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Examination of Relationships Between Creative Thinking Dispositions, Psychological Flexibility and Self-Compassion Levels of Special Education Teacher Candidates

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ABSTRACT

This study aims to examine the relationship between the creative thinking dispositions, psychological flexibility, and self-compassion levels of special education teacher candidates. This research was designed using a correlational model, one of the quantitative research methods. The study group was selected using criterion sampling and consisted of a total of 480 students, including 337 female (70.2%) and 143 male (29.8%) undergraduate students from the Special Education Department. Data were collected using the "Marmara Creative Thinking Dispositions Scale," the "Acceptance and Action Questionnaire-II," the "Self-Compassion Scale," and a "Personal Information Form." Descriptive statistics, t-tests, ANOVA, Pearson correlation coefficient, and hierarchical regression analysis were used in data analysis. As a result of this research, it was concluded that the creative thinking dispositions of pre-service special education teachers did not differ significantly according to gender (t_{478}=621, p>.05) and the creative thinking dispositions of pre-service special education teachers differed significantly according to grade level (F_{3-476}=9,845, <05). According to the results of the Tukey test, the scores of 1st-grade undergraduate students ($\bar{x}$=100.28) are statistically significantly higher than the scores of 2nd-grade ($\bar{x}$=93.83), 3rd-grade ($\bar{x}$=91.50) and 4th-grade ($\bar{x}$=95.24) students. A statistically significant relationship was obtained between the creative thinking dispositions of pre-service special education teachers and their psychological flexibility (r=.233, p<.01) at a low level in a positive direction and with their self-compassion scores (r=.465, p<.01) at a moderate level in a positive direction. The results show that it is important to increase the psychological flexibility and self-understanding levels of pre-service special education teachers to improve their creative thinking tendencies. In this direction, it is recommended to design training programs that contribute to the teacher training processes in the field of special education and support the creative thinking skills of the candidates.

Özel Eğitim Öğretmen Adaylarının Yaratıcı Düşünme Eğilimleri ile Psikolojik Esneklik ve Öz-Anlayış Düzeyleri Arasındaki İlişkinin İncelenmesi

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ÖZET

Bu çalışmanın amacı özel eğitim öğretmen adaylarının yaratıcı düşünme eğilimi ile psikolojik esneklik ve öz-anlayış düzeyleri arasındaki ilişkinin incelenmesidir. Bu araştırmanın yöntemi nicel araştırma yöntemlerinden ilişkisel tarama modeli ile desenlenmiştir. Araştırmanın çalışma grubu ölçüt örnekleme yöntemi ile seçilmiştir. Araştırmanın çalışma grubunu özel eğitim bölümünde lisans öğrencisi olan 337 kız (%70,2) ve 143 (%29,8) erkek olmak üzere toplam 480 öğrenci oluşturmaktadır. Veri toplama araçları olarak "Marmara Yaratıcı Düşünme Eğilimleri Ölçeği", "Kabul ve Eylem Formu-II", "Öz-Anlayış Ölçeği" ve "Kişisel Bilgi Formu" kullanılmıştır. Verilerin analizinde betimsel istatistikler, t-testi, ANOVA ve pearson korelasyon katsayısı ve hiyerarşik regresyon analizi kullanılmıştır. Bu araştırmanın sonucunda, özel eğitim öğretmen adaylarının yaratıcı düşünme eğilimleri cinsiyete göre anlamlı düzeyde farklılaşmadığı (t_{478} =621, p>.05) ve özel eğitim öğretmen adaylarının yaratıcı düşünme eğilimleri sınıf düzeyine göre anlamlı şekilde farklılaştığı sonucu elde edilmiştir (F_{3-476} =9,845, <05). Yapılan Tukey testi sonucuna göre 1. sınıf lisans öğrencilerinin puanları ($\bar{x}$=100.28) 2. sınıf ($\bar{x}$=93.83), 3.sınıf ($\bar{x}$=91,50) ve 4. sınıf ($\bar{x}$=95,24) öğrencilerin puanlarından istatistiksel olarak anlamlı düzeyde daha yüksektir. Özel eğitim öğretmen adaylarının yaratıcı düşünme eğilimleri ile psikolojik esneklikleri arasında (r=.233, p<.01) pozitif yönde düşük düzeyde ve öz anlayış puanları ile (r=.465, p<.01) pozitif yönde orta düzeyde anlamlı bir ilişki elde edilmiştir. Yapılan hiyerarşik regresyon analizi sonucunda ise psikolojik esneklik ve öz anlayış puanlarının yaratıcı düşünme eğilimlerini anlamlı düzeyde yordadığı bulgusu elde edilmiştir. Bu araştırmada elde edilen bulgular, özel eğitim öğretmen adaylarının yaratıcı düşünme eğilimlerini geliştirmek için psikolojik esneklik ve öz anlayış düzeylerinin artırılmasının önemli olduğunu göstermektedir. Bu doğrultuda, özel eğitim alanında öğretmen yetiştirme süreçlerine katkı sağlayacak, adayların yaratıcı düşünme becerilerini destekleyecek eğitim programlarının tasarlanması önerilmektedir.

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INTRODUCTION

As the monotonous way of thinking is not useful against the structural developments of knowledge, it is seen that it has become a necessity for people to broaden their perspectives, make connections, and use analysis and synthesis, which are high-level thinking skills, more frequently. Creative thinking is expressed as one of the high-level thinking skills included in this obligation (Karakuyu, 2023). Creative thinking skill is an important skill to adapt to the advancement of technology and changes in living conditions (Ülger, 2014). Creative thinking is defined as the ability to be different from other people in terms of the connection between the information in our minds, the fact that the idea or a concrete material we will produce is new and has not been studied before, and the ability to go beyond the patterns in the solutions we will offer to the problems we face (Ayden & İşguzar, 2006). In other words, creative thinking is defined as the ability of an individual to come up with new ideas and products by using the knowledge and skills they possess (Isbell & Raines, 2003). It is important that education supports individuals to use their creative thinking potential to adapt to social change. Although creativity is innate, it atrophies when it is not developed and needs to be constantly supported (Doğan, 2020). In today's information age, it is important for individuals to be productive with creative thinking skills and it is stated that teachers have a great responsibility in this process (Durnacı & Ültay, 2020). Creative thinking skills enable individuals to be open to innovations and different ideas, to cope with uncertainties and to produce creative solutions by supporting psychological flexibility (Kashdan & Rottenberg, 2010).

They state that psychological flexibility supports the individual to be open to innovations and different ideas, to cope with uncertainties, and to produce creative solutions (Carpenter, 2018). Psychological flexibility is one of the most important concepts in Acceptance and Commitment Therapy (Bond et al., 2011). Acceptance and Commitment Therapy is a process-based therapy (Hayes et al., 2019). Psychological flexibility is the conscious awareness of the present moment and being in contact with this moment, and it is expressed as the unconditional awareness of the thoughts or feelings of the individual now he/she is experiencing (Luoma et al., 2010). Acceptance and Commitment Therapy tries to achieve psychological flexibility by applying six basic concepts. These basic concepts that constitute psychological resilience are acceptance, being in the moment, cognitive dissociation, contextual self-values and living in line with values. All these concepts are interrelated and work in cooperation (Hayes et al., 2010). For an individual with a high level of psychological flexibility, the desire for diversity and change is experienced as an active process and evaluated as a positive experience (Ben-Itzhak et al., 2014). Psychological flexibility is an individual's ability to cope with stressful situations, accept their current emotional states and make effective decisions in line with their personal values (Hayes et al., 2011). This feature may enable prospective special education teachers to use more creative and effective methods in meeting the diverse and challenging needs of their students.

Special education teachers often face emotionally and physically challenging situations. Tasks such as understanding students' individual differences, dealing with behavioral problems and preparing individualized education plans require teachers' psychological resilience and flexibility (Bond et al., 2011). Psychological flexibility can help protect teachers from burnout due to workload and stress in this process. Therefore, it is important to train prospective special education teachers as teachers with high levels of psychological flexibility. Thanks to their psychological flexibility, pre-service special education teachers can establish stronger communication with students, develop more creative approaches in problem-solving processes, and cope with difficulties in their professional lives. Hayes et al. (2019) state that teachers with high psychological flexibility contribute more to the social and emotional development of their students. It is stated that having the psychological flexibility skills of special education teacher candidates is important for their self-compassion skills (Koçak et al., 2023).

Self-compassion refers to the individual's ability to feel his/her pain, to meet this pain openly, not to run away from it, and to gain the ability to alleviate his/her pain by being kind to himself/herself and to heal himself/herself (Neff, 2003a). When individuals with high self-compassion feel inadequate, they can protect themselves against the anxiety they will experience about self-evaluation (Deniz & Sümer, 2010). Individuals with self-compassion recognize their flaws and motivate themselves to perform functional and useful actions without self-criticism (Neff, 2003b). The development of the concept of self-compassion in individuals prevents individuals from being overly destructive and critical and allows them to see their ties with other individuals more easily and to approach their own emotions more objectively (Gökmen & Deniz, 2020). Teachers with self-compassion can develop a supportive attitude instead of criticizing themselves when dealing with the challenges they face. This enables them to both protect themselves from emotional burnout and maintain their professional motivation (Neff & Germer, 2013).

Individuals with high levels of self-compassion can sustain creative thinking more comfortably because they are less afraid of making mistakes, are more open to taking risks and tend to explore their own thoughts without judgment (Zabelina & Robinson, 2010). Cognitive flexibility, which is one of the basic components of creative thinking, is supported by the emotional balance provided by self-comprehension (Kaufman & Beghetto, 2009). In addition, self-compassion facilitates coping with negative emotions that may arise in creative processes by strengthening the individual's emotional regulation skills (Neff & Germer, 2013). Teachers of special education often face intense emotional demands and stressful situations. Tasks such as behavioral problems, preparation of individualized education plans, and effective communication with families are a daily part of this profession. A high level of self-compassion in pre-service special education teachers will support their ability to cope with the challenges they may face in their professional lives and to be more patient and understanding towards their students.

Training qualified special education teachers is very important for the education of individuals with special needs (Sarı, 2003). It is of great importance for prospective special education teachers to have high creative thinking dispositions to develop their students' creative thinking skills and to be a positive role model for them in their professional lives (Kaynar & Kurnaz, 2024). Special education environments are classroom environments where diversity and different learning needs are experienced intensively. For this reason, teachers should be able to develop flexible, original and solution-oriented approaches that can go beyond traditional methods (Runco & Acar, 2012). Creative thinking skills are of great importance in terms of developing strategies appropriate to the individual needs of individuals with special needs and trying alternative teaching methods (Craft, 2005). Special education teachers often face an intense emotional burden, limited resources and unexpected situations. Psychologically flexible teachers can both reduce their own burnout risks and provide a more supportive learning environment for students (Biglan et al., 2012). Self-compassion is a protective factor for teachers in terms of coping with their own mistakes, developing emotional resilience and protecting their professional selves (Neff & Germer, 2013). Especially in emotionally challenging fields such as special education, teachers' self-compassion increases their compassion and patience towards students (Jennings & Greenberg, 2009).

It is thought that teachers' high creative thinking skills will contribute to revealing the individual potential of students with special needs and developing innovative solutions to problems. While special education teacher candidates can reveal the individual potential of their students by using their creative thinking skills, they can also manage the difficulties they face in this process thanks to their psychological flexibility. A high level of self-compassion will support pre-service special education teachers to cope with the difficulties they may encounter in their professional lives and to be more patient and understanding towards their students. This study aims to examine the relationship between the

creative thinking tendencies of pre-service special education teachers and their psychological flexibility and self-compassion levels. For this purpose, it will be examined whether the creative thinking dispositions of pre-service special education teachers differ according to gender and grade level. In addition, the relationships between creative thinking dispositions and psychological flexibility and self-compassion will be investigated.

METHOD

This section includes the research model, study group, data collection tools, and data analysis.

Research Model: In this study, the relational research model, one of the quantitative research methods, was used. The correlational model aims to determine the type of relationship between the variables examined or the extent to which the types exist (Sönmez & Alacapınar, 2019). The correlational survey model does not give a real cause and effect relationship, but it allows the prediction of the other variable by knowing the situation in one variable (Karasar, 2006). In this study, the relational survey model was used because it aimed to examine the relationships between the creative thinking dispositions of pre-service special education teachers and their psychological flexibility and self-compassion levels. The dependent variable of the study was determined as creative thinking dispositions, and the independent variables were psychological flexibility and self-compassion.

Study Group of the Research: The study group of the research consists of prospective special education teachers studying in the special education undergraduate program. The criterion sampling method was used to determine the study group. In the criterion sampling method, the group that will provide the best information to achieve the objectives of the study is selected as the study group and the criteria that the group should have been determined in advance (Atak, 2011). In this study, the criterion was determined as prospective special education teachers studying in the Special Education Undergraduate Program. Participants were asked to fill out the scales voluntarily. Analyses were carried out on 480 data formed by the participants who met the criteria. The study group of the research consists of prospective special education teachers between the ages of 18-35 ($\bar{x}$ =25.22, ss=6.96). Table 1 shows information about the personal information form of the study group.

Table 1
Characteristics of the Personal Information Form

Variable	Category	f	%
Gender	Female	337	%70,2
	Male	143	%29,8
Grade Level	First grade	186	%38,8
	Second grade	104	%21,7
	Third grade	109	%22,7
	Four grade	81	%16,9

Data Collection Tools: Data were collected using the *Marmara Creative Thinking Dispositions Scale*, the *Acceptance and Action Questionnaire-II*, the *Self-Compassion Scale*, and a *Personal Information Form*.

Marmara Creative Thinking Dispositions Scale: The scale was developed by Özgenel and Çetin (2017). It is a 5-point Likert-type scale (1=Never, 5=Always). There are no reverse items in the scale. The scale consists of 25 items and 6 sub-dimensions. Item factor loadings ranged between .42 and .79. These sub-dimensions are named “novelty seeking”, “courage”, “self-discipline”, “curiosity”, “doubt” and “flexibility”. Cronbach's Alpha overall reliability coefficient for the total score of the scale was calculated as 0.87. For the current study, Cronbach's alpha value was calculated as .94.

Acceptance and Action Form II: The scale developed by Bond et al. (2011) was adapted to Turkish culture by Yavuz et al. (2016). The scale consists of 7 items and is a 7-point Likert type. The one-factor structure explained 51.76% of the total variance. Confirmatory factor analysis showed that the revised model of the 7-item and single-factor structure of the scale provided a good fit [RMSEA (0.079), SRMR (0.0210), CFI (0.971), GFI (0.972), NFI (0.961)]. Cronbach's alpha internal consistency reliability coefficient for the total score of the scale was calculated as .84. For the current study, Cronbach's alpha value was calculated as .89.

Self-Compassion Scale: The scale developed by Neff (2003) was adapted to Turkish culture by Deniz et al. (2008). It consists of 24 items and does not include any reverse items Item factor loadings ranged between .41 and .71. The increase in the scores obtained from the scale indicates that the individual's self-compassion level increases. Cronbach's alpha value of the scale was calculated as .89. For the current study, Cronbach's alpha value was calculated as .92.

Personal Information Form: It was prepared by the researchers to determine the demographic information of the prospective special education teachers such as gender, age, grade level, and whether they willingly chose the special education teaching program.

Data Analysis: The participants were first informed that the study would be conducted by considering the principle of confidentiality and that it was based on the principles of volunteerism. Data was collected from the participants who agreed to participate in the study in line with the information provided. The data collection process of the study was conducted face-to-face. It took approximately 20-25 minutes for the participants to fill in the scale form. In data analysis, descriptive statistics, independent sample t-test, ANOVA test, Pearson product-moment correlation and hierarchical regression analysis were used to have general information about the scales and participants.

FINDINGS

This section presents the findings obtained in the research.

Table 2

Descriptive Statistics of Variables

Scale	N	x̄	ss	Skewness	Kurtosis	α
Creative Thinking Dispositions	480	96.04	.67	-.218	-.065	.94
Psychological Flexibility	480	32.58	.43	-.463	-.246	.89
Self-Compassion	480	76.33	.69	.071	.474	.92

As Table 2 points out, the data set shows normal distribution characteristics since the Skewness and Kurtosis scores of creative thinking dispositions, psychological flexibility, and self-compassion scales are within the range of ±1.0 (Hair et al., 2010). Since the Cronbach's alpha (α) reliability coefficient calculated to examine the reliability of the scale scores was above .70 for the creative thinking dispositions, psychological flexibility, and self-compassion scales, it was concluded that the measurement tools were reliable (Büyüköztürk, 2018).

Table 3

t-Test Results Regarding the Differentiation of Creative Thinking Dispositions According to Gender

Scale	Variable	Category	N	x̄	ss	t	p
Creative Thinking Dispositions	Gender	Female	337	96.31	.78	.621	.535
		Male	143	95.39	1.30		

Evidence from Table 3 suggests that the creative thinking dispositions scores of pre-service special education teachers did not differ significantly according to gender (t_{478}=.621, p>.05).

Table 4

ANOVA Test Results Regarding the Differentiation of Creative Thinking Dispositions According to Grade Level

	Grade Level	n	x̄	ss	F	p	η2	Relation (Tukey)
Creative Thinking Dispositions	1st grade	186	100.28	1.13	9.845	.000**	.058	1>2
	2nd grade	104	93.83	1.32				1>3
	3rd grade	109	91.50	1.24				1>4
	4th grade	81	95.24	1.65				

**p<.05, **p<.01, 1=First grade, 2=Second grade, 3=Third grade, 4=Four grade*

Table 4 demonstrates that creative thinking dispositions scores of pre-service special education teachers differ significantly according to the grade level (F_{3-476}=9.845, p<.01). Since the variances were homogeneously distributed, Tukey test was used to investigate the source of differentiation. According to the result of the Tukey test, which was used because the variances were homogeneously distributed when looking at the source of differentiation, the scores of first-grade undergraduate students (x̄=100.28) are statistically significantly higher than the scores of second grade (x̄=93.83), 3rd grade (x̄=91.50), and 4th grade (x̄=95.24) students. The effect size (n^2=.058) was found to be at a high level when examining the effect size of the difference between the scores (Büyüköztürk, 2018).

Table 5

Pearson Correlation Analysis Results between Variables

	Creative Thinking Dispositions
Psychological Flexibility	.233**
Self-Compassion	.465**

**p<.05, **p<.01*

When Table 5 is examined, a positive low-level significant relationship was obtained between creative thinking dispositions and psychological flexibility levels of pre-service special education teachers (r=.233, p<.01). A moderate positive relationship was obtained between creative thinking dispositions and self-compassion scores (r=.465, p<.01). Cohen's q, which allows us to interpret the difference between two correlations, was calculated as 0.266. There is a low-level effect (Cohen, 1998).

Table 6

Hierarchical Regression Analysis on the Prediction of Creative Thinking Dispositions

Model		B	SE	β	t	p	Tolerance	VIF
1	Constant	84.196	2.360		35.678	.000		
	Psychological Flexibility	.364	.070	.233	5.228	.000	1.000	1.000
Model 1: R^2=.05								
2	Constant	61.963	3.077		20.141	.000		
	Psychological Flexibility	-.123	.080	-.078	-1.452	.124	.632	1.582
	Self-Compassion	.499	.049	.513	10.081	.000	.632	1.582
Model 2: R^2=.22, R^2 change=.17								

Durbin-Watson: 1.750, ***p<.001, **p<.01, *p<.05
Model 1: R=.23, R^2=.05, ΔR^2 =.05, $F_{1\text{-}478}$=27.333, p<.001
Model 2: R=.47, R^2=.22, ΔR^2 =.22, $F_{2\text{-}477}$=67.355, p<.001

The reason why hierarchical regression analysis was preferred in this study is that the additional contribution of each variable on the dependent variable can be evaluated by including the variables in the model in the order determined based on theory and literature (Tabachnick & Fidell, 2019). Thus, after determining the main effect of psychological flexibility, the explanatory power added by the self-compassion variable to the model was statistically tested. In Table 6, hierarchical regression analysis was performed to predict creative thinking disposition scores. To perform the regression analysis, the Tolerance value must be greater than .20 (Cleophas & Zwinderman, 2015), and the VIF value must be less than 5, addressing that the Tolerance and VIF values are within the appropriate ranges. If the Durbin Watson value is between 1.5 and 2.5, it is assumed that there is no autocorrelation, and the independence required for regression is met (Tabachnick & Fidell, 2019). The results presented in Table 6 shows that the Durbin Watson value is in the appropriate range. In hierarchical regression analysis, the order of adding the independent variables to the model was determined by considering the theoretical basis (Jeong & Jung, 2016). Psychological flexibility scores were added in Model 1, and self-comprehension scores were added in Model 2. The creative thinking disposition scores suggest that the contribution of the psychological flexibility variable entered in model 1 to the model is significant (R=.23, R^2=.05, ΔR^2 =.05, $F_{1\text{-}478}$=27.333, p<.001). In Model 2, with the addition of the self-compassion variable, R^2=.22 was calculated with an increase of .017, and it was concluded that creative thinking dispositions were predicted in Model 2 (R=.47, R^2=.22, ΔR^2 =.22, $F_{2\text{-}477}$=67.355, p<.001). When the related beta values were analyzed. The analysis of the beta values indicates self-compassion as the strongest predictor (β=.513, p<.001) followed by psychological flexibility (β=.233, p<.001). Psychological flexibility and self-compassion scores explained 22% of the total variance in creative thinking disposition scores (R^2=.22).

DISCUSSION

Special education teachers need the ability to develop individualized education plans, create innovative problem-solving strategies, and generate solutions appropriate to the diverse needs of their students. Psychological flexibility, which refers to an individual's ability to cope with stress and maintain emotional balance, and self-compassion, which refers to the capacity to offer compassion and support to oneself, have a strong impact on the development of creative thinking skills (Hayes et al., 2011; Neff, 2003a). Examining the relationship between creative thinking dispositions, psychological flexibility, and self-compassion levels of pre-service special education teachers is of critical importance for the professional success and sustainability of these candidates.

The findings demonstrated that the scores of creative thinking dispositions of pre-service special education teachers did not differ significantly according to gender. The existing literature shows similar results, for instance, Karaçelik (2022) examined the creative thinking dispositions of pre-service preschool teachers and found that creative thinking dispositions did not differ significantly according to gender. Durnacı and Ültay's (2020) study on pre-service classroom teachers established that the mean scores of the creative thinking scale did not differ according to the gender variable. Yılmaz and Güven (2019) found that there was no significant difference between creative thinking dispositions and gender in pre-service preschool teachers' results. Similarly, in Toyran (2015), gender did not have a significant effect on creative thinking disposition in pre-service teachers. When the literature was examined, no study was found in which the creative thinking skills of pre-service special education teachers were examined according to gender. It is seen that the findings obtained in the studies conducted with different branch teacher candidates are consistent with the findings obtained in this study. Baer and Kaufman

(2008) noted that creative thinking skills can be affected by gender roles, but this effect does not directly determine the creativity level of the individual. It is stated that the creative thinking skills of the individual are mostly affected by educational and environmental factors. Craft (2005) pointed out that since special education teaching requires the ability to develop innovative methods and apply individualized approaches, creative thinking dispositions in this field should be at similar levels regardless of gender. Nussbaum (2011) emphasizes that the opportunities offered to individuals and a supportive educational environment are critical in the development of creative thinking skills. Therefore, it is thought that the creative thinking dispositions of special education teacher candidates do not differ according to gender can be evaluated as a reflection of an egalitarian educational approach.

The results of the present study corroborated that the creative thinking disposition scores of special education teacher candidates were statistically significantly higher in first-year undergraduate students than in second-year, third year, and fourth-year students. Zeytun's (2010) study conducted with pre-school teacher candidates revealed that the creativity scores of second-year students were higher than those of students in other grades. In contrast to this finding of this study, Durnacı and Ültay (2020) investigated the creative thinking scores of teacher candidates and the grade level variable and found thatthe creative thinking score averages of third and fourth-grade teacher candidates were higher than those of first grade. In the study conducted by Karaçelik (2022) examining the creative thinking tendencies of preschool teacher candidates, it was concluded that creative thinking tendencies did not differ significantly according to grade level. According to the data obtained in the study conducted by Karakuyu (2023), there was no significant difference between the creative thinking disposition of teacher candidates and their class levels. Yılmaz and Güven's (2019) seminal work on preschool teacher candidates pinpointed the lack of significant difference between creative thinking disposition and class levels. When the literature was examined, no study was found that examined the creative thinking skills of special education teacher candidates according to their class levels. The findings obtained in studies conducted with different branch teacher candidates are consistent and opposite to the findings in this study. The existing literature documents that there are no consistent findings regarding the effect of grade level on the creative thinking disposition of teacher candidates. This findings shows that creative thinking disposition can be affected by various factors over time and can differ during the education process. Creative thinking dispositions are also related to the level of curiosity and openness to new experiences of individuals (Amabile, 1996). First-year students can generally exhibit more curiosity and desire to explore at the beginning of undergraduate education, and therefore, their creative thinking disposition can be higher. The decrease in creative thinking disposition at upper-grade levels may be due to factors such as intense academic load, exam stress, and professional concerns.

In other findings obtained in this study, a positive and significant relationship was obtained between the creative thinking dispositions of special education teacher candidates and their levels of psychological flexibility and self-compassion. It was also concluded that psychological flexibility and self-understanding predicted creative thinking dispositions, and the most difficult predictor was self-compassion. When the literature is examined, a study conducted by Carpenter (2018) with university students and a study conducted by Kashdan and Rottenberg (2010) revealed a positive relationship between creative thinking and psychological flexibility. Hussein (2024) on special education teachers found that there was an indirect positive relationship between creative thinking tendencies of special education teachers and psychological flexibility. They state that psychological flexibility supports the individual to be open to innovations and different ideas, to cope with uncertainties, and to produce creative solutions (Carpenter, 2018). However, it is seen that there is a very limited number of studies related to these findings in the literature. While special education teacher candidates can reveal the individual potential of their students by using their creative thinking skills, they can manage the difficulties they encounter in this process thanks to their psychological flexibility.

Self-compassion is defined as the individual developing a compassionate and supportive attitude toward himself/herself and learning from experiences rather than judging himself/herself in the face of failures or mistakes (Neff, 2003a). Self-compassion makes it easier for individuals to be open to new ideas and express their creativity. Individuals with self-compassion do not hesitate to take risks by accepting their mistakes and trying different ways of thinking. This supports creative thinking processes and increases the individual's capacity to produce original solutions (Neff & Germer, 2013). Previous studies highlight that self-compassion contributes positively to creative thinking processes by increasing the psychological flexibility and problem-solving skills of individuals (e.g., Karwowski & Lebuda, 2016). Special education teacher candidates need high levels of creative thinking dispositions to develop innovative educational methods suitable for the needs of their students and to cope with the difficulties they encounter. In this context, the fact that self-compassion strongly predicts creative thinking dispositions is important for both the personal and professional development of special education teacher candidates. The positive relationship between the creative thinking dispositions of special education teacher candidates and their self-compassion levels reveals the importance of self-compassion in developing creative thinking dispositions.

This study presents a multidimensional analysis specific to pre-service special education teachers by addressing individual variables such as creative thinking, psychological flexibility and self-comprehension in the same model; in this respect, it differs from similar studies in literature and is thought to make a unique contribution to the teacher education literature. The findings presented in this study show that increasing the levels of psychological flexibility and self-compassion is important for the development of creative thinking dispositions of special education teacher candidates. It emphasized the positive relationships between creative thinking dispositions of special education teacher candidates and psychological flexibility and self-compassion, and it is seen that these relationships are important for both individual and professional development. Supporting the self-compassion and psychological flexibility skills of special education teacher candidates and supporting creative thinking dispositions sustainably at every stage of the education process are important for students to realize their potential.

CONCLUSION

The results obtained in this research are presented below.

- The creative thinking disposition scores of special education teacher candidates do not differ according to gender.
- The creative thinking disposition scores of special education teacher candidates differ significantly according to the grade level and are statistically significantly higher for 1st-year undergraduate students than for 2nd, 3rd, and 4th-year students.
- A positive and significant relationship was found between the creative thinking dispositions of special education teacher candidates and their psychological flexibility and self-compassion levels.
- It was concluded that psychological flexibility and self-compassion predicted creative thinking dispositions, and the most difficult predictor was self-compassion.

SUGGESTIONS

The suggestions developed regarding the results obtained in this research are presented below.

- Qualitative studies can be conducted on the creative thinking disposition of special education teacher candidates.
- Psychoeducation can be organized to develop a creative thinking disposition and ensure that teacher candidates recognize and use these skills.
- Training can be organized to increase the self-compassion and psychological flexibility levels of

teacher candidates; to help them manage the stress and anxiety they are likely to encounter during the education and training process, to stay in the moment, and to accept the emotions that cause them sadness.

- When the literature was examined, no special education teacher candidates or special education teachers were found as a study group in the concepts of creative thinking disposition, self-compassion, and psychological flexibility. Examining these variables related to special education teachers or teacher candidates with different study groups and different variables will contribute significantly to the literature.
- Future studies can examine the effects of self-compassion and psychological flexibility on creative thinking disposition in different professional groups and cultural contexts.

Ethical Statement

This research was presented as an oral presentation at VII. International Teacher Education and Accreditation Congress organized by Bursa Uludağ University on 18-20 October 2024 and it was published as an abstract paper in the congress abstract book.

Ethics Committee Approval

19/04/2024 dated and numbered 2024/330 was given by Necmettin Erbakan University, social and human sciences ethics committee.

Author Contributions

Research Design (Credit 1) Author 1 (%30) – Author 2 (%70)

Data Collection (Credit 2) Author 1 (%70 – Author 2 (%30)

Research - Data analysis - Validation (Credit 3-4-6-11) Author 1 (%30) – Author 2 (%70)

Writing the Article (Credit 12-13) Author 1 (%60) – Author 2 (%40)

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Conflict of Interest

There is no conflict of interest in this study.

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