



Investigation of the Relationship Between the Interpersonal Problem-Solving Skills and Self-Determination Levels of Pre-Service Teachers who Received and did not Receive Art Training

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Abstract

This research aimed to investigate the relationship between the problem-solving skills and assertiveness levels of students, who received and did not receive art education in faculty of education, and whether these two variables differ according to the gender, grade differences, and attended school. The study group included the education departments of Erzincan Binali Yıldırım University, Faculty of Education in 2018-2019. The purposeful sampling method was used in this research which was conducted to reveal the relationship between the problem-solving skills and assertiveness levels of students who received and did not receive art education in faculty of education, and whether these two variables differ according to the gender, grade differences, and attended school, is suitable to the relational survey model. As a result of the research, it was found that there was significant difference regarding the gender and grade variable. However, it was realized that there was a significant difference in the interpersonal problem-solving scores between some departments.

Sanat Eğitimi Alan ve Almayan Öğretmen Adaylarının Kişilerarası Problem Çözme Becerileri ve Kendini Belirleme Düzeyleri Arasındaki İlişkinin İncelenmesi

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Öz

Bu çalışmada, Eğitim Fakültesi'nde sanat eğitimi alan ve almayan öğrencilerin, kişilerarası problem çözme becerileri ve kendini belirleme düzeyleri arasındaki ilişkiyi, bu iki değişkenin cinsiyet, sınıf farkları, okunan bölüme göre değişip değişmediğini incelemek amaçlanmıştır. Çalışma grubunu, Erzincan Binali Yıldırım Üniversitesi Eğitim Fakültesinde 2018-2019 yıllarında öğrenim görmekte olan bölümler oluşturmaktadır. Belirlemede amaçlı örnekleme yöntemi kullanılmıştır. Sanat eğitimi alan ve almayan öğrencilerin kişilerarası problem çözme becerileri ve kendini belirleme düzeyleri arasındaki ilişkiyi, bu iki değişkenin cinsiyet, sınıf farkları, okunan bölüme göre değişip değişmediğini ortaya koymak üzere yapılan bu çalışma ilişkisel tarama modeline uygundur. Cinsiyet ve sınıf değişkenine ilişkin anlamlı bir farkın olmadığı görülmüştür. Bölüm değişkenine göre ise, bazı bölümler arasında kişilerarası problem çözme puanlarında anlamlı farklılık saptanmıştır.

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Introduction

“Interaction with people inevitably leads to the occurrence of the interpersonal problems” (Terzi, 2003, p.5). For individuals to keep up with the environment and time they are in, to maintain a healthy and happy life, to achieve their goals in the future, it is necessary to develop effective solutions against the difficulties and all kinds of obstacles they encounter. “To deal with these life-long challenges, individuals need to identify their behaviour when faced with problems, decision-making strategies, and the roadmaps required to reach a solution, because problems are dependent on their ability to resolve.” (Çeşit, Ece & Kafadar, 2012, p.710). Problem-solving skills help people adapt to the environment where they are. That is, each problem requires a solution; for this, it is necessary to learn how to solve problems. “The definitions of assertiveness include expressing itself as it is, transferring its pros and cons to other individuals, facing negative demands, making requests without hesitation from other individuals, protecting and defending the rights of individuals without violating their rights” (Çelik, 2016, p. 25).

There are several pieces of research in the literature on the topics of interpersonal problem-solving and self-realization. In these studies, while there are artistic activities among the activities related to the interpersonal problem-solving skills and assertiveness strategies, the researchers clearly state that there are not the sufficient number of studies that investigate the relationship between art education, problem-solving and self-realization, neither abroad nor domestically. Mercin & Alakuş (2007, p.15) referred the significance of the issue as follows: in addition to being a being that needs education in many ways, one of the basic aspects of people's education in art education. Art education is one of the important elements in both individual and social education, along with education in subject, science, technical fields, philosophy and kinesthetic fields. “In studies conducted on the solution of problems, in addition to the cognitive, behavioural, affective and psychological dimensions, personality factors such as self-confidence, creativity, responsibility and overcoming fears also influence the problem-solving process.” (Bingham, 1998 Trans. Çeşit, Ece & Kafadar, 2012, p.711). From this point, to acquire problem-solving skills, individuals need to receive a wide-ranging education in which they can educate themselves in many ways. “Even within this broad framework, it has positive effects on the ability to solve the problems of art education, which is observed to have positive results obtained from the researches on the development of individuals.” (Çeşit, Ece & Kafadar, 2012, p.716).

Interpersonal Problem Solving

“Problems, arising from interpersonal relationships, affect people very deeply and are among the most common problems of today. Many people, with whom the person interacts since birth, are effective in determining the personality, mental health and attitudes and behaviours of that person” (Nacar & Tümkaya, 2011, p.500).

Self-Determination (Assertiveness)

“Assertiveness can be defined as a set of behaviours that care about others. Accordingly, assertiveness contributes to the enjoyment of the individual from his/her life and to have positive relationships with her/his environment” (Tan, 2006, p.66).

Relationship between Interpersonal Problem-solving and Assertiveness

“Interpersonal relations and the nature of these relations have an important place in human life. These relations are positive only if the mutual rights are protected and these rights are respected. It is a behaviour that individuals are required to protect their rights as well as protect their rights. Such behaviours emerge when the social skills are sufficient and these skills facilitate human relations. Respecting the rights and thoughts of others, defending and defending their rights and thoughts, that is, being assertive helps the individual to use social skills appropriately.” (Acar, 2008, p.343). In this context, the topic of “assertiveness” is one of the most important social skills needed to establish and maintain healthy interpersonal relationships.

Definition of Art Education

According to Kaya (Art Magazine), art education has an important place in the formation of a civilized nation. The development of individuals who have a high level of creative, aesthetic enjoyments, developed

awareness in the point of dissatisfaction around them and an awareness of effectiveness required to change them can be provided with art education, which started to be given since childhood. A highly sensitive and, at the same time, the modern citizen is a conscious, equipped and educated person who can design is uncomfortable in the face of the tastes around his/her. Art education also acts as a cement that enables societies to come together on the way of civilization.

Research Purpose

In this research, it was aimed to compare the interpersonal problem-solving skills and assertiveness levels of the students, who received and did not receive art education in the Faculty of Education, and to determine whether it differs according to some variables (gender, class level and department of education).

Sub-purposes

1. Is there a significant difference between self-determination (assertiveness) levels of students who received and did not receive art education?
2. Is there a significant difference between interpersonal problem-solving skills of students who received and did not receive art education?
3. Is there a significant difference between the self-determination (assertiveness) levels of students according to the class level?
4. Is there a significant difference between the interpersonal problem-solving skills of students according to the class level?
5. Is there a significant difference between the self-determination (assertiveness) levels of the students according to the departments they study?
6. Is there a significant difference between the interpersonal problem-solving skills of the students according to the departments they study?
7. Is there a significant relationship between self-determination (assertiveness) and interpersonal problem-solving skills of students receiving art education?
8. Is there a significant relationship between self-determination (assertiveness) and interpersonal problem-solving skills of students not receiving art education?
9. Is there a significant difference between students' self-determination (assertiveness) levels in the context of the gender variable?
10. Is there a significant difference between the interpersonal problem-solving skills of the students in the context of the gender variable?

Method

Research Model

In this study, which was conducted to investigate if there was a relationship between the students of the Faculty of Education who received and did not receive art education and their interpersonal problem-solving skills and assertiveness levels and whether these two variables differ in terms of gender, class according to the attended department. Relational survey model as a quantitative research method was employed.

Population

The population of this research consists of 3500 who study at the Faculty of Education in a medium-sized province located in the Eastern Anatolia Region of Turkey in 2018-2019 academic year.

Sample

The scale sample of the research consisted of 500 pre-service teachers, selected with the purposeful sampling method, from the Faculty of Education in Erzincan Binali Yıldırım University. The participants consisted of 500 students, - between the ages of 18-30- who attend the university at all class levels in the Preschool Education Division, Turkish Education Division, Classroom Education Division, Guidance and Psychological Counseling Education Division, Science Education Division, Mathematics Education Division, Painting Business Education Division, Music Education Division, Physical Education and Sports Department, Computer and Instructional Technologies Education Department, voluntarily attending to answer the scales applied in the research.

Data Collection Tool

Two scales were applied to collect the necessary data for this research. These are the (1) Interpersonal Problem-solving Inventory, (2) Self-Determination (Assertiveness) Inventory. The information related to these scales were given below, in detail.

Analysis of the Data

The analysis of the data was performed in SPSS 20.00 statistical package programs. Descriptive statistics for variables were tested using correlation and variance analyzes using the SPSS 20.00 program. Research objectives were tested at the .05 significance level.

First, the Kolmogorov-Smirnov Normality test was used to test whether the research data demonstrated normal distribution. The Cronbach Alpha Coefficient was calculated to measure the reliability and validity of Interpersonal Problem-solving and Self-Determination (Assertiveness) Inventories. The independent sample t-test analysis was used to find a significant difference between the frequency distributions of the participants' demographic characteristics and their self-determination (Assertiveness) levels. Besides, the independent sample t-test was applied to find a significant difference between the interpersonal problem-solving skills of the students according to their gender. One-Way Variance Analysis (ANOVA) was used to find out the difference between students' level of class and the study department variable, between self-determination (Assertiveness) and interpersonal problem-solving skills.

At the same time, the Pearson Correlation coefficient test was used to test the relationship between students' interpersonal problem-solving skills and reliability levels.

Findings

Findings related to the First Sub-problem

Is there a significant difference between self-determination (assertiveness) levels of students received and did not receive art education?

The difference between self-determination (assertiveness) levels of students who received and did not receive art education is presented in Table 1.

Table 1. T-test Results Related to the Students Who Received and did not Receive Art Education in Terms of the Self-determination (Assertiveness)

	n	\bar{X}	T	p
Received Art Education	114	75.35	-.195	.846
Not Received Art Education	386	75.62		

In terms of self-determination (assertiveness), the difference between students who received and did not receive art education was analysed. Accordingly;

It was found that there was not a significant difference between the assertiveness levels of the students who received art education ($=75.35$) and the assertiveness levels of those who did not receive art education ($=75.62$) according to $t=-.195$, $p>.05$. It was observed that the average scores of the students from the assertiveness inventory are at the 'moderate' level.

Findings related to the Second Sub-problem

Is there a significant difference between interpersonal problem-solving skills of students who received and did not receive art education?

The difference between the students, who received and did not receive an art education, in terms of the interpersonal problem-solving skills is presented in Table 2.

Table 2. The T-test Results of the Students, Who Received and did not receive Art Education, in Terms of the Interpersonal Problem-Solving Skills

	n	\bar{X}	S.d.	T	p
Received Art Education	114	143.51	24.08	-.472	.637
Did not Receive Art Education	386	144.77	25.40		

In Table 2, the difference between students who received and did not receive art education in terms of interpersonal problem-solving skills was analysed. Accordingly;

It was found that there was not a significant difference between the interpersonal problem-solving skills of the students who received art education ($=143.51$) and the interpersonal problem-solving skills of those who did not receive art education ($=144.77$) according to $t=-.472$, $p>.05$. It was observed that the score averages of the students from the interpersonal problem-solving skills inventory were at 'moderate' level.

Findings related to the Third Sub-problem

Is there a significant difference between the self-determination (assertiveness) levels of students according to the class level?

One-way analysis of variance (ANOVA) results related to the difference of assertiveness levels of students according to their class levels are presented in Table 3.

Table 3. One-way Analysis of Variance (ANOVA) Results Related to the Difference of Assertiveness Levels of Students According to Their Class Levels

		Total of Squares	Sd	Average of Squares	F	Sig.	Significance Difference
Assertiveness	Betw.G.	669.81	3	223.27	1.328	.265	
	In-groups	83406.87	496	168.15			
Total		84076.68	499				

As the analysis of the data related to the assertiveness levels of the students according to their class levels was analysed;

It was found that there was not any significant difference in the assertiveness levels of the students according to $F=1.328$, $p>.05$ as it was analysed in terms of the class levels.

Findings Related to the Fourth Sub-problem

Is there a significant difference between the interpersonal problem-solving skills of students according to the class level?

One-way analysis of variance (ANOVA) results related to the difference of assertiveness levels of students according to their class levels are presented in table 4.

Table 4. One-Way Analysis of Variance (ANOVA) Results for the Analysis of Data on Interpersonal Problem-solving Skills of Students According to Class Level

		Total of Squares	Sd	Average of Squares	F	Sig.	Significance Difference
Interpersonal Problem-solving	Betw.G.	4517.60	3	1505.86	2.412	.066	
	In-groups	309639.36	496	624.27			
	Total	314156.96	499				

As the analysis of the data related to interpersonal problem-solving skills according to the grade levels of the students in Table 4 is analysed;

When the interpersonal problem-solving skills of the students were examined according to their class levels, it was found that there was no significant difference according to $F = 2.412$, $p > .05$.

Findings related to the Fifth Sub-problem

Is there a significant difference between the self-determination (assertiveness) levels of the students according to the departments they study?

Data analysis related to the assertiveness of the students according to their departments is presented in Table 5.

Table 5. One-Way Analysis of Variance (ANOVA) Results for the Analysis of the Data on the Assertiveness Levels of the Students According to the Department

		Total of Squares	Sd	Average of Squares	F	Sig.	Significance Difference
Assertiveness	Betw.G.	2868.16	10	286.81	1.727	.072	
	In-groups	81208.52	489	166.07			
	Total	84076.68	499				

* Categories: "1=Pre-school."; "2=Turkish."; "3=Science."; "4=Social St."; "5=Mathematics Edu."; "6=ICT Edu."

In Table 5, the difference between the assertiveness levels of the students according to the department they studied is examined. Accordingly;

It was determined that there was not a significant difference $F=1.727$, $p > .05$ as the assertiveness levels of the students were analysed according to the department they studied.

Findings Related to the Sixth Sub-problem

Is there a significant difference between the interpersonal problem-solving skills of the students according to the departments they study?

The analysis of the data on the interpersonal problem-solving skills according to the department they study is presented in Table 6.

Table 6. One-Way Analysis of Variance (ANOVA) Results for the Analysis of Data on Interpersonal Problem-solving Skills According to the Department

		Total of Squares	Sd	Average of Squares	F	Sig.	Significance Difference
Interpersonal Problem-solving	Betw.G.	23538.70	10	2353.87	3.961	.000*	1-2
	In-groups	290618.26	489	594.31			1-3
							1-4
							5-6
							5-3
							5-2
							5-4
	Total	314156.96	499				

* Categories: "1=Pre-school."; "2=Turkish"; "3=Science."; "4=Social St."; "5=Mathematics Edu."; "6=ICT Edu."

The difference between the interpersonal problem-solving skills of the students according to their departments is analysed in Table 6. According to the Tukey test to test which sections the difference is between, a significant difference is observed $F=3.961$, $p<.05$ when the interpersonal problem-solving skills of the students are analysed according to the department they study. It is originated from the reason that the significant difference is higher in the problem-solving skills of the students at the Department of Turkish Education ($X=152.25$), compared with the students at the Department of Pre-school Education ($X=135.38$) and students at the Department of Secondary School Mathematics ($X=130.48$); from that the problem-solving skills of the students at the Department of Pre-school Education ($X=135.38$) are lower than the students at the Department of Science Education ($X=153.71$) and the students in the Department of Social Studies ($X=152.23$); that the problem-solving skills of the students at the Department of Secondary School Mathematics Education ($X=130.48$) are lower than the students at the Department of ICT Education and ($X=150.62$), the students at the Department of the Science Education ($X=153.71$) and the students at the Department of Social Studies Education ($X=152.23$).

Findings Related to the Seventh Sub-problem

Is there a significant relationship between self-determination (assertiveness) and interpersonal problem-solving skills of students receiving art education?

The relationship between self-determination (assertiveness) and interpersonal problem-solving skills of the students studying at the department of art is presented in Table 7.

Table 7. Correlation Relationship Results Between Self-Determination And Interpersonal Problem-solving Skills of Students Receiving Art Education

	Interpersonal Problem Solving	Assertiveness
Assertiveness	Pearson Correlation	.005
p		.956
n		115

The relationship between self-determination (assertiveness) and interpersonal problem-solving skills of the students who received art education is analysed in Table 7. Accordingly;

It was found that there was a positive low level of insignificant relationship between the assertiveness and interpersonal problem-solving skills of the students $r=.005$, $p(.956)>.05$, who received art education.

Findings Related to the Eighth Sub-problem

Is there a significant relationship between self-determination (assertiveness) and interpersonal problem-solving skills of students not receiving art education?

The relationship between self-determination (assertiveness) and interpersonal problem-solving skills of students who do not receive art education is presented in Table 8.

Table 8. Correlation Relationship Results Between Self-Determination and Interpersonal Problem-solving Skills of Students not Receiving Art Education

	Interpersonal Problem Solving	Assertiveness
Assertiveness	Pearson Correlation	.041
p		.416
n		386

The relationship between the assertiveness and interpersonal problem-solving skills of the students who did not receive art education is presented in Table 8. Accordingly;

There is a positive moderately insignificant relationship between the assertiveness and interpersonal problem-solving skills of the students $r=.041$, $p(.416)>.05$.

Findings Related to the Ninth Sub-problem

Is there a significant difference between students' self-determination (assertiveness) levels in the context of the gender variable?

Independent samples t-test of the difference in assertiveness level of students according to their gender are presented in Table 9.

Table 9. Independent Samples T-Test Results Related to the Students' Self-Determination Level (Assertiveness) Average Difference

	Gender	N	\bar{X}	S.d	T	P
Assertiveness	Male	185	74.48	12.48	1.429	.154
	Female	315	76.20	13.24		

As the skills related to the average difference in self-determination level of students according to their gender indicated in Table 9 is analysed;

It was found that there was no significant difference between the assertiveness levels of the female students ($=76,20$) and the assertiveness levels of the male students ($=74,48$), which is as $t=1,429$, $p>.05$.

Findings related to the Tenth Sub-problem

Is there a significant difference between the interpersonal problem-solving skills of the students in the context of the gender variable?

The independent samplings t-test results related to the interpersonal problem-solving level average difference according to the gender of the students are presented in Table 10.

Table 10. The Independent Samplings T-Test Results Related to the Interpersonal Problem-solving Level Average Difference According to the Gender of the Students

	Gender	N	\bar{X}	S.d	T	P
Interpersonal Problem Solving	Male	185	144.38	24.36	0.74	.941
	Female	315	144.55	25.54		

As the skills related to the average difference of interpersonal problem-solving level according to the gender of the students indicated in Table 10 is analysed;

It was determined that there was no significant difference between the interpersonal problem-solving skills of the female students ($=144,55$) and the interpersonal problem-solving skills of the male students ($=144,38$), which is as $t=.074$, $p>.05$.

Discussion and Conclusion

1. In terms of the interpersonal problem-solving skills of the students according to the gender variable, there is no significant difference between the interpersonal problem-solving skills of the female students ($n=144,55$) and the interpersonal problem-solving skills of the male students ($n=144,38$) according to $t=,074$, $p>,05$. As the researches conducted on the relevant issue were investigated, no significant difference was encountered according to gender variable in the research with the title of “The General of Problem Solving Skill” by Çeşit, (2011). Similarly, even in the research conducted by Didin (2016), no significant difference was found between the interpersonal problem-solving skills of the students, who took and did not take art education, according to their gender. In many studies focusing on the interpersonal problem-solving skills, no significant difference was reached according to gender variable (Karamehmetoğlu, 2017; Yılmaz, 2015; Topal, 2011; Terzi, 2000).

2. As the general interpersonal problem-solving skill of the students is analysed according to the class levels they study, no significant difference was encountered according to $F=2.412$, $p>,05$. In similar studies, it is noticed that findings, that interpersonal problem solving skills demonstrate significant differences according to class level and not, are encountered. Many studies, in which there is no significant difference in interpersonal problem-solving skills according to class level, exist in the literature (Didin, 2016; Nacar, 2010; Otacioğlu, 2008; Gürbüzöğlü, 2008). In addition, Çeşit (2011) found a significant difference in comparing high school students' problem-solving skills in terms of class levels.

3. As the assertiveness of the students in terms of the gender variable is taken into consideration, there is no significant difference between the assertiveness levels of the female students ($n=76,20$) and the assertiveness levels of the male students ($n=74,48$) according to $t=1,429$, $p>,05$. In similar studies, it is mostly encountered that there are no significant difference in the self-determination (confidence) levels of students according to gender (Zengin, 2017; Çelik, 2016; Ateş, 2015; Voltan-Acar, 2008). Besides, in the research by Metin, 2014, the difference that is no statistically significant according to gender, was found between the self-determination inventory confidence sub-dimension scores of the nursing students, who participated in the study.

4. As the assertiveness levels of the students according to their study departments are analysed, it is found that there is no significant difference according to $F=1.328$, $p>,05$.

5. As the assertiveness levels of the students in terms of their departments are analysed, no significant difference was encountered according to $F=1.727$, $p>,05$.

6. As the problem-solving skills of the students are examined according to their department, there is no significant difference according to $F=3.961$, $p<,05$. This significant difference is originated from that the significant difference is higher in the problem-solving skills of the students at the Department of Turkish Education ($X=152.25$), compared with the students at the Department of Pre-school Education ($X=135.38$) and students at the Department of Secondary School Mathematics ($X=130.48$); from that the problem-solving skills of the students at the Department of Pre-school Education ($X=135.38$) are lower than the students at the Department of Science Education ($X=153.71$) and the students in the Department of Social Studies ($X=152.23$); that the problem-solving skills of the students at the Department of Secondary School Mathematics Education ($X=130.48$) are lower than the students at the Department of ICT Education and ($X=150.62$), the students at the Department of the Science Education ($X=153.71$) and the students at the Department of Social Studies Education ($n=152.23$).

7. There is a relationship, which is a positive and low level of significance between the assertiveness and interpersonal problem-solving skills of the students who received art education according to $r=.005$ $p>,01$.

8. There is a positive and moderate level of insignificant relationship between the assertiveness and interpersonal problem-solving skills of the students who did not receive art education according to $r=.041$ $p>,01$.

9. No significant difference was encountered between the assertiveness levels of the students who received art education ($n=75.35$) compared with the assertiveness levels of those who did not receive art education ($n=75.62$) according to $t=.195$, $p>,05$.

10. There is no significant difference in interpersonal problem-solving skills of the students who received art education ($n=143.51$) and the interpersonal problem-solving skills of the students who did not receive art education ($n=144.77$) according to $t=-.472$, $p>,05$.

According to these results, it was found that the assertiveness levels of the pre-service teachers were not influenced in terms of the gender, class differences and the departments in which they study. Similarly, it was determined that the interpersonal problem-solving skills of the pre-service teachers were not affected by their gender and class differences. However, the difference was found among the students in some departments in terms of the interpersonal problem-solving skills. The reason for this is that it affects the outcome of students studying in some departments, in which the analytical thinking skills are given at a higher level, as well as those who receive art education in the faculty of education. Furthermore, the fact that students studying at the departments of primary school and pre-school education receive art education courses also affected the result. The students, who do not study at the departments of visual arts and music education and believe that they have a special talent, and going to various courses to improve this ability affected the result.

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