Research Article

THE MEDIATING ROLE OF COGNITIVE FLEXIBILITY IN THE RELATIONSHIP BETWEEN ALTRUISM AND MORAL VALUES OF CHILD DEVELOPMENT STUDENTS

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Abstract

Aim: The aim of this study is to examine the mediating role of cognitive flexibility in the relationship between university students moral values and altruism. In this context, the effects of "alternative" and "control" variables, which are sub-dimensions of cognitive flexibility, on this relationship were evaluated. Altruism, moral values, and cognitive flexibility play an important role in individuals' social and ethical decisions. This research aims to contribute to the professional development of child development students by examining these characteristics. The limited number of studies on the relationship between these three concepts in the literature increases the importance of this research.

Method: The research is a quantitative study based on the relational survey model and the sample group consisted 370 child development undergraduate students. Data were collected using the Altruism Scale, Moral Values Scale and Cognitive Flexibility Inventory. Pearson Correlation Analysis and mediation analysis through Process Macro were used in the analysis.

Findings: The results of the analysis showed a strong positive relationship between altruism and moral values. It was found that "alternative" thinking skills, one of the sub-dimensions of cognitive flexibility, played a partial mediating role in this relationship, while the "control" dimension did not play a significant mediating role. Alternative thinking skills were found to play a critical role in the development of moral values that support altruistic behaviors.

Conclusion: The mediating role of cognitive flexibility on altruism and moral values reveals that alternative thinking skills are especially important in this relationship. Future research is recommended to examine these relationships on larger sample groups and in cultural contexts. This study contributes to the literature on the effects of cognitive flexibility on social behavior.

Keywords: Altruism, Moral Values, Cognitive Flexibility, Alternative Thinking, Control, Mediation Analysis, University Students, Child Development.

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Manuscript Received: *21.09.2024*
Manuscript Accepted: *31.10.2024*

Manuscript information: Eyinç A., Tunç EN., Sezgin E. (2025). The Mediatıng Role Of Cognitive Flexibility In The Relatıonship Between Altruism And Moral Values Of Child Development Students, *Selçuk Sağlık Dergisi,* 6(1), 97-112. https://doi.org/10.70813/ssd.1553840

Çocuk Gelişimi Öğrencilerinin Özgecilik İle Ahlaki Değerleri Arasındaki İlişkide Bilişsel Esnekliklerinin Aracılık Rolü

ÖZ

Amaç: Bu araştırmanın amacı, üniversite öğrencilerinin ahlaki değerleri ile altruizm arasındaki ilişkide bilişsel esnekliğin aracı rolünü incelemektir. Bu bağlamda, bilişsel esnekliğin alt boyutları olan "alternatif" ve "kontrol" değişkenlerinin bu ilişkideki etkileri değerlendirilmiştir. Altruizm, ahlaki değerler ve bilişsel esneklik, bireylerin sosyal ve etik kararlarında önemli bir rol oynamaktadır. Araştırma, bu özelliklerin incelenmesi yoluyla çocuk gelişimi öğrencilerinin mesleki gelişimine katkı sağlamayı hedeflemektedir. Literatürde bu üç kavram arasındaki ilişkiye yönelik sınırlı sayıda çalışma bulunması, araştırmanın önemini artırmaktadır.

Yöntem: Araştırma, ilişkisel tarama modeline dayanan nicel bir çalışma olup, örneklem grubunu 370 çocuk gelişimi lisans öğrencisi oluşturmaktadır. Veriler, Altruizm Ölçeği, Ahlaki Değerler Ölçeği ve Bilişsel Esneklik Envanteri ile toplanmıştır. Analizlerde Pearson Korelasyon Analizi ve Process Macro ile aracılık analizi kullanılmıştır.

Bulgular: Analiz sonuçları, altruizm ile ahlaki değerler arasında güçlü bir pozitif ilişki olduğunu göstermiştir. Bilişsel esnekliğin alt boyutlarından biri olan "alternatif" düşünme becerisinin bu ilişkide kısmi aracı bir rol oynadığı, ancak "kontrol" boyutunun anlamlı bir aracılık rolü oynamadığı bulunmuştur. Alternatif düşünme becerisinin, altruistik davranışları destekleyen ahlaki değerlerin gelişiminde kritik bir rol oynadığı belirlenmiştir.

Sonuç: Bilişsel esnekliğin, altruizm ve ahlaki değerler üzerindeki aracı rolü, özellikle alternatif düşünme becerilerinin bu ilişkide önemli olduğunu ortaya koymaktadır. Gelecek araştırmalarda, bu ilişkilerin daha büyük örneklem gruplarında ve kültürel bağlamlarda incelenmesi önerilmektedir. Bu çalışma, bilişsel esnekliğin sosyal davranışlar üzerindeki etkilerine yönelik literatüre katkı sağlamaktadır.

Anahtar Kelimeler: Özgecilik, Ahlaki Değerler, Bilişsel Esneklik, Alternatif Düşünme, Kontrol, Aracılık Analizi, Üniversite Öğrencileri, Çocuk Gelişimi.

INTRODUCTİON

The moderating role of cognitive flexibility in the relationship between altruism and moral values of child development students is a highly relevant research topic in the fields of psychology and education. Understanding the relationships between altruism, moral values, and cognitive flexibility is crucial for exploring how individuals help others and make their moral decisions. The main objective of this research is to explain the concepts of altruism, moral values, and cognitive flexibility and to analyze their interactions with each other.

The origin of the word *altruism* comes from the Latin term *alter*, meaning "other." The concept was coined by Auguste Comte (1877) as the individual's desire to think about the well-being of others by prioritizing their needs over self-interest (Aydın, 2011). In some sources, *altruism* also appears as altruismus or altruismo. Altruism is closely associated with characteristics such as empathy, generosity, and a willingness to help others. An altruistic individual acts out of a desire to help others, without expecting anything in return and placing the interests of others above their own (Palaz & Boz, 2008).

Piliavin and Charng (1990) described altruism as "ignoring one's own wishes and needs while focusing on the well-being of others." This definition frames altruism as behavior motivated by intrinsic elements such as empathy and moral responsibility, rather than external rewards. According to Haynes (2002), altruism contrasts with selfishness, as the altruistic individual seeks the benefit of others. Meanwhile, Taylor, Peplau, and Sears (2000) emphasize that altruism involves the willingness to help without expecting any reward other than the satisfaction of improving others' well-being.

From a different perspective, Mater and Willower (1994) argue that altruism can vary based on social roles, gender, and occupation. Dubeski (2001) also highlights that altruism manifests differently depending on the individual's context, with university students demonstrating varying levels of altruism according to gender. Ummet (2012) revealed that female students tend to have higher altruism scores than males. Similarly, İşmen and Yıldız (2005) found that teacher candidates' altruism increased as their positive attitudes toward teaching grew, emphasizing the influence of professional identity and motivation.

Moral values guide an individual's behavior and foster harmony with social environments. They include concepts such as honesty, justice, responsibility, and benevolence (Güngör, 2010). These values enable individuals to act ethically within society. Kohlberg (1984) defines moral development as an individual's ability to understand and act on the principles of right and wrong. His theory explains moral development through various stages, focusing on how people internalize social rules and moral reasoning.

The influence of **moral values** on the behavior of individuals affects both individual morality and social order. As Güngör (2010) stated, moral values play a critical role in regulating social relations. Societies can survive in peace and harmony by ensuring that their members act in compliance with these values. Sarıçam and Biçer (2015) further revealed that moral values have a positive relationship with individuals' self-understanding and forgiveness behaviors. These findings demonstrate that moral values play a crucial role in individuals' social relationships and emotional processes.

Cognitive flexibility refers to an individual's ability to adapt to changing situations and think flexibly. This ability includes essential skills like problem-solving, understanding multiple perspectives, and emotional regulation. Martin and Rubin (1995) defined cognitive flexibility as the ability to see and apply various strategies for solving the problems encountered by an individual. Dennis and Vander Wal (2010) further explained that cognitive flexibility involves the capacity to mentally adapt to new situations, emphasizing the importance of this ability in diverse social and emotional contexts.

Cognitive flexibility is a skill that enhances an individual's capacity to cope with complex and unfamiliar situations. It allows individuals to respond effectively to social and emotional challenges they encounter. Specifically, cognitive flexibility plays a pivotal role in the implementation of altruistic behaviors and moral values. For example, an individual's decision to help someone in need is linked to their ability to empathize and their capability to understand multiple viewpoints. These cognitive processes directly influence how individuals make decisions and act on their moral reasoning.

Understanding the interactions among **cognitive flexibility, altruism, and moral values** is essential for recognizing the impact of cognitive processes on social behavior. Moral values, altruism, and cognitive flexibility do not function independently but interact dynamically to shape social and moral behavior. Altruism, for instance, relies on cognitive flexibility to interpret the needs of others and respond sensitively to those needs. This interaction highlights the importance of empathy and mental adaptability in social contexts.

In this regard, cognitive flexibility enhances an individual's ability to adjust to new social environments while aligning their behavior with moral values and altruistic intentions. This alignment influences not only the individual's willingness to help others but also how they apply their moral values in practice. Previous studies suggest that cognitive flexibility contributes to individuals' ability to manage social relationships effectively and maintain prosocial behavior (Ummet, 2012). However, limited research specifically examines the relationship between these psychological components and child development students.

This study aims to fill this gap by investigating the mediating role of **cognitive flexibility** between altruism and moral values among child development students. This research is significant because

understanding the interaction among these concepts may provide insights into how individuals engage with their social environments and guide their behavior. Additionally, this study seeks to address the lack of empirical data on this relationship, contributing valuable knowledge to the existing literature.

Child development specialists play a crucial role in shaping children's social, emotional, and cognitive development. In this context, personal characteristics such as altruism, moral values, and cognitive flexibility are essential for these specialists to make meaningful contributions to children's well-being. Improving the cognitive flexibility of these specialists enables them to adapt to various situations and offer flexible, personalized approaches to children's needs. As they develop these skills, child development specialists enhance their professional competence and foster positive social environments for the children they support.

Research Aim

The primary aim of this research is to analyze how moral values and cognitive flexibility affect the altruism levels of undergraduate students. Understanding these relationships will provide valuable insights into how personal characteristics and mental adaptability influence prosocial behaviors in child development students.

Research Questions

To achieve this aim, the study addresses the following research questions:

1. What is the relationship between moral values and altruism levels of undergraduate students in the Department of Child Development?

2. How does cognitive flexibility relate to the altruism levels of these students?

3. Do moral values and cognitive flexibility together predict the altruism levels of child development students?

4. Are there any significant differences in moral values, cognitive flexibility, or altruism levels according to demographic factors (e.g., gender, age, academic performance)?

5. What is the mediating role of cognitive flexibility in the relationship between moral values and altruism?

These research questions will guide the investigation, helping to explore the predictive roles of both moral values and cognitive flexibility. The study also aims to fill the gap in the literature by offering

empirical evidence on these relationships, which have not been sufficiently addressed in previous research.

METHOD

Model of the Research

The aim of this research is to measure the relationship between the moral value levels and altruism levels of child development department students and their cognitive flexibility skills. Therefore, the **quantitative research method** was preferred. Specifically, a **correlational screening model** was used to explain the relationship between the variables and the strength of this relationship (Karasar, 2009).

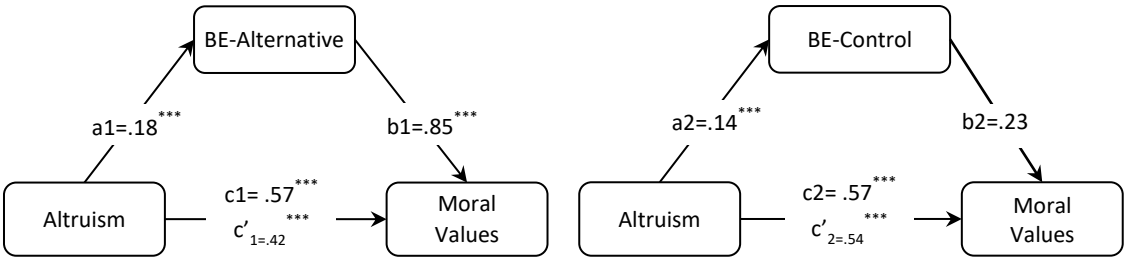

Figure 1. Mediating Role Models of Sub-Dimensions of Cognitive Flexibility Between Altruism and Moral Values

***p*<.001,** The path shown in red (b2) is meaningless, **Altruism:** Altruism Scale Total Score, **Moral Values:** Moral Values Scale Total Score, **BE-Alternative:** Cognitive Flexibility Scale Alternatives Sub-Dimension, **BE-Control:** Cognitive Flexibility Scale Control Sub-Dimension

As a result of the mediation analysis performed in line with the established model (Table 3), it was determined that the direct effect of altruism, which is the predictive variable, on the alternative (BE-Alternative) (BE-Alternative), which is one of the sub-dimensions of the cognitive flexibility scale, was significant (B=.18, SH=.01, *t=12.31, p<.001*, 95% CI = [.1519, .2096]). The mediation analysis also showed that the effect of BE-Alternative on moral values (b_1) was also significant (B=.85, SH=.14, *t=5.87, p<.001, 95% CI = [.5640, 1.1322]) when the effect of altruism was controlled. When the predictive effects of altruism on moral values* were examined, it was found that the direct effect of altruism on moral values (c'_1 path; B=.42, SH=.05, *t=8.71, p<.001*, 95% CI = [.3261, .5162]), and the total effect of altruism and BE-Alternative on moral values was found to be statistically significant (c_1 path; B=.57, SH=.04, *t=13.52, p<.001, 95% CI = [.4909, .6580]).*

Sampling

The sample of this research consisted of university students from the **Child Development Department** in **Turkey**, who voluntarily participated in the study. A total of **370 students** were included in the research. All participants were assured of the confidentiality of their responses and were provided with detailed information about the study process. **Ethical approval** was obtained from the university's ethics committee for this study (approval number: 61351342/2020-245).

Sampling Method

The **convenience sampling method** was used in this research, as it allowed the researchers to select participants who were easily accessible and available to participate voluntarily. This method was chosen due to time and resource constraints.

Additionally, a **G*Power analysis** was conducted to determine the adequacy of the sample size for statistical power. The analysis confirmed that a sample size of **370 participants** would be sufficient to detect medium effect sizes with 95% confidence and 80% statistical power.

Demographic Characteristics of the Sample

When the demographic characteristics of the students included in the study were examined, it was found that **319 (86.2%) were female** and **51 (13.8%) were male**. The majority of the participants, **290 (78.4%)**, were between the ages of **18 and 22 years old**, while **72 (19.5%)** were aged **23 to 27**, and **8 (2.2%)** were **28 years or older**.

In terms of academic year distribution, **78 (21.1%)** of the participants were first-year students, **103 (27.8%)** were second-year students, **95 (25.7%)** were third-year students, and **94 (25.4%)** were fourth-year students.

Data Collection Tools

Demographic information form; this form includes questions to determine the gender, age, class, presence of siblings, number of siblings and gender of siblings. **Altruism Scale**

The **Altruism Scale**, developed by Ümmet, Ekşi, and Otrat (2013), consists of **38 items** and **7 sub-dimensions**:

1. Participation in Volunteer Activities
2. Financial Assistance
3. Help in Traumatic Situations
4. Assistance to the Elderly/Patients

5. Physical Assistance
6. Help in the Education Process
7. Help from the Sense of Closeness

This scale aims to measure individuals' altruistic behaviors. It uses a **5-point Likert scale**, with responses ranging from 1 (I do not agree at all) to 5 (I completely agree). As the scores increase, the level of altruism also increases. The **Cronbach's alpha reliability coefficient** for the entire scale was found to be **0.81**, indicating good internal consistency.

Moral Value Scale

The **Moral Value Scale**, developed by Abdullah, Salleh, Mahmud, and Ghani (2010), was adapted into Turkish by Sarıçam, Çelik, and Güven (2013). The scale has **one dimension** and consists of **48 items**. Scores obtained from the scale can range from **48 to 240 points**. It uses a **5-point Likert scale** with responses ranging from 1 (Never) to 5 (Always). Higher scores indicate a higher level of moral values.

The **Cronbach's alpha reliability coefficient** for the scale was found to be **0.80**, which demonstrates that the scale has good internal consistency (Sarıçam et al., 2013).

Cognitive Flexibility Inventory

The **Cognitive Flexibility Inventory (CFI)** was developed by **Dennis and Vander Wal (2010)** and later validated in Turkish by Sapmaz and Doğan (2013). The inventory contains **20 items** and has **2 sub-dimensions**:

1. **Alternatives** – This sub-dimension consists of **13 items**.
2. **Control** – This sub-dimension consists of **7 items**.

The CFI uses a **5-point Likert scale**, with responses ranging from 1 (Not Suitable at All) to 5 (Completely Appropriate). Items 2, 4, 7, 9, 11, and 17 are reverse-scored. As the scores increase, the individual's level of cognitive flexibility also increases.

The **Cronbach's alpha reliability coefficient** was calculated for each sub-dimension:

- **Alternatives**: 0.90
- **Control**: 0.84

These reliability coefficients indicate that both sub-dimensions have good internal consistency, making the CFI a reliable instrument for measuring cognitive flexibility (Sapmaz & Doğan, 2013).

Analysis of Data

In this study, the normal distribution prerequisite that must be met in order to apply parametric tests was tested with the normality test. Pearson Correlation Analysis was performed to examine the correlation relationships between variables that passed the normality test, and mediation analyzes were performed to examine the mediating role of alternative and control, which are sub-dimensions of cognitive flexibility between altruism and moral values. Statistical analyses were performed using SPSS 25 and Process Macro plugin (Hayes, 2017). 5000 Bootstrapping sampling was selected for brokerage analysis, and 95% was determined as the confidence interval.

FINDINGS

Before proceeding with statistical analysis, the research variables were subjected to normality testing. The criteria proposed by Kim (2013) were taken into consideration for the normality test. According to Kim, when working with data with a sample size of more than 300, the variables can be considered to violate the normal distribution when the Z-scores obtained by dividing the kurtosis and skewness values by their standard errors are greater than 7 for kurtosis and 2 for skewness. As a result of the normality test, it was determined that the alternative variables, which are among the sub-dimensions of moral values, altruism and cognitive flexibility, were not normally distributed, and the Inverse Distribution Function (IDF. Normal) has been applied to normality transformation. After the transformation, it was seen that all variables were within the expected limits and the hypothesis that they were normally distributed was accepted (Table 1).

Table 1

Table 1. Findings of the Normality Test of Research Variables

Variable	Skew ± SH	Kurtosis ± SH	Z-Skew	Z-kurtosis
Moral Values *	0.17 ± 0.13	0.43 ± 0.25	1.32	1.71
Cognitive Flexibility	0.03 ± 0.13	-0.68 ± 0.25	0.26	-2.68
Alternatives *	-0.22 ± 0.13	-0.53 ± 0.25	-1.7	-2.09
Control	0.08 ± 0.13	-0.74 ± 0.25	0.63	-2.91
Altruism *	-0.04 ± 0.13	-0.29 ± 0.25	-0.29	-1.14

Variables marked with * have undergone normality transformation.

After the normal distribution tests were completed, Pearson correlation analysis was performed between the total scores of the **Moral Values Scale**, the **Alternative and Control** sub-dimensions of the **Cognitive Flexibility Scale**, and the total scores of the **Altruism Scale**.

When the correlation analysis results were examined, a **moderate positive correlation** was found between moral values and altruism ($r = .58$, $p < .01$). In contrast, a **low positive correlation** was observed between moral values and the **Control** sub-dimension of cognitive flexibility ($r = .30$, $p > .01$) (Table 2).

Table 2. Results of Correlation Analysis Between Altruism, Moral Values and Cognitive Flexibility

	Place. ± SS.	1	2	3	4
1- Moral Values	196.68 ± 20.37				
2- Cognitive Flexibility	80 ± 12.15 pm	.47**			
3- BE-Alternative	56.17 ± 6.83	.51**	.87**		
4- BE Control	11.75 pm ± 6.91am	.30**	.86**	.51**	
5- Altruism	156.34 ± 20.43	.58**	.54**	.54**	.41**

***p<.01,* **Moral Values:** Moral Values Scale Total Score, **Cognitive Flexibility:** Cognitive Flexibility Scale Total Score**, BE-Alternative:** Cognitive Flexibility Scale Alternatives Sub-Dimension, **BE-Control:** Cognitive Flexibility Scale Control Sub-Dimension, **Altruism:** Altruism Scale Total Score

In this part of the study, mediation analysis was carried out to test the mediating role of BE-Alternative and BE-Control, which are sub-dimensions of cognitive flexibility, in the relationship between altruism, which is the main hypothesis of the research, and moral values. In line with the suggestion of Zhao, Lynch and Chen (2010), mediation analysis was performed without testing classical regression assumptions. In this direction, two separate mediation models were established in which the mediating roles of alternatives and control, which are sub-dimensions of cognitive flexibility, were examined (Figure 1) and mediation analysis was performed using Model 4 in the Process Macro add-on (Hayes, 2017) for SPSS.

Table 3. Findings on the Mediating Role of Sub-Dimensions of Cognitive Flexibility Between Altruism and Moral Values

Cognitive Flexibility	Roads	*B*	*SH*	*t*	%95 GA	$F_{(2,367)}$	*R2*
Alternative	a1	.18	.01	12.31***	.1519, .2096	116.91***	.39
	b1	.85	.14	5.87***	.5640, 1.1322		
	Direct Impact (c')	.42	.05	8.71***	.3261, .5162		
	Total Impact (c)	.57	.04	13.51***	.4909, .6580		
	Indirect Impact	.15	.04	-	.0889, .2252		
Control	a2	.14	.02	8.61***	.1069, .1701	93.31***	.34
	b2	.23	.14	1.71	-.0353, .5049		
	Direct Impact (c')	.54	.05	11.67***	.4506, .6333		
	Total Impact (c)	.57	.04	13.51***	.4909, .6580		
	Indirect Impact	.03	.02	-	-.0105, .0815		

p<.001, Values given in red are insignificant (*p>.05),* **Altruism:** Altruism Scale Total Score, **Moral Values:** Moral Values Scale Total Score, **BE-Alternative:** Cognitive Flexibility Scale Alternatives Sub-Dimension, **BE-Control:** Cognitive Flexibility Scale Control Sub-Dimension, ***B*:** Impact Coefficient, ***SH:*** Standard Error of Effect, **t: t-value**, **GA:** Confidence Interval, **F: F-value**, **R2**: Procedural Power.

In the model predicting moral values by 39% ($F_{(2.367)} = 116.91$, *p<.001), the* significant role played by BE-Alternative (B = .15, SH=.04, 95% CI = [.0889, .2252]), altruism continued to predict moral values significantly after the mediator variable was entered into the equation, and the decrease from direct effect to total effect was found to be according to the results of Sobel's Z Test (Z = 5.30, *p<.001) was determined to be a partial mediation.*

As a result of the analysis conducted to determine the mediating role played by the control sub-dimension (BE-Control), which is the other sub-dimension of the cognitive flexibility scale, between altruism and moral values, the effect of altruism on BE-Control (a2) was statistically significant (B=.14, SH=.02, *t=8.61, p<.001*, 95% CI = [.1069, .1701]), and the effect of BE-Control on moral values (b2)

was statistically insignificant (B=.23, SH=.14, *t=1.71, p>0.05, 95% CI = [-.0353, .5049]). In this case, it* is seen that BE-Kontrol does not play a meaningful mediating role between altruism and moral values.

DISCUSSION

The findings of this study provide important data for understanding the relationships between altruism, moral values, and various sub-dimensions of cognitive flexibility. The main hypothesis of the research aimed to test the mediating role of cognitive flexibility in the relationship between altruism and moral values. The findings revealed that alternative thinking skill (BE-Alternative), which is one of the sub-dimensions of cognitive flexibility, played a significant mediating role in the relationship between altruism and moral values, but the control sub-dimension (BE-Control) did not show a significant mediating effect on this relationship.

Cognitive Flexibility and the Mediation of the Alternative Dimension

The results of our research show that the BE-Alternative dimension plays a partial mediating role in the relationship between altruism and moral values. This finding suggests that cognitive flexibility may play a critical role in the development of moral values that support altruistic behaviors. The BE-Alternative dimension can support altruistic behaviors by enabling the individual to see events from different perspectives and to flexibly evaluate solutions. For example, when an individual develops empathy for the needs of others, he or she may respond more appropriately to those needs with the ability to see different solutions. This emphasizes the importance of cognitive flexibility in putting moral values into practice. The results found in the study also coincide with similar studies in the literature. Martin and Rubin (1995) stated that cognitive flexibility plays an important role in individuals solving problems and developing different options. In a study conducted with university students, it was concluded that boredom tolerance and cognitive flexibility are positively related (Kandemir, 2022). In another study, it was determined that there was a significant negative relationship between the fear of missing out and emotional intelligence (Turhan, 2019). In another study, a significant negative relationship was found between acting with awareness, the sub-dimension of mindfulness, and social media attitude. The fear of missing out on developments prevents individuals from being aware of their current lives (Demirel & Thoughtful, 2023). In this context, it can be said that it is more possible for individuals to adopt moral values while exhibiting altruistic behaviors with high cognitive flexibility. In this context, it is more likely for individuals to adopt moral values while exhibiting altruistic behavior if they have high cognitive flexibility. The **mediating role** of the **BE-Alternative dimension** lies in strengthening the implementation of moral values by enhancing the altruistic behaviors of individuals. This finding aligns with research by Martin and Rubin (1995), who emphasized that cognitive flexibility enhances problem-solving abilities, allowing individuals to approach challenges from different perspectives. Furthermore, studies suggest that individuals with high cognitive flexibility are better equipped to adjust their moral decisions to diverse social contexts, fostering prosocial behavior (Dennis & Vander Wal, 2010).

Similarly, the mediating role played by the **BE-Control dimension** between cognitive flexibility and moral values strengthens individuals' motivation to help others. Research conducted by Davis et al. (2011) supports the idea that enhanced cognitive flexibility encourages moral reasoning and altruistic actions by enabling individuals to empathize with others. This resonates with findings by Spinella (2005), who highlighted the relationship between cognitive control and socially responsible behavior, emphasizing the importance of adaptability in moral decision-making.

The Mediating Role of the BE-Control Dimension

The results found in the study are consistent with other studies in the literature. The finding by Martin and Rubin (1995) that cognitive flexibility improves the ability of the individual to produce solutions by approaching the problems he encounters from different angles supports the results of this study. The BE-Alternative dimension enables moral decisions to be made in a more conscious and socially harmonious manner with the individual's ability to evaluate events from different perspectives and produce solutions. In this context, the mediating role played by the BE-Alternative dimension between altruism and moral values strengthens the motivation of individuals to help others.

The fact that the mediating role of the BE-Control sub-dimension was not significant shows that the effect of only certain dimensions of cognitive flexibility on social behaviors and moral values is significant. It seems that control skills are related to the individual's processes of regulating and controlling their own behavior, but they are not as effective in terms of helping others or promoting moral values in social interactions. On the other hand, the mediating role of the BE-Control sub-dimension was not found to be significant. BE-Control is about an individual's ability to supervise and regulate their behavior. However, the findings show that this skill does not directly contribute to the relationship between altruism and moral values. This result suggests that the control dimension of cognitive flexibility may be less effective in motivational processes that support altruistic behaviors and moral values. The fact that the mediating role of the BE-Control sub-dimension was not significant may indicate that some dimensions of cognitive flexibility may have different effects on the relationship between altruism and moral values. In particular, it has been observed that more creative and flexible thought processes, such as alternative thinking, may be more effective in the social and moral decisions of the individual, while more restrictive and regulative skills, such as control, do not have the same effect on these processes. According to correlation analyses, a **moderate positive relationship** was found between **altruism and moral values** ($r = .58$, $p < .01$). This finding suggests that altruistic behaviors are guided by the individual’s internal moral values, which act as motivators for prosocial actions. **Moll et al. (2008)** emphasize that moral values shape altruistic behavior by reinforcing fairness, honesty, and helpfulness in social contexts. Moreover, **Carlo et al. (2010)** argue that individuals who exhibit high levels of moral values are more likely to engage in altruistic actions, particularly in environments that require ethical decision-making. These findings suggest that the interplay between

moral values and altruism is essential for fostering positive social interactions and promoting ethical behavior.

The Direct Relationship Between Altruism and Moral Values

According to correlation analyses, a strong positive relationship was found between altruism and moral values. This finding shows that altruistic behaviors are based on the moral values that the individual has, and that these values motivate altruistic behaviors. Moral values enable individuals to behave in a fair, honest, and helpful manner in their social environment. In this direction, the strong relationship between altruism and moral values reveals that individuals have an important interaction in their social relations and ethical decisions.

The findings of the research support the work of Ümmet (2012) and İşmen and Yıldız (2005). In particular, Ummah (2012) stated that altruism levels have a positive effect on individuals' moral attitudes. Similarly, this research also revealed that the relationship between altruism and moral values is strong, and cognitive flexibility can strengthen this relationship. This research aimed to examine the mediating role of cognitive flexibility in the relationship between altruism and moral values of child development students. The findings showed that there is a strong positive relationship between altruism and moral values, and that BE-Alternative, one of the sub-dimensions of cognitive flexibility, plays a partial mediating role in this relationship. On the other hand, it was determined that the mediating role of the BE-Control sub-dimension was not significant. These findings suggest that altruistic behaviors are based on moral values and that flexible thinking skills can support these behaviors.

Results

The results of this study suggest that cognitive flexibility plays a critical role in the relationship between altruism and moral values. In particular, the BE-Alternative dimension contributes to the application of moral values by enabling individuals to generate more flexible and diverse solutions to meet the needs of others. For example, when an individual empathizes and considers different perspectives while deciding to help others, the BE-Alternative dimension can come into play, making these processes more efficient. Considering the limitations of this study, it is recommended that future research with larger and more diverse sample groups be conducted to strengthen the findings. Additionally, examining the influence of cultural factors on cognitive flexibility, altruism, and moral values will help provide a broader understanding of these concepts. In conclusion, cognitive flexibility, especially alternative thinking skills, plays a crucial role in individuals' application of moral values and display of altruistic behaviors. This study contributes to the literature by highlighting the effects of cognitive flexibility on altruism and moral values, paving the way for future research in this area.

Limitations of the Research and Suggestions for Future Research

Although the findings of this study showed that some sub-dimensions of cognitive flexibility play a mediating role in the relationship between altruism and moral values, the research has some limitations. First, the limited sample size and the fact that the study was conducted only on child development students limit the generalizability of the findings. Therefore, it is recommended to work with larger and different sample groups in future research. Future research may delve deeper into the relationships between moral values and altruism with other dimensions of cognitive flexibility. In addition, it is thought that the interactions between cognitive flexibility, altruism and moral values in different cultural contexts can be investigated and the effects of cultural differences on these concepts can be evaluated. Therefore, it is recommended to work with **larger and more diverse sample groups** in future research to enhance the generalizability of the findings. Future studies could further explore the **relationships between moral values and altruism** alongside other dimensions of cognitive flexibility, such as **emotional flexibility** or **behavioral regulation**. This would provide a more comprehensive understanding of how these dimensions interact in different social and personal contexts.

In addition, **cross-cultural studies** would be beneficial to examine how **cultural differences** influence the relationships between cognitive flexibility, altruism, and moral values. These concepts may vary across cultural contexts, and understanding such differences would contribute to developing culturally sensitive interventions.

Recommendations Based on Findings

1. **Developing Intervention Programs**: Given the positive relationship between cognitive flexibility and altruism, universities and educational institutions could incorporate **cognitive flexibility training** into their curricula to foster prosocial behavior among students.
2. **Encouraging Moral Development**: Since moral values play a significant role in altruistic behavior, **moral education programs** could be designed to emphasize ethical decision-making and empathy, particularly for students in social and developmental fields.
3. **Practical Applications**: The findings suggest that students with high levels of cognitive flexibility and strong moral values are more likely to engage in prosocial activities. Educational policies could leverage this by promoting **volunteer programs** and activities that nurture both **cognitive skills** and **moral responsibility**.
4. **Longitudinal Research**: It would be useful to conduct **longitudinal studies** to investigate the long-term impact of cognitive flexibility and moral values on altruism, as such research could shed light on how these relationships evolve over time.

Funding

“The authors declared that this study received no financial support”.

Conflict of Interest

"No conflict of interest was declared by the authors".

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