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### **THE RELATIONSHIP BETWEEN THE CREATIVITY LEVELS OF MUSIC PRE-SERVICE TEACHERS AND THE PREFERENCES OF A TEACHER MODEL SUPPORTING CREATIVITY**

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REVISTA DE CERCETARE SI INTERVENTIE SOCIALA  
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# The Relationship between the Creativity Levels of Music Pre-service Teachers and the Preferences of a Teacher Model Supporting Creativity

Emine ARIKHAN<sup>1</sup>, Sibel COBAN<sup>2</sup>

## Abstract

In this study, the relationship between the creativity levels of music pre-service teachers and their teacher model preferences that support creativity were investigated. The research was conducted with correlation model, which is one of the quantitative research methods. A total of 110 fourth grade students studying in the Department of Music in three different universities in the 2017-2018 academic year participated to the study. In the study, 'Kaufman Creativity Areas Scale Turkish Form (KCAS-TF)' and 'Teacher Index Supporting Creativity (TISC)' were used as data collection tools. It has been determined that there are positive correlations between the scores of the music pre-service teachers obtained from the KCAS-TF and the CFTIS scales, but the presence of this relationship in some subcomponents could not be confirmed. In the study, it was observed that the candidates who willingly chose the department of music teaching had higher scores from the evaluation sub-dimension of the (TISC). According to the results of the (KCAS-TF), it was concluded that the scores of the teacher candidates who do not want to teach after graduation from the artistic performance and creativity sub-dimension were lower than those who wanted to teach music.

*Keywords:* Kaufman Creativity Scale, music education, Creative Teacher Model, creativity in education, artistic creativity, students, relationship.

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## Introduction

Creativity is a form of talent that is innate at different levels in every person and can then be developed through training. The concept of creativity can be expressed as the development of pre-existing ideas or the ability to invent new ideas and new products. Although a clear and common definition of the concept of creativity has not been made for years in the field of business, art and education, some definitions, theories and opinions put forward by the experts of this field are available in the literature.

The development of creativity will not be possible or will be insufficient with a single factor. For this reason, combining several factors and creating a system by evaluating them together will give more successful results. In order to establish an effective system and create creative individuals from this system, besides an education system that supports creativity, an educational environment that feeds creativity and teachers who have the most important mission should have a creative teacher profile in order to train their students in the most effective and useful way in their education processes. The creativity of individuals can be developed with education, so teachers have a great responsibility in this way. In order to raise creative individuals, teachers themselves must have a high level of creativity, adopt creativity, and have sufficient knowledge and skills and to develop the creativity of individuals while acquiring these knowledge and skills, they should be able to master the behaviours of teachers that support creativity. These can give students the opportunity to learn on their own, listening to and respecting students' ideas, providing opportunities for students to develop their own ideas, and seeing students' mistakes as part of the creative process.

## Literature Review

According to Isbell and Raines (2003), creativity is stated as the ability of people to come up with new ideas based on their experiences, while San (2004) expresses it as giving birth, creating, and producing. Torrance, one of the leading names who have important researches and studies on the concept of creativity, explains creativity as "being sensitive to problems, disorders, lack of information, missing items, incompatibility; defining the difficulty, seeking solutions, making predictions or developing hypotheses regarding the deficiencies, changing or retesting these experiments, and then communicating the result to others" (Torrance, 1974a; 1974b, 1981).

There are some basic features that make up creativity. Aral (1990), Tuna (2000), Çakmak and Baran (2005), claim that creativity contains special features like "flexibility, multi-directional thinking, sensitivity, being alert and concerned with people, fluency, thinking independently, being able to move, reaching different and different results and originality". Runco and Jaeger (2012), arguing that the

concepts of originality and efficacy are related to creativity, stated that in order for a thought and a product to be creative, it must be previously unexplored, unique, not ordinary and traditional. Also, according to them, the idea and value of the product are also important in terms of the concept of effectiveness.

Creativity, which is an important concept in every field, as well as it is important in the field of education, in terms of raising creative individuals (Abdulla, *et al.*, 2020). When creativity is considered from this point of view, the creative teacher model becomes an important issue. Barrett and Donnelly (2008) describe the role of the teacher as “facilitating creative learning and helping students to develop their capacity to recognize, represent and evaluate their own creativity”. According to this statement, it is important for prospective teachers to discover their own creativity, develop their creativity and make their own self-evaluations as a result of their creative performance in the process of their professional education, in terms of training them as teachers in accordance with the creative teacher model.

Creativity is a field that is always connected with arts. It is possible to come across many studies in the literature that art education improves creativity. As a result of the research conducted by Dikici (2013) with the aim of determining the creativity levels of high school students who did and did not receive art education, it was concluded that students who received art education were more creative than those who did not. Music education is an important factor in the development of creativity. In recent years, it has become even more important for pre-service teachers to support and develop their creativity and to produce original and creative ideas in line with the knowledge they have acquired during their professional education, to meet the need for creative music teachers (Noonan, & Randy, 2005). The teacher model factor that supports creativity is important in this respect. San (2008: 24-25) emphasized that the most suitable area for developing creativity from childhood is music education, and he stated that the lack of training of creative music teachers is an important problem for a creative music education.

In order for music lessons that support creativity to be realized, music teachers are expected to have necessary knowledge, qualities and having activities to develop creativity. According to Emir *et al.* (2004), teachers must be creative and have developed creative thinking skills too to raise creative individuals. Music teachers have the feature of a creative teacher model, developed problem solving ability, versatile thinking, sensitivity, being alert and caring towards people, being able to express fluently, thinking independently, being able to act, etc. It is important for raising creative individuals equipped with special features.

During the literature review, it was seen that there are many studies done related with the creativity in different aspects and the focus is creativity levels of pre-service teachers especially in Turkey. In the study conducted by Yazici and Topalak (2013), data were collected through interviews from 21 music teachers working in different provinces on whether they gave lessons to improve the creativity of students, and whether they encouraged students to do research and explore their

creativity levels. According to their findings, they concluded that music teachers do not follow a curriculum for creative thinking and do not encourage students to think creatively. At the same time, they are not equipped with knowledge or training on creativity education. In the study conducted by Topoğlu (2015), the creativity levels of pre-service teachers were investigated. As a result of the research, it was concluded that the creativity of the participants was not high enough, and the creativity level of the art pre-service teachers was higher than the music pre-service teachers. In the study, it was also observed that the creativity levels of pre-service teachers who received social studies, classroom teacher and science education were higher than the music pre-service teachers (Topoğlu 2015).

It is important for pre-service teachers to develop their creativity levels and to have knowledge, skills and experience about creativity in order to raise creative individuals. Reilly *et al.* (2011) argued that it is important for creative teachers to know which creative methods they should use when conveying a subject to students, in the development of students' creativity skills. By that way teachers can raise creative, qualified, productive, thinking, problem solving individuals. Always it is important to have equipped manpower with special features. This importance has gained more value in the 21st century. In the training of creative teachers, it is also important that teachers have the knowledge of creative thinking and planning lessons that can develop creativity. It is important for teachers to acquire this knowledge and skill during their teaching education.

### *The purpose of the study*

It is certain that the music lesson should be at the top of the lessons aimed at developing creativity among the art education lessons. It has drawn attention that the studies conducted in the reviewed literature do not cover the main problem question of this study. For this reason, the main purpose of this study is to reveal the preferences and creativity levels of the future music teachers, with the reference of teacher model that supports creativity. Accordingly, the relationship between music pre-service teachers' willingness to choose teaching profession and thinking about doing the teaching profession and their level of creativity and teacher model preferences that support creativity were investigated.

## **Methodology**

Personal information form, "Kaufman Creativity Fields Scale Turkish Form (KCAS-TF)" and "Teachers Supporting Creativity Index (CFTIS)" were used as data collection tools in research. The creativity levels of pre-service teachers were measured with the "Kaufman Creativity Domains Scale Turkish Form (KCAS-TF)" test, which was adapted to Turkish by Sahin (2016).

KCAS-TF scale consists of 5 factors. The first factor is “Academic Creativity”. The second factor is “Scientific / Mechanical Creativity”. The third factor is “Creativity in the Field of Artistic Performance”. The fourth factor is “Self / Daily Creativity”. The fifth factor is “Artistic Creativity”. The scale was rated and scored as 5 “I am much more creative” and 1 as “I am much less creative” with a 5-point rating Likert scale (Sahin, 2016).

According to Kaufman (2012), the content information of 5 sub-factors in the Turkish Form of the Kaufman Creativity Domains Scale is as follows; Academic Creativity, which includes the items of discussing a controversial topic from his own perspective, researching articles and explaining the articles read with his own ideas, being able to provide feedback, criticize a work, make suggestions and find how to combine, includes creative analysis, discussion and scientific research. Scientific / Mechanical Creativity emphasizes the factor, mechanical skill, interest in science and mathematics, including the ability to make mechanical inventions, to break down and rebuild and operate machines, to write a computer program, to conduct experiments, to solve geometric problems. Artistic Performance factor, which emphasizes the importance of creativity, writing and music in the field, is related to the ability to compose lyrics, to compose songs, to write poems and to play musical instruments. Self / Daily Creativity is about feeling comfortable and peaceful, able to make themselves happy, find the best solution to problems, solve interpersonal problems in the best way, help others cope with difficult situations. Artistic Creativity is related to the ability to sculpt, the ability to draw a person or object, and the ability to draw something imagined and never seen before.

The Creativity Foster Teacher Index Scale (CFTIS), developed by Soh (2000), was adapted into Turkish by Dikici in 2013. CFTIS index, which consists of 33 items, has 9 sub-factors. The sub factors are as follows; “Independence”, “Integration”, “Motivation”, “Judgment”, “Flexibility”, “Evaluation”, “Questioning”, “Giving Opportunity”, “Disappointment”. Cropley (1997), in his work titled “Fostering Creativity in the Classroom: General Principles”, listed nine sub-dimensions that encourage student creativity and draw attention to teachers’ classroom behaviour. These behaviours; independence, integration, motivation, judgment, flexibility, evaluation, questioning, opportunity and disappointment. Soh (2000) developed the “Creativity Fostering Teacher Index (CFT Index)” scale, which addressed these nine behaviours adopted by Cropley (1997) in his research.

Apart from using in Turkey and Singapore, the index was adopted in Canada, Chile, Hong Kong, Mexico and Nigeria also (Soh, 2017; Runco, 2017). The sub-dimensions in this scale, which Dikici adapted to Turkish in 2013, are explained below. Independence addresses students’ teacher behaviours that support an independent learning. Integration includes teacher behaviours that have a social, collaborative and integrative teaching style. Motivation is teacher behaviour that motivates students to learn basic information and develop multidimensional thinking skills. Judgment is the behaviour of teachers who postpone judgment until students can better develop their ideas and express themselves freely. Flexibility is

teacher behaviour that encourages students to think flexibly. Assessment is students' encouraging teacher behaviour towards self-assessment. Inquiry skill, which is an important factor in the development of creativity, is a teacher model that allows students to listen and question their questions and ideas. Giving opportunity is a teacher model that allows students to practice using different materials at different times. Disappointment is teacher behaviour that helps students learn how to deal with disappointments and failures (Dikici & Soh, 2015).

The main aim of the study, is to determine, if exist, the relationship between the creativity levels of music pre-service teachers and their teacher model preferences that support creativity. For that purpose, two scales were used. The first scale is 'Teacher Index Scale Supporting Creativity (CFTIS Scale)' developed by Cropley which measures teacher model and their preferences teaching in the classroom that support students' creativity levels. The other scale is 'Kaufman Creativity Areas Scale Turkish Form (KCAS-TF Scale)' developed by Kaufman and adopted to Turkish by Sahin and measures creativity areas. In the research, two universities from Turkey and one university from North Cyprus were determined and research was done at the faculty of education, music teaching department. Participants are 110 fourth grade students that consist of 77 women (70%), 33 men (30%). First of all, the validity and reliability of the scales were tested and data set checked for the normality. After that, analysis of the data was carried out with the SPSS-24 package program. The reliability statistics of the data were tested with Cronbach's Alpha coefficient and it was determined that the data had a strong (0.785) reliability level. The Shapiro-Wilk tests was examined to determine whether the data set was compatible with the normal distribution and it was observed that the data is not distributed normally ( $p < 0.05$ ). Since the data is not distributed normally, non-parametric tests were used in the study.

For the analysis of two independent sample which have two-categorized variables the Mann-Whitney U Test was used. In order to test the correlation between mean scores obtained from two scales, the Spearman Correlation Test has been used. Finally, to evaluate how independent variable(s) affects dependent variable regression tests were performed.

### *Research Questions and Hypothesis*

The main research questions and hypothesis of the study are given below.

1. The first research question is to check whether there is a difference between the average scores of the CFTIS scale between male and female participants.
2. The second research question is to check whether there is a difference between the average scores of the KCAS-TF scale between male and female participants.
3. The third research question of the study is to test whether there is any correlation between the mean scores of the CFTIS scale and the mean scores of the KCAS-TF scale.

4. The fourth research question is search the relationship between the responses of the pre-service teachers to the KCAS-TF scale and the CFTIS scale. In other words, investigation of the teacher behaviours with teaching styles that support creativity over the creativity of the pre-service teachers.
5. The fifth research question is to search the relationship between the genders of the teachers and if it has effect on the teacher behaviour teaching styles that support creativity and the creativity of pre-service teachers.

Table 1. Hypotheses of the Research

No	Hypotheses ( $H_0$ )	Alternate ( $H_a$ )	Test Used
1	There is a difference between male and female pre-service teachers in CFTIS scale scores	There is not a difference between male and female pre-service teachers in CFTIS scale scores	Mann-Whitney U
2	There is a difference between male and female pre-service teachers in KCAS-TF scale scores	There is not a difference between male and female pre-service teachers in KCAS-TF scale scores	Mann-Whitney U
3	There is no correlation between the mean scores of the CFTIS scale and KCAS-TF scale	There is a correlation between the mean scores of the CFTIS scale and KCAS-TF scale	Spearman Correlation Test
4	Teacher behaviour teaching styles that support creativity have an effect on the creativity of pre-service teachers	Teacher behaviour teaching styles that support creativity have not effect on the creativity of pre-service teachers	Pearson Linear Regression
5	Teacher behaviour teaching styles that support creativity have an effect on the creativity of pre-service teachers according to their gender	Teacher behaviour teaching styles that support creativity does not have an effect on the creativity of pre-service teachers according to their gender	Pearson Linear Regression

In order to evaluate the responses of the participants to the research questions number 2 and number 3, subcomponents of the KCAS-TF scale examined separately. Those sub-questions and sub-hypothesis were given below: (1) The first sub-research question is to search if there is a relationship between pre-service teachers' responses on the CFTIS Scale with their scholarly creativity; (2) The second sub-research question is to search if there is a relationship between pre-service teachers' responses on the CFTIS Scale according to the gender and their scholarly creativity; (3) The third sub-research question is to search if there is a



relationship between pre-service teachers' responses on the CFTIS Scale with their Mechanical / Scientific creativity; (4) The fourth sub-research question is search if there is a relationship between pre-service teachers' responses on the CFTIS Scale according to the gender with their Mechanical / Scientific creativity; (5) The fifth sub-research question is to search if there is a relationship between pre-service teachers' responses on the CFTIS Scale with their Performance creativity; (6) The sixth sub-research question is search if there is a relationship between pre-service teachers' responses on the CFTIS Scale according to the gender with their Performance creativity; (7) The seventh sub-research question is to search if there is a relationship between pre-service teachers' responses on the CFTIS Scale with their Self / Everyday Creativity; (8) The eight sub-research question is to search if there is a relationship between pre-service teachers' responses on the CFTIS Scale according to the gender with their Self / Everyday Creativity; (9) The ninth sub-research question is to search if there is a relationship between pre-service teachers' responses on the CFTIS Scale with their Artistic Creativity; (10) The tenth sub-research question is search if there is a relationship between pre-service teachers' responses on the CFTIS Scale according to the gender with their Artistic Creativity.

Table 2. Sub-Hypotheses of the Research

No	Sub-Hypotheses ( $H_0$ )	Alternate ( $H_a$ )	Test Used
1	There is a relationship between pre-service teachers' responses to the CFTIS scale and their scholarly creativity	There is not a relationship between pre-service teachers' responses to the CFTIS scale and their scholarly creativity	Spearman Correlation Test
2	There is a relationship between pre-service teachers' responses to the CFTIS scale according to the gender and their scholarly creativity	There is not a relationship between pre-service teachers' responses to the CFTIS scale according to the gender and their scholarly creativity	Spearman Correlation Test
3	There is a relationship between pre-service teachers' responses to the CFTIS scale and their Mechanical / Scientific creativity	There is not a relationship between pre-service teachers' responses to the CFTIS scale and their Mechanical / Scientific creativity	Spearman Correlation Test

4	There is a relationship between pre-service teachers' responses to the CFTIS scale according to the gender and their Mechanical / Scientific creativity	There is not a relationship between pre-service teachers' responses to the CFTIS scale according to the gender and their Mechanical / Scientific creativity	Spearman Correlation Test
5	There is a relationship between pre-service teachers' responses to the CFTIS scale and their Performance creativity	There is not a relationship between pre-service teachers' responses to the CFTIS scale and their Performance creativity	Spearman Correlation Test
6	There is a relationship between pre-service teachers' responses to the CFTIS scale according to the gender and their Performance creativity	There is not a relationship between pre-service teachers' responses to the CFTIS scale according to the gender and their Performance creativity	Spearman Correlation Test
7	There is a relationship between pre-service teachers' responses to the CFTIS scale and their Creativity in the Field of Self / Everyday Creativity	There is not a relationship between pre-service teachers' responses to the CFTIS scale and their Performance creativity Self / Everyday Creativity	Spearman Correlation Test
8	There is a relationship between pre-service teachers' responses to the CFTIS scale according to the gender and their Creativity in the Field of Self / Everyday Creativity	There is not a relationship between pre-service teachers' responses to the CFTIS scale according to the gender and their Performance creativity Self / Everyday Creativity	Spearman Correlation Test
9	There is a relationship between pre-service teachers' responses to the CFTIS scale and their Artistic Creativity	There is not a relationship between pre-service teachers' responses to the CFTIS scale and their Artistic Creativity	Spearman Correlation Test
10	There is a relationship between pre-service teachers' responses to the CFTIS scale according to the gender and their Artistic Creativity	There is not a relationship between pre-service teachers' responses to the CFTIS scale according to the gender and their Artistic Creativity	Spearman Correlation Test

## Results

In order to assess the first hypothesis, the Mann-Whitney U test was used, and the results were given below at *Table 3*. According to the results, it can be said that there is a differences between male and female participant's responses to the CFTIS scale. This means that there is difference in terms of gender between the teaching styles, which indicates that pre-service teachers have different teaching styles and that each teacher candidate handles students' thoughts and learning problems differently. In other words, both male and female prospective teachers have their own styles in their teaching processes and they pass it on to their students.

*Table 3.* Gender Differences according to CFTIS Scale

Test Statistics	CFTISavg.	Decision
Mann-Whitney U	P=.65	Retain the null hypothesis

*Significance level .05*

In order to assess the second hypothesis, the Mann-Whitney U test was again used, and the results were given below at *Table 4*. According to the results, it can be that there is a difference between male and female participant's responses to the KCAS-TF. This means that, when pre-service teachers compare themselves with their peers and people with similar life experiences, there is a gender-related differences in the areas of Scholarly creativity, Mechanical / Scientific creativity, Performance creativity, Self / Everyday Creativity and Artistic Creativity. In other words, prospective teachers' ability to show skills in the fields of Scholarly creativity, Mechanical / Scientific creativity, Performance creativity, Self/Everyday Creativity and Artistic Creativity depend on gender.

*Table 4.* Gender Differences according to KCAS-TF

Test Statistics	KCAS-TFavg.	Decision
Mann-Whitney U	P=.629	Retain the null hypothesis

*Significance level .05*

In order to assess the third hypothesis, the Spearman test was used to examine the results and to check the existence of any relationship between the CFTIS and KCAS-TF scales. Results of the Spearman test were given in *Table-5*. According to the results, the existence of the real relationship between both scales was confirmed. This means that, there is a relationship between pre-service teachers' teacher behaviour styles that support creativity and their areas of creativity. The

creativity of pre-service teachers who display teacher behaviours that support creativity also increases because the teaching process that supports creativity also positively affects the creativity of people.

Table 5. The Relationship between the CFTIS and KCAS-TF Scales

Correlations			CFTISavg.	KCAS-TFavg.
Spearman's rho	CFTISAVG	Correlation Coefficient	1.000	.303**
		Sig. (2-tailed)	.	.001
		N	110	110
	KCAS-TFAVG	Correlation Coefficient	.303**	1.000
		Sig. (2-tailed)	.001	.
		N	110	110

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

In order to assess the fourth hypothesis, the regression was used to obtain results between pre-service teachers' creativity, teacher behaviours and teaching styles supporting creativity. Analysis results were given in Table 6. The results shows that, there is a positive moderate correlation over the dependent variable from the independent variable ( $F=.000 < .05$ ). This means that, sixteen percent (40%) of the creativity of pre-service teachers was determined by teacher behaviours indicates the teaching styles that support creativity. In other words, the styles of pre-service teachers, teaching creativity and making it a form of behaviour by reinforcing it, have a moderate positive effect on their creativity level.

Table 6. Pre-service teachers' creativity, teacher behaviours and teaching styles supporting creativity.

Coefficients								
Model Summary B		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	R Square	F
		Std. Error	Beta					
1	(Constant)	1.520	.448		3.395	.001	.400	.000
	CFTISAVG	.470	.104	.400	4.533	.000		

a. Dependent Variable: KCAS-TFAVG

Table 7 shows the regression results between teacher behaviours and teaching styles supporting creativity of pre-service teachers' creativity and creativity types depending on gender. The results show that, there is no correlation over the overall regression model from independent variables ( $F=.237>.05$ ). This means that, creativity of pre-service teachers depending on their genders was not determined by teacher behaviours and teaching styles that support creativity and this does not affect their creativity type.

Table 7. The regression between pre-service teacher behaviours and teaching styles supporting creativity and creativity types depending on gender

Coefficients								
Model Summary B		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	R Square	F
		Std. Error	Beta					
1	(Constant)	1.725	.440		3.918	.000	.163	.237
	CFTISAVG	-.176	.106	-.173	-1.661	.100		
	KCAS-TFAVG	.093	.090	.108	1.034	.304		

a. Dependent Variable: Gender

## Discussion

According to the further findings, it was observed that the music pre-service teachers who supported creativity encouraged scholarly creativity in the Kaufman scale (.418). Teachers with different teaching styles have positive effect on the students' thinking and learning problems differently, and their scholarly creativity. In their study, Abramo and Reynolds (2015) suggest that creative pedagogues (a) are sensitive, flexible and improvised; (b) comfortable with uncertainty; (c) to think metaphorically and side by side with seemingly incompatible and new ideas in new and interesting ways; and (d) adopting and using fluent and flexible identities. The article provides possible strategies that music teacher trainers, pre-service and in-service educators can use to help develop the trends and core practices of creative music pedagogues.

When we look at the effect of the gender over academic creativity, we observe that there is no correlation between dependent variable, gender, and the scholarly creativity. According to Baer and Kaufman (2008), gender differences in creativity, including creativity test scores, creative achievements, and self-reported creativity, are reviewed as the theories presented to explain any differences, and offer evidence supporting or refuting these theories. However, it is a problematic field to research, but consistent gender difference lack not only in creativity test scores but also

creative achievement of males and females. As a result, it is difficult to show how innate gender differences in creativity could possibly explain subsequent differences in creative achievement. At the same time, the huge difference in the creative achievements of females and males in many areas makes comprehensive environmental explanations inadequate and the explanations proposed so far are incomplete at best. That is why, Kaufman proposed a new theoretical framework (APT creativity model) to be implemented to better understand what is known about gender differences in creativity.

At the same time, when we checked the effect for Mechanical / Scientific creativity, it is clear that there is no effect between teachers supported creativity encouraged mechanical creativity in the Kaufman scale. However, there is a positive (.261) correlation with the teaching style of the teachers with the gender variable. This tells us that, there is no relationship between the teaching style of the music teachers to the students in terms of mechanical / scientific creativity because they are foreseen as different fields of studies and it is expected, however, it is not the case when we checked the model with gender variable. Also, in their study, Mullet et al. (2016) revealed that although teachers value creativity, their understanding of creativity is not informed by theory and research on creativity. Teachers feel unprepared to promote or define creativity in their classroom; they identify creativity with art; personal and cultural beliefs affect their perceptions of creativity and creative students and supported by Runco's research (2006). The implications for future research point to the need for qualitative research that seeks to deeply understand teachers' perceptions of creativity, as they relate to both classroom context, teachers' educational and training backgrounds, and the general discourse of creativity in education.

When we look at the artistic performance creativity of the teachers we observe that there is a positive (.402) correlation with their teaching styles but this is not the case with the gender variable. This means that, as teaching style of the teachers' motivation of the students are creative in terms of artistic performance creativity of the Kaufman scale in general but it's not correlated according to the gender variable. This was an expected result since music area is highly intensive in the artistic performance creativity. Furthermore, correlation analysis results of the self / everyday creativity (.433) have positive correlation with the teaching style of the teachers, however, it is not the case when we look at the correlation by considering gender. So, Ryoo, & Park (2018) conducted a study on creativity and stated that pre-service teachers' appreciation of art, their attitudes towards science, and their acceptance of technology have a significant effect on their creative convergence competencies. In particular, their attitude towards science had the greatest impact on creative convergence competence.

It should also be noted that if a domain-specific method is implemented to analyse creativity, one significant query is to determine the key areas to measure. One method is to check common perceptions of creativity. Based on past studies using self-report questionnaires, another research in which the Kaufman Domains

of Creativity Scale was used, it was found out that factor analysis of the 2,318 college student responses led to 50 items and 5 broad fields: Self / Diary, Scientific, Performance (covering writing and music), Mechanical / Scientific, and Artistic. The coefficient alpha and the fit coefficients were usually strong. Correlations between the 5 areas of creativity and the Big Five personality factors were consistent with past research and gave evidence of convergent validity (Kaufman, 2012).

These results indicate that, teachers support and direct their students to be creative which affects their self and everyday creativity but this is not the case for the gender variable, means that it's not correlated and affect the creativity of the male and female teachers. Finally, there is no relationship between the responses given by the teachers with different teaching styles to the CFTIS scale which measures students' thinking and learning problems differently, and their creativity in the field of artistic creativity. Creativity in education continues to be misunderstood by the general public, and implicit beliefs keep on including popular culture. Therefore, it potentially affects the efforts to put creativity into the 21st century classroom when it is needed most. Therefore, we ask whether pre-service teachers approve of such creativity, the results can be disappointing like in some other studies. Another study found a lower-than-expected trend towards Art Bias among teachers from over seven countries. However, differences in discipline and level of self-assessing creativity suggest specific ways to enhance efforts to embed creativity in the classroom (Patston et al., 2018). According to the findings, it was observed that the music pre-service teachers who support their students to be creative does not reflected any correlation to the Kaufman scale and this is the case for the gender variable also.

## **Conclusion**

When the general findings were summarised, it is important to note that having creativity as a skill for music pre-service teachers is a vital necessity. It is essential for them, especially skills related with their subject areas, to have creativity through their studies are required. Those teachers who are educated with that skill and adopt it to their rest of the issues are possibly be successful in their future. Music teachers teaching skills will show their abilities to be creative in the future. Existence of positive and significant correlations with most of the sub-components of the teaching style with the creative level give us a guide to shape the abilities of the pre-service teachers to be more creative and raise the level of relationship with teaching style of them and their creativeness.

## Recommendations

Access to all kinds of general literature on creativity gives pre-service teachers a key role in determining creativity, while they focus more on organization, limited attention to complexity, a case study including creative classes is recommended to collect more information about creativity in music education. Also, two classes can be implemented to compare the results.

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