variables of intrinsic job satisfaction and extrinsic job satisfaction.

As shown in Table 3, it was found that sub dimensions of diversity management as individual attitudes and behaviors, organizational values and norms, administrative practices and policies together predict ($R = 0.567$,

$R^2 = 0.322$, $p < 0.01$) the general job satisfaction significantly. In other words, the results indicated that three sub-dimensions of diversity management together explained about 32% of total variance in the teachers' general job satisfaction. This result can be interpreted as 68% of the changes in general job satisfaction can be explained by other variables. In examining the t-test results regarding the significance of regression coefficients, "individual attitudes and behavior" and "administrative practices and policies" were found as the significant predictors on general job satisfaction. But the dimension of organizational values and norms did not have a significant impact on general job satisfaction.

Multiple regression analysis results for the predictiveness of intrinsic job satisfaction related to dimensions of diversity management were presented in Table 4. According to Table 4, all dimensions of diversity management together predict ($R = 0.417$, $R^2 = 0.174$, $p < 0.01$) intrinsic job satisfaction significantly. This result indicates that diversity management explained 17% of total variance in intrinsic job satisfaction. Thus, the remaining 83% of changes in intrinsic job satisfaction can be explained by other variables.

When sub-dimensions were examined separately, even though "individual attitudes and behavior" and "administrative practices and policies" predict intrinsic job satisfaction significantly; dimension of organizational values and norms doesn't predict it significantly. Multivariate regression analysis results for determining the predictiveness of extrinsic job satisfaction related to dimensions of diversity management were statistically

Table 4. Multiple regression analysis results for the predictiveness of intrinsic job satisfaction related to dimensions of diversity management.

Variable	B	Standard error	Beta	t	P
Constant	31.915	1.551		20.574	0.000
Individual attitudes and behaviors	0.369	0.152	0.166	2.424	0.016
Organizational values and norms	0.098	0.083	0.086	1.181	0.238
Administrative practices and policies	0.109	0.036	0.214	2.979	0.003

R= 0.417, R²= 0.174, P=0.000.

Table 5. Multiple regression analysis results for the predictiveness of extrinsic job satisfaction related to dimensions of diversity management.

Variable	B	Standard error	Beta	t	P
Constant	10.393	1.035		10.043	0.000
Individual attitudes and behaviors	0.338	0.102	0.193	3.322	0.001
Organizational values and norms	0.063	0.055	0.071	1.146	0.252
Administrative practices and policies	0.177	0.024	0.441	7.274	0.000

R= 0.641, R²= 0.411, P=0.000.

Table 6. Multiple regression analysis results for the predictiveness of performance related to dimensions of diversity management.

Variable	B	Standard error	Beta	t	P
Constant	12.681	0.791	-	16.025	0.000
Individual attitudes and behaviors	0.223	0.078	0.213	2.874	0.004
Organizational values and norms	-0.041	0.042	-0.076	-0.961	0.337
Administrative practices and policies	0.011	0.019	0.048	0.614	0.540

R=0.199, R²= 0.040, P=0.002.

significant. It was found that sub-dimensions of the diversity management together explained 41% of the changes in extrinsic job satisfaction (R= 0.641, R²= 0.411, p< 0.01). This result can be interpreted as 59% of the changes in the extrinsic job satisfaction can be explained by other variables.

According to Table 5 it was seen that even though the three sub-dimensions of the diversity management together predict 41% of extrinsic job satisfaction. the dimensions significantly predicting the extrinsic job satisfaction were "individual attitudes and behavior" and "administrative practices and policies".

Regression analysis results for the predictiveness of individual performance

It is understood from Table 6 that the sub-dimensions of diversity management together predict (R = 0.199, R² = 0.040, p< 0.01) individual performance significantly. In other words, the results indicated that three sub-

dimensions of diversity management together explained about 4% of total variance in the teachers' individual performance. Even though the sub-dimensions of diversity management together predict individual performance significantly. the only dimension significantly predicting the individual performance was individual attitudes and behaviors.

DISCUSSION

In this research, the effect of teachers' perceptions of the management of diversity on their job satisfaction and individual performance were tried to be examined. Firstly, the relationships between diversity management (individual attitudes and behaviors, organizational values and norms, administrative practices and policies), job satisfaction (general job satisfaction, intrinsic job satisfaction, and extrinsic job satisfaction), and individual performance were analyzed. As a result of the analysis, significant positive relationships were found between

three sub-dimensions of diversity management and general job satisfaction, intrinsic job satisfaction, extrinsic job satisfaction.

Buckingham (2010) has found a positive correlation between diversity awareness and employees' job satisfaction. Based on the result of the study, Buckingham indicated that employees' job satisfaction might be affected by the elements of diversity management. Likewise, Demirel et al. (2012) and Choi (2008) also found a positive relationship between diversity management and job satisfaction in their studies. There are many studies confirming a positive relationship between diversity management and job satisfaction in the literature (Choi, 2008; Pitts, 2009; Buckingham, 2010; Asif et al., 2011; Demirel et al., 2012; Stazyk et al., 2012). However, any studies that address this issue in educational organizations have not been encountered. Having done in educational organizations may be the distinctive aspect of this study.

When studies examining diversity, diversity management and performance relation is reviewed. a positive relationship between diversity management and performance has been found in some of the studies (Allen et al., 2007; Choi and Rainey, 2010; Asif et al., 2011). Studies done indicate that different working groups have a higher level of potential to achieve performance than homogenous groups. Groups including diversity bring along many knowledge, skills, talents and perspectives. Researches show that different groups bring more ideas and solutions towards problems than homogenous groups (Hubbard, 2004).

In some studies, a negative relationship or no relationship between diversity and performance was found (Chatman and Flynn, 2001; Ancona and Caldwell, 1992). The lack of unity on this issue can be considered as one of the grounds for this study. In this research when the relationships between sub-dimensions of diversity management and individual performance were examined; a significant positive relationship was seen between individual performance and "individual attitudes and behaviors". "administrative practices and policies" sub-dimensions. No significant relationship between "organizational values and norms" and individual performance was seen.

After relationships between diversity management and job satisfaction and performance were identified; the predictive power of diversity management on job satisfaction and individual performance was examined. When results were considered, it was seen that three sub-dimensions of diversity management together predict general job satisfaction, intrinsic job satisfaction, and extrinsic job satisfaction. Likewise this research's results, Stazyk et al. (2012) in their study reported that employees who believe that there are well defined and effective diversity management policies in their organizations have higher goal clarity. In a similar manner, Pitts (2009) stated that the most satisfied employees are the ones

who perceive managing diversity as strong in their units by noting a significant positive relationship between diversity management and job satisfaction.

Lastly, it was seen that three sub-dimensions of diversity management together predict the individual performance significantly. Based on this finding, it can be said that employees who think that diversity is well managed in their schools perceive their individual performance better. Sabharwal (2014) in the study stated that when diversity management combined with the leader's support and employees were incorporated into decision, organizational performance will be realized most effectively. Administrative attitudes and organizational culture might increase performance (Jehn and Bezrukova, 2004; Choi and Rainey, 2010).

To sum up, in this study significant relationships between diversity management and job satisfaction and individual performance were found. Hence, it can be said that teachers who think diversity is well managed in their schools have a higher job satisfaction and individual performance perception. It can also be said that if teachers think diversity is seen as richness, different ideas are accepted natural, there is an absence of discrimination, and equal opportunities are provided to all teachers in their schools. they will have a greater satisfaction and exhibit better performance. Indeed, according to Adams' equity theory in individual's job success and satisfaction their perceived equality or inequality degree is important. According to Adams, an individual proportions outcome he gained from workplace to what he added to job that is input. and compares this ratio with others' inputs and results they gain in the same workplace. If his own ratio is less than others. the perception of inequality occurs in people (Luthans, 2011). In this case, it can be stated that especially school managers should appraise and manage differences among teachers and create a climate in such a way in their schools.

LIMITATIONS AND SUGGESTIONS

This study has a number of limitations. The most important limitation of the study can be said as all variables are measured on the basis of teachers' perceptions. That is to say, diversity management in schools, teachers' job satisfaction and determination of their performance are based on teachers' perceptions. Another limitation is that the study was done only in Denizli, Turkey and in high schools. Based on the research's findings, it can be suggested that seminars and trainings on diversity and diversity management can be organized especially for school managers in schools. In further studies, besides individual performance, organizational performance and group performance might be addressed. The predictive power of diversity management besides job satisfaction and performance,

on different variables such as organizational climate. Motivation, communication and attachment might also be discussed. School managers besides teachers can also be included in the same research.

Conflict of Interests

The author have not declared any conflict of interests.

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Full Length Research Paper

The role of sports in kindergarten teachers' recreational habits

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The aim of this study is to investigate the role of the sports in the recreational habits of kindergarten teachers. The survey population comprises kindergarten teachers who are employed in the province of Gaziantep. The sample constitutes a total of 378 kindergarten teachers determined by circumstantial method. The survey developed by Tunçel was used in the research as a data collection tool. The acquired data were evaluated using the statistical package for the social sciences (SPSS) for Windows 16.0 statistical package software. The percentage of the obtained answers and frequency distributions were calculated. In order to reveal a statistically significant difference for some of the questions, cross-tabulation and chi-squared test were applied at the significance level. The data obtained indicated that the kindergarten teachers participating in the research are at school not more than 21 to 30 h, attend a class for 20 to 30 h, have two free days and wish to have more free time. The research results also reveal that the main recreational activity of the kindergarten teachers is doing sport, and they mostly do sport activities at school. They go for a walk as a sport activity, and the main reasons for them to take part in these recreational activities are physical fitness and being healthy. After participating in recreational activities they feel relaxed and satisfied, and this contributes to their professional success positively. As for their expectations from the government, they mostly want more facilities to be provided for recreation.

Key words: Kindergarten, teacher, spare time, sporting habit.

INTRODUCTION

Pre-school education has become an issue growing in importance in Turkey as well as in the world in recent years (Kalkan, 2008). This is because people become aware of the significant role of providing quality education ensuring versatile development of children, and raising a healthy generation of kids. From this point of view, it is an important factor in children's education that teachers in pre-school education should have an environment where

they can spend their spare time more effectively in order to be more efficient.

Recreation promotes physical health development, brings mental health, improves socialization, helps personal skills and abilities to be improved, enhances creativity, increases success at work and labour productivity, promotes economic mobility and makes people happy (Bucher, 1972; Corbin, 1970; Jenny, 1956;

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Koknel, 1993; Nixon and Jewett, 1996; Tezcan, 1982).

Free time is a duration in which a person spends the time left from his/her work and other social tasks with his/her free will either by resting freely, or by having fun, or by achieving cultural, social and vocational cohesion with other people whom he/she interacts and collaborates with for the sake of his/her social and personal success (Binarbasi, 2006). Free time is the time in which a person is supposed to be independent and free (Simmons, 1975). It is a time that will be spared for one's personal preferences after expending energy which is necessary to make a living (Erkal, 1981).

Spare time refers to rights and opportunities such as hobbies and activities one can participate in to improve his/her personality within the cultural and public services. Spare time may also be defined as a source of creative and spiritual values (Arslan, 1996). Spare time is to let oneself go, have fun and improve oneself (Dumazedier, 1968). Spare time is accepted as being able to set boundaries at work to maintain work-life balance. It is also seen as the capacity for reaching the powers which rejuvenate and refresh one (Guler, 1986). Spare time, left from the life's necessities and formal duties, is a time when one does not work and spend his/her time as he/she wishes (Keles, 1996).

Free time activity which a person is willing to participate in is called recreation. In short, recreation is anything some one does in order to meet his need of resting, entertainment and development in his free time with voluntary participation to get away from everyday life's stress. Recreational sports take precedence over the other recreational activities which are favoured by many people, because sports, with a wide range of activities, are important in terms of the quality of life (Ozturk, 2013). Sportive recreation activities contribute to people's mental and physical developments, reduce stress and anxiety, help them to be happy, calm and creative. According to this result, it is necessary for teachers to spend their spare time more effectively in order that they could be more efficient, and one of the most effective activities to ensure this is sport. As a means of recreation, sport has undertaken very important functions in order to compensate for the problems resulted from people's changing their personal and work life with the advent of industrialization as well as the problems caused by the physical and mental insufficiency (Keten, 1964).

Sport, as a spare time activity, has the characteristic of a recreative activity when it is done unprofessionally. In other words, as long as sport is at the service of people, it is accepted as recreational activity, but in the case of people's being at the service of sport, then sport stands for an occupation rather than a recreational activity (Koknel, 1979). While sport takes an important place in meeting people's recreative requirements, recreation plays a fundamental role in sport's becoming widespread and achieving sportive successes. Sport should fulfill this role by providing such services as sport for everyone

and sport for a healthy life (Keten, 1974).

In today's world, in parallel with the developments in Sportive Recreational Activities, people from all strata do these activities so as to enjoy themselves, seek adventure and excitement and feel healthy, both physically and mentally. (Karakucuk, 1995).

Addressing the needs of a child, getting him adopt the basic habits and preparing him for life ideally could only be ensured by a qualified pre-school education. Provided that a child is given a qualified pre-school education, it will ensure the success of the child in his entire life by motivating him to learn. Pre-school education is a critical period in that taking education in this period considerably contributes to the development of children.

Considering all these assessments, it is fair to assume that the kindergarten teachers will give a better education to their students should they have an opportunity to spend their free time efficiently. Therefore, in the event that they participate in recreational activities, it will not only contribute to their physical and mental development positively but also make them feel happy and comfortable by reducing the stress and worries in their life. This research has been conducted to reveal the contribution of the recreational activities of pre-school teachers to the quality of education given in pre-school.

MATERIALS AND METHODS

Research model

It is a research conducted in descriptive survey model. In the present study, in order to determine the recreational habits of teachers working at the kindergartens in Gaziantep and the role of sport in these habits, theoretical information related to the issue was included by reviewing the related literature and a survey was conducted.

Population and sample

The survey population comprised kindergarten teachers working in the province of Gaziantep and the sample constituted a total of 378 kindergarten teachers (362 female, 16 male) determined by circumstantial method. The survey population comprises kindergarten teachers who are employed in the province of Gaziantep. While selecting the sample, random sampling method was used. The random sampling is a method in which all members of a group (population or universe) have an equal and independent chance of being selected (Arlı and Nazik, 2004). The sample constitutes a total of 378 people (362 female, 16 male) determined by the random sampling method.

Data collection tool

Benefited from the study which was named as The Role of Sport in Recreations Habits of the Teachers Who Works At Secondary Schools and which was used as data collection tool by Tunçel (1999) before. The survey consists of 17 closed ended questions. 450 survey were distributed to the teachers within the scope of the study and 378 of returning survey were evaluated. Rate of return was 84%. Acquired 72 survey were excluded because of missing

Table 1. Additional information related to the kindergarten teacher.

Variable		Frequency	Percentage (%)
Gender	Female	362	95.8
	Male	16	4.2
Age	At the age of 25 and below	104	27.5
	Between the age of 26-30	150	39.7
	Between the age of 31-35	106	28.0
	Between the age of 36-40	18	4.8
	1-3 years	169	44.7
	4-6 years	135	35.7
Seniority	7-9 years	62	16.4
	10 years and above	12	3.2
Marital status	Married	247	65.3
	Single	131	34.7
	None	187	49.5
Number of children	1-2 children	161	42.6
	3-4 children	30	7.9
	High	8	2.1
Income status	Middle	299	79.1
	Low	71	18.8

n=378.

coding and giving same points to all questions.

Analysis of data

The data were analysed by statistical package for the social sciences (SPSS) for Windows 16.0 software. Frequency and percentage of the data were calculated, tabulated and interpreted by applying χ^2 (chi-square) test for significance level in comparisons. During the test of significance, significance level was $p < 0.05$.

FINDINGS

As can be seen in Table 1, women consisted the 95.8% (362 persons) and men consisted the 4.2% (16 persons) of the kindergarten teachers who participated in the study. In terms of age distribution, their ages varied between 26 to 35 mostly (67.7%), they had professional experience mostly 1 to 3 years (44.7%), most of them were married (65.3%), considering the number of children 50.5% of them had at least 1 child (and they mostly had medium income (79.1%).

Looking at Table 2, considering the distribution of the activities, it seemed that they preferred the propositions such as "I mostly do sport (26.2%)", and at the lowest level, "I play an instrument and take part in the activities

like chorus (2.1%)". Looking at Table 3, it can be seen that the reason why the teachers participate in spare time activities was mostly for physical fitness and being healthy (43.9 %), at the lowest level (1.1 %) for spending time.

Looking at Table 4, considering the feelings of the kindergarten teachers participating in recreational activities, it was seen that they preferred highly the propositions such as "I mostly feel relaxed and satisfied and I find it enjoying and exciting (56.1 %)", and they prefer the propositions such as "I feel tired and bored" and "it provides new experiences" at the lowest level (2.2 %).

In Table 5, significance level between the branch of sports teachers did in their free time and marital status was found statistically at the level of $p < 0.05$. Regarding the data in Table 5, it is seen that kindergarten teachers who are married highly prefer walking as sports at the rate of 97.4% (167 persons), while those who are single prefer aerobic-step/Pilates at the rate of 52.9% (27 persons). In Table 6, significance level between the place where kindergarten teachers did sport in their free time and marital status was found statistically at the level of $p < 0.05$. Regarding the data in Table 6, it could be seen that Kindergarten teachers who were married highly prefer the school to do sports at the rate of 76.3% (139 persons), while those who were single preferred private sport facilities at the rate of 51.1% (46 persons).

Table 2. The activities in which the kindergarten teachers participate in their free time.

Variable	Frequency	Percentage (%)
I play an instrument, I participate in activities like chorus	8	2.1
I actively do sport	99	26.2
I go to visit my friends	62	16.4
I am interested in art and craft	32	8.5
I read books and newspapers	55	14.6
I go to scientific and cultural activities	39	10.3
I watch sport events	10	2.6
I go to the cinema and theatre	41	10.8
I watch TV	32	8.5

Table 3. The reasons kindergarten teachers to participate in recreational activities.

Variable	Frequency	Percentage (%)
I think it will help me to obtain a position	10	2.6
Physical fitness and being healthy	166	43.9
Because I find it educational and useful	20	5.3
Wish for being with my friends and sharing	26	6.9
To get rid of monotonous and make life enjoyable	146	38.6
Because I can do it well and it is suitable for my capabilities	6	1.6
To spend time	4	1.1

Table 4. Feelings of kindergarten teachers after participating in recreational activities.

Variable	Frequency	Percentage (%)
I feel relaxed and satisfied	212	56.1
I find it enjoying and exciting	126	33.3
It boosts my self confidence	24	6.3
It provides new experiences	4	1.1
I feel tired and bored	4	1.1
It increases my vocational success and productivity	8	2.2

Table 5. Relationship between the branches of sports teachers do in their free time and marital status.

Variable		Married	Single	df	X ²	p
Walking	N	167	52	-	-	-
	%	76.3	23.7	-	-	-
Swimming	N	21	14	-	-	-
	%	60	40	-	-	-
Volleyball	N	20	21	4	29.27	0.00 [*]
	%	48.8	52.2	-	-	-
Aerobic-step/Pilates	N	24	27	-	-	-
	%	47.1	52.9	-	-	-
Other Sports	N	15	17	-	-	-
	%	47.9	51.1	-	-	-

Table 6. Relationship between the place where kindergarten teachers do sport in their free time and marital status.

Variable		Married	Single	df	X ²	p
At school	n	139	43	-	-	-
	%	76.4	23.6	-	-	-
At private sport facilities	n	44	46	-	-	-
	%	48.9	51.1	-	-	-
At home	n	20	11	4	23.18	0.00
	%	64.5	35.5	-		
In nature	n	16	15	-	-	-
	%	51.6	48.4	-	-	-
In municipal facilities	n	28	16	-	-	-
	%	63.6	36.4	-	-	-

Table 7. Relationship between the place where kindergarten teachers do sport in their free time and professional seniority.

Variable		1-3 years	4-6 years	7-9 years	10 years and above	df	X ²	p
At school	n	54	64	41	23	-	-	-
	%	29.7	35.2	22.5	12.6	-	-	-
At private sport facilities	n	41	11	20	18	-	-	-
	%	45.6	12.2	22.2	20	-	-	-
At home	n	14	8	7	2	12	39.14	0.00
	%	45.2	25.8	22.6	19.4	-		
In nature	n	14	4	7	6	-	-	-
	%	45.2	12.9	22.6	19.4	-	-	-
In municipal facilities	n	26	14	4	0	-	-	-
	%	59.1	31.8	9.1	0	-	-	-

In Table 7, significance level between the place where kindergarten teachers did sport in their free time and Professional seniority was found statistically at the level of $p < 0.05$. Regarding the data in Table 7, it was found that kindergarten teachers who had 1 to 3 years experience in terms of professional seniority highly preferred municipal facilities at the rate of 59.1% (126 persons), those who had 4 to 6 years experience prefer school at the rate of 20% (18 persons), those who had 7 to 9 years experience preferred home at the rate of 22.6% (7 persons) and those who had experience for 10 years and preferred private sport facilities at the rate of 20.% (18 persons).

DISCUSSION

Regarding the kindergarten teachers participating in the

survey, it found that they were between the ages of 26 to 35 at max, they had 1 to 3 years experience at most regarding working, they were mostly married, more kindergarten teachers had 1 child at least and regarding their income status, they mostly had middle income. Research result showed similarities with some other scientific researches. As a result of the scientific study conducted by Yildirim (2007) concerning the connection between the level of burnout and and desperation among kindergarten teachers, most of them refer to themselves as middle class regarding their economic level (Yildirim, 2007).

Considering the distribution of the activities in which kindergarten teachers participate in their free time, they preferred the propositions such as "I mostly do sport", and at the lowest level, I play an instrument and take part in the activities like chorus in comparison with others. Research result shows similarities with some scientific

researches, while showing differences with some others. In Pala (2012) postgraduate thesis, finding and evaluating the recreational habits and vocational satisfaction of Physical Education and Sports teacher (İstanbul-Pendik sample), it is seen that Physical Education and sports teachers prefer doing sports at the rate of 42.2 % by choosing "totally agree" when they are asked about their favourite free time activity (Pala, 2012). In Binarbasi (2006) postgraduate thesis, finding and evaluating the recreational habits and vocational satisfaction of Physical Education and Sports teacher who were employed in the province of Kutahya, similar results with this study were obtained as well (Binarbasi, 2006).

The reasons for kindergarten teachers to take part in recreational activities are mostly for physical fitness and being healthy and just to spend time at the lowest level. Research result shows similarities with some scientific researches, while showing differences with some others. As a result of a study named Recreation problems of the female students who accommodate in higher education credit and hostel institution conducted by Ozmaden (1997) (The Province of Ankara sample) it was determined that the most common reasons for them to participate in recreational activities are that they can be with their friends and these activities are the best they can do and suitable for their capabilities as well as providing them with a beautiful environment (Arslan, 1996). As a result of a study named the role of the sports in the recreational habits of secondary school teachers, it was determined that male teachers prefer to be with their friends in their Spare time (Tunçel, 1999). As a result of the study conducted by Soyer and Can (2008) named Comparison of University Students' Recreational Habits and Their Sportive Tendency in terms of Their Professional Tendency, it is seen that they highly prefer recreational activities so that they can spend time with their friends (Soyer and Can, 2008).

Considering the feelings of the kindergarten teachers after participating in recreational activities, it is seen that they highly prefer the propositions such as "I mostly feel relaxed and satisfied and I find it enjoyable and exciting (56.1 %)", and they prefer the propositions such as "I feel tired and bored" and "it provides new experiences" at the lowest level (2.2 %). Research result shows similarities with some scientific researches, while showing differences with some others. As a result of the study conducted by Pala (2012), 59.8 % of the teachers answered as "I totally agree" to the proposition of "I find it relaxing and helpful to get rid of the feeling of boredom (Pala, 2012). As a result of the study conducted by Arslan (1996) on the effect of Recreational activities, students stated that they mostly find it relaxing and helpful to get rid of the feeling of boredom (Arslan, 1996). Similarly, as a result of the study conducted by Ozmaden (1997) on the effect of Recreational activities, students stated that they mostly find it relaxing and helpful to get rid of the feeling of boredom (Ozmaden, 1997).

Kindergarten teachers' frequency of participation in

recreational activities and their marital status and the reasons for their participation in recreational activities calculated, tabulated and interpreted by applying χ^2 (chi-square) test and significance level was found as $p < 0.05$ ($p = 0.00$ and $p = 0.00$, respectively), however there couldn't be found a significance level at the level of $p < 0.05$ regarding the activities they participated in and their marital status calculated by applying χ^2 (chi-square) test ($p = 0.14$).

A significance level between the branch of sports teachers do in their free time and their marital status was found statistically at the level of $p < 0.05$. It is seen that Kindergarten teachers who are married highly prefer walking as sports at the rate of 76.3% (167 persons), while those who are single prefer aerobic-step/Pilates at the rate of 52.9% (27 persons).

A significance level between the place where kindergarten teachers do sport in their free time and their marital status was found statistically at the level of $p < 0.05$. It is seen that Kindergarten teachers who are married highly prefer the school to do sports at the rate of 76.3% (139 persons), while those who are single prefer private sport facilities at the rate of 51.1% (46 persons).

A study conducted by Avci et al. (2001) shows that educators working at pre-school education institutions call the physical conditions and educational tools and materials into question further when their working hours increase and as a result their expectations also increase in parallel with the increase in their working hours (Avci et al., 2001). The study conducted by Alexandris and Carroll (1997) indicates that age has a significant effect on recreational and sportive activities.

As a result of the study, it is stated that kindergarten teachers taking part in the research mostly consist of young people, and regarding their Professional seniority, they are mostly new teachers (have 4 to 6 years experience), they are mostly married and almost half of them haven't got any children and they mostly have medium income as for their income status.

Considering the distribution of the activities the teachers participate in, it is seen that they actively do sports and at the lowest level, they play an instrument and take part in the activities like chorus and considering the places where they participate in the sports activities in their free time, they participate in the activities mostly at school and at the lowest level at home or in nature. Regarding their participation in sports activities, it is seen that they mostly prefer walking and at the lowest level they do the other sports (athletics, swimming and outdoor sports).

Regarding the main reasons for them to take part in recreational activities, it is seen that they participate in recreational activities mostly for physical fitness and being healthy and at the lowest level to spend time. After participating in recreational activities it is seen that they mostly feel relaxed and satisfied and find this activity entertaining and exciting, on the other hand it is seen that they feel tired and bored and gain new experiences at the

lowest level. It is seen that recreational activities highly increase the vocational success.

Considering the Kindergarten teachers' frequency of participation in recreational activities, reasons for their participation and the activities they prefer, it is seen that teachers who are married participate in the activities more often than single ones. It is seen that Kindergarten teachers who are married highly prefer walking as sports while those who are single prefer aerobic-step/pilates.

It is seen that Kindergarten teachers who are married mostly prefer to do sports at school in their free time, while single ones prefer private sport facilities. Kindergarten teachers who have 1 to 3 years experience in terms of professional seniority highly prefer municipal facilities, those who have 4 to 6 years experience prefer school, those who have 7 to 9 years experience prefer home and those who have experience for 10 years and over prefer private sport facilities.

Conflict of interests

The author has not declared any conflicts of interest.

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